EL [ʃ]OQUERO: /tʃ/ VARIATION IN HUELVA CAPITAL AND SURROUNDING TOWNS

EL [ʃ]OQUERO: VARIACIÓN DE /tʃ/ EN HUELVA CAPITAL Y PUEBLOS DE ALREDEDOR

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ABSTRACT

This study examines allophonic realizations of /tʃ/ in Huelva (Western Andalucía) to assess if the traditional Andalusian [ʃ] variant is being maintained or if, similar to Eastern Andalucía, it is undergoing dialect levelling in favor of the Castilian [tʃ] variant (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996). The study acoustically analyzed /tʃ/ realizations based on 31 sociolinguistic interviews (15 men, 16 women) of speakers from the city of Huelva and surrounding towns. A mixed effects logistic regression and a conditional inference tree reveal that [tʃ] is most favored by younger and middle-aged women of all educational levels and younger and middle-aged men with university education. A gender by semantic category interaction found that men favor [ʃ] with words of local foods and with the local gentilic (*choquero/a*) more than with nonlocal words. The results imply that there is a change in apparent time (Labov, 1994) from [ʃ] to [tʃ] in Huelva, similar to cities in Eastern Andalucía. However, [ʃ] remains a linguistic resource among men for constructing a local identity.

Keywords: *sociophonetics, sound change, variationist sociolinguistics, social dialectology, dialect levelling, /tʃ/ variation, Andalusian Spanish.*

RESUMEN

Este estudio examina las realizaciones alofónicas de /tʃ/ en Huelva (Andalucía occidental) para evaluar si la variante andaluza [ʃ] se mantiene o si, parecido a Andalucía oriental, experimenta nivelación dialectal a favor de la variante castellana [tʃ] (Melguizo Moreno, 2007; Moya Corral y García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996). Mediante un análisis acústico, el presente estudio analiza la producción de /tʃ/ a través de 31 entrevistas sociolingüísticas (15 hombres, 16 mujeres) con hablantes de Huelva capital y de los pueblos de alrededor. Los resultados, mediante una regresión logística con efectos mixtos y un árbol de inferencia condicional, revelan que [tʃ] es más preferida por las mujeres independientemente de su nivel educativo y entre los hombres jóvenes y de mediana edad con estudios universitarios. Una interacción entre género y categoría semántica indica que los hombres favorecen [ʃ] con las palabras de comida local además de con el gentilicio local (choquero/a) frente a palabras no locales. Los resultados evidencian que hay un cambio de *tiempo aparente* (Labov, 1994) de [ʃ] hacia [tʃ] en Huelva, parecido a lo que ocurre en varias ciudades en Andalucía oriental. No obstante, la variante [ʃ] se mantiene como recurso lingüístico entre los hombres para construir una identidad local.

Palabras clave: *sociofonética, cambio fonético, sociolingüística variacionista, dialectología social, nivelación dialectal, variación de /tʃ/, español andaluz.*

1. INTRODUCTION

Throughout Europe social dialectologists have documented a trend of dialect levelling of traditional regional dialectal features towards prestigious national features due to large-scale societal changes in the 20th century such as increased urbanization, industrialization, educational attainment, and mobility (Auer and Hinskens, 1996; Auer *et al.*, 2005; Hinskens *et al.*, 2005; Kerswill, 2003; Mattheier, 2000; *inter alia*). These levelling trends have been observed within Andalusian Spanish (Hernández-Campoy and Villena Ponsoda, 2009; Villena Ponsoda, 2008). While there are examples of morphosyntactic dialect levelling, the majority of levelling has occurred within the phonetic domain in which traditional Andalusian dialectal features are being levelled in favor of prestigious national phonetic features in syllable-onset[1] position (Hernández-Campoy and Villena Ponsoda, 2009; Moya Corral, 2018a, 2018b; Villena Ponsoda, 2008; Villena Ponsoda and Ávila-Muñoz, 2014; Villena Ponsoda and Vida Castro, 2017, 2020). One case of dialect levelling has been observed with the allophonic realizations of /tʃ/. Studies in Eastern Andalucía (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996) indicate that there is a change in progress from the Andalusian allophonic [ʃ] variant to the Castilian allophonic [tʃ] variant. There is less known, however, about the production of /tʃ/ in Western Andalucía. This study aims to fill this gap, by providing an updated synchronic assessment of variable /tʃ/ realizations in coastal Huelva (Western Andalucía).

The objectives of this project were two-fold: (i) to quantify the intra- and inter-personal variation of /tʃ/ realizations produced by speakers in Huelva and surrounding towns to examine if there is a change in progress from the local traditional fricative variant to the supra-local Castilian affricate variant; (ii) to relate the results of this production study to previous social perception studies of /tʃ/ (Moya Corral and García Wiedemann, 1995a; Regan, forthcoming) to holistically understand the linguistic variable of /tʃ/ in Andalusian Spanish. To this end, Section 2 provides the background literature. Section 3 presents the methodology and

[1] There is still a great deal of maintenance of traditional Andalusian dialectal features in syllable-coda position (Moya Corral, 2018a, 2018b; Villena Ponsoda, 2008; Villena Ponsoda and Vida Castro, 2017, 2020). Thus, while dialect levelling is occurring at the syllable-onset position, this does not imply a full convergence of Andalusian Spanish towards Castilian Spanish, but rather the levelling of particular syllable-onset Andalusian features. This has created a regional Andalusian koine referred to as "*español común*" (common Spanish) (Hernández-Campoy and Villena Ponsoda, 2009:197-203; Moya, 2018b:58; Villena Ponsoda, 2008:156-157) or more recently, a "new intermediate variety" of Andalusian Spanish (Villena Ponsoda and Vida Castro, 2020:149).

Section 4 provides the results. Finally, Section 5 discusses the results and Section 6 concludes the study.

2. BACKGROUND LITERATURE

2.1 Phonetic variable

Non-contact varieties of Spanish present only one[2] affricate phoneme, the voiceless prepalatal /tʃ/ for orthographic <ch> (Hualde, 2005:152; Martínez Celdrán and Fernández Planas, 2007:48). /tʃ/ only occurs in prevocalic position in syllable-onset position with the exception of Catalan surnames[3] (Hualde, 2005:152). Although there exist several[4] allophonic realizations throughout the Spanish speaking world for /tʃ/, the most common allophonic variant is [ʃ], a voiceless prepalatal fricative without the occlusion segment from the affricate (Hualde, 2005:152). Within Spain, the Castilian variant is the voiceless prepalatal affricate [tʃ] as seen in Figure 1, while the traditional Andalusian variant is the voiceless prepalatal fricative [ʃ] as seen in Figure 2. However, it has been well documented that these two variants have and continue to co-exist throughout much of Andalucía (Alvar *et al.*, 1973; Narbona *et al.*, 1998:178).

2.2 Previous studies of /tʃ/

Beyond Andalucía, /tʃ/ allophonic variation has been documented widely throughout Latin American Spanish including Panama (Cedergren, 1972), Puerto Rico (López-Morales, 1983), the state of Chihuahua, Mexico (Mazzaro and González de Anda, 2019), Ciudad Juárez, Mexico (Amaste, 1996; Méndez, 2017), the state of Sonora, Mexico (Brown, 1989), Arizona (Casillas, 2012; Noriega, 2004), and New Mexico (Jaramillo, 1986; Jaramillo and Bills, 1982). In Andalucía, traditional dialectological data collection in the 1950s of the *Atlas Lingüístico y Etnográfico de Andalucía* (Linguistic and Ethnographic Atlas of Andalucía), henceforth *ALEA* (Alvar *et al.*, 1973), indicated that fricative [ʃ] was widespread throughout coastal

[2] It should be noted that indigenous toponyms with <tz> in Mexico are produced with a dental /t͡s/ (Hualde, 2005:153).

[3] However, word final <ch> in Catalan surnames represents the phoneme /k/ (Hualde, 2005:152).

[4] An alveolar [t͡s] has been documented in Chile as well as a voiceless palatal occlusive [c] and voiced palatal occlusive [ɟ] in the Canary Islands and Cuba (Hualde, 2005:152).

Andalucía either as the dominant norm or in competition with affricate [tʃ]. However, affricate [tʃ] was the predominant variant in northern parts of the provinces of Huelva, Córdoba, Jaén, and Almería as these areas were in contact with other autonomous communities that presented the affricate variant as seen in Figure 3 (*ALEA* Map 1709, Vol. VI).

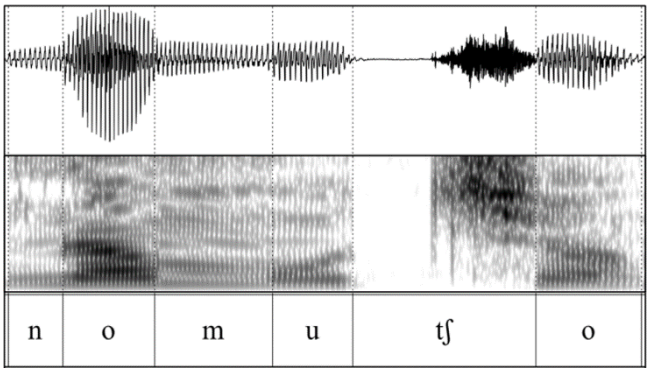

Figure 1. *Spectrogram*[5] *and waveform of "no mucho" (not much) with [tʃ] realization produced by a 26-year old woman from Huelva capital.*

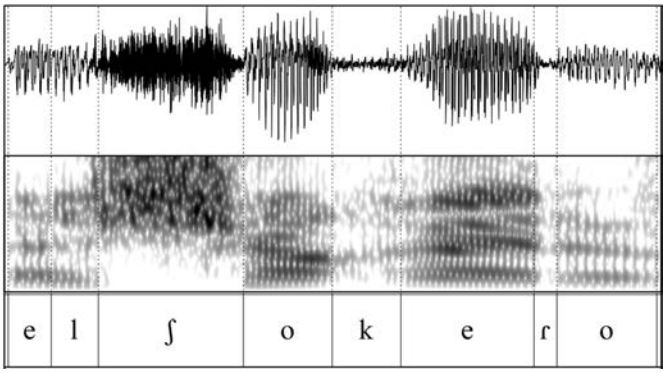

Figure 2. *Spectrogram and waveform of "el choquero" (informal gentilic/demonym for people from Huelva) with [ʃ] realization produced by a 26-year old man from Huelva capital.*

[5] Spectrogram and waveform figures were created in Praat picture (Boersma and Weenink, 2017).

More recent quantitative sociolinguistic studies have documented the intra- and inter-personal variation throughout urban Andalucía. In Eastern Andalucía, studies in the cities of Granada (Melguizo Moreno[6], 2007; Moya Corral and García Wiedemann, 1995a, 1995b) and Málaga (Villena Ponsoda, 1996) have found a change in progress from [ʃ] to [tʃ]. Taken together, they found that the [tʃ] variant was favored by those with more formal education, younger speakers, and women. Thus, fricative [ʃ] is said to be in regression in favor of the affricate [tʃ] in urban Eastern Andalucía (Samper-Padilla, 2011:116). The findings in Western Andalucía have not been as uniform regarding dialect levelling or maintenance of [ʃ]. For example, studies in the province of Cádiz, in Cádiz capital (Payán Sotomayor, 1988) and in Jerez de la Frontera (Carbonero *et al*., 1992; Harjus, 2018) found either a maintenance of and/or preference for the fricative [ʃ] variant. However, in the peripheral towns around Huelva capital (Aljaraque, San Juan del Puerto, and Trigueros), de las Heras *et al.* (1996) found a preference for the affricate over the fricative variant, similar to Eastern Andalucía.

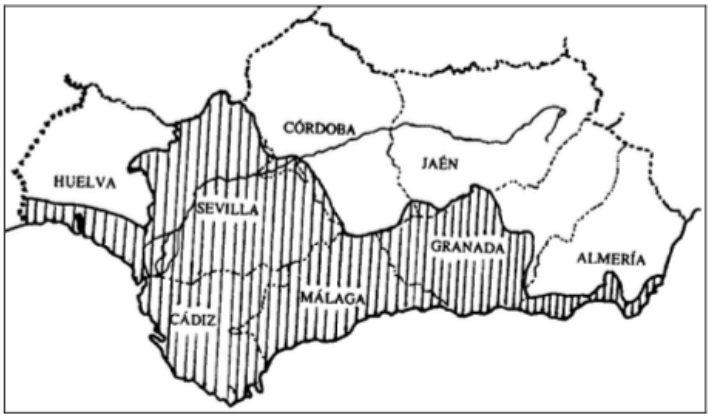

Figure 3. *Dialectal map of [tʃ] (white) versus [ʃ] (vertical stripes) throughout Andalucía as seen in Moya Corral (2011:64) based on the results from the ALEA (Alvar et al., 1973: Map 1709).*

These differences between Eastern and Western Andalucía for /tʃ/ variation, with the exception of de las Heras *et al.* (1996), in tandem with findings on coronal fricative variation, have led scholars to propose that Eastern Andalusian Spanish is

[6] Specifically, Melguizo Moreno (2007) analyzed Granada residents who emigrated from the nearby town of Pinos Puente.

shifting towards Castilian features while Western Andalusian Spanish is more likely to maintain traditional Andalusian features (Hernández-Campoy and Villena Ponsoda, 2009; Villena Ponsoda, 1996, 2006, 2008). A proposed rationale for these differences is the influence of *la norma sevillana* (the Sevilla norm) (Villena Ponsoda, 2008:147; Villena Ponsoda and Ávila-Muñoz, 2014:212). Specifically, for centuries the city of Sevilla has held regional linguistic prestige, and it is proposed that this regional prestige allows for areas closer to the capital city to maintain the traditional dialectal features such as *seseo* or [ʃ]. Cities that are farther from Sevilla, such as those in Eastern Andalucía are said to be far enough away from the Andalusian capital that the city's regional linguistic prestige is no longer as influential as it once was. For this reason, it is posited that Eastern Andalusian cities adopt prestigious supra-local Castilian norms such as *distinción* and [tʃ].

While such Eastern-Western differences[7] have historical evidence as seen through the results of the *ALEA* (Morillo Velarde, 2001: 42), recent findings in Western Andalucía regarding syllable-initial coronal fricatives in Huelva (Regan, 2017a, 2017b, 2020), peripheral towns around Huelva (de las Heras *et al.*, 1996), Jerez (García-Amaya, 2008), Lepe (Regan, 2017b, 2020), and Sevilla (Gylfadottir, 2018; Santana Marrero, 2016, 2016-2017, 2017) suggest that the traditional dialect mergers of *ceceo* (and *seseo* in the case of Sevilla) are in fact demerging into *distinción*. Based on these recent results in Western Andalucía, several scholars have proposed that perhaps *la norma sevillana* no longer has the regional prestige it once had, at least among certain social groups[8] (García-Amaya, 2008:69; Harjus, 2017:12, 2018:194; Regan, 2017a:151, 2017b:238; Samper-Padilla, 2011:116).

While there has been an increase in production studies of /tʃ/, there are only a few perception[9] studies of /tʃ/ in Andalucía. Using the matched-guise technique

[7] There are several recent comparative studies that in fact demonstrate clear differences between Eastern and Western Andalucía. For example, Ruch and Harrington (2014) and Ruch and Peters (2016) have demonstrated that post-consonant aspiration for voiceless stop consonants /p t k/ preceded by /s/, i.e. /st/ realized as [t^{h}], is more advanced in Western Andalucía than in Eastern Andalucía.

[8] Although many speakers in Sevilla now favor *distinción* over the local *seseo* merger, lower socioeconomic speakers still favor *seseo*, particularly younger men (Santana Marrero, 2017).

[9] There have also been several perception studies comparing [tʃ] to [ʃ] in the southwest of United States. In Utah, Jewel (1993) found that Mexican-American undergraduate students did not associate socioeconomic differences between the two variants, but rather identified

(Lambert *et al*., 1960), Moya Corral and García Wiedemann (1995a) analyzed the social perception syllable-initial coronal fricatives (*distinción, seseo, ceceo*) and /tʃ/ variation in the city of Granada. They created four guises with one speakers' voice: *distinción* and [tʃ], *seseo* and [tʃ], *seseo* and [ʃ], and *ceceo* and [tʃ]. 103 listeners assigned each guise to four possible professions ranging in occupational prestige: bank director, bank teller, taxi driver, and doorman. The inclusion of both coronal fricatives and /tʃ/ realizations presents a potential confound as evaluations are based on two linguistic variables at once. However, when the coronal fricative realizations are held constant, [tʃ] appears to be perceived higher in occupational prestige than [ʃ]. For example, *seseo* and [tʃ] guises were more often associated with occupations of higher prestige than *seseo* and [ʃ] guises.

A more recent matched-guise study in Huelva and Lepe (Regan, forthcoming) directly compared listener's perceptions of [tʃ] to [ʃ] without the inclusion of syllable-initial coronal fricatives or other traditional dialectal features in the recordings in order to avoid confounding factors in perception judgments. The study included digitally manipulated spontaneous speech from 12 Western Andalusians, that only varied in word-medial syllable-initial [tʃ] and [ʃ] in disyllabic words. Based on 221 listeners from Huelva and Lepe, guises with [tʃ] were evaluated as higher status (socioeconomic level and education), more cosmopolitan (urban-ness and formality), and less friendly than guises with [ʃ]. While there were several interactions between variant and listener factors, the most consistent finding across dependent measures was that listeners with more years of formal education evaluated [tʃ] even higher and [ʃ] even lower in status and cosmopolitan ratings than those with fewer years of formal education. Thus, recent perception studies in Huelva and Lepe (Regan, forthcoming) and in Granada (Moya Corral and García Wiedemann, 1995a) suggest that the Castilian feature [tʃ] enjoys more overt prestige than the traditional Andalusian feature [ʃ].

2.3 Localness and dialect levelling

It has been suggested that in situations of dialect levelling due to dialect contact, individuals "cling to local identity by preserving one or two features that sound local" (Johnstone *et al.*, 2002:160). As Eckert (2008:462) posits, former regional dialectal markers that undergo dialect levelling are able to acquire meaning "based in local ideology." Examples of previous regional features undergoing dialect

[ʃ] as a regional marker of Northern Mexican Spanish. In Arizona, Casillas (2013) found that undergraduate Heritage Spanish speakers evaluated [ʃ] guises as less competent than [tʃ] guises.

levelling that have come to take on local meaning include centralized /ay/ and /aw/ in Martha's Vineyard (Labov, 1963), monophthongal /aw/ in Pittsburgh, Pennsylvania (Johnstone, 2007; Johnstone *et al.*, 2002; Johnstone *et al.*, 2006; Johnstone and Kiesling, 2008), an interdental realization of dental sibilants in Beijing (Zhang, 2005), and non-rhoticity in the Lower East Side of Manhattan (Becker, 2009). Thus, in the context of globalization and increased mobility there are certain linguistic variants that "can come to index 'here', 'being from here', or 'belonging here', and several ways in which such indexes of localness can function" (Johnstone, 2004:74).

There are several methodological approaches that these studies have taken to examine the association of traditional dialectal features with localness. For example, centralized /ay/ and /aw/ was best explained by orientation towards Martha's Vineyard (Labov, 1963), monophthongal /aw/ has been analyzed through qualitative discourse analysis (Johnstone, 2007; Johnstone *et al.*, 2002; Johnstone *et al.*, 2006) or quantitatively through a matched-guise task (Johnstone and Kiesling, 2008), an interdental realization of dental sibilants as a local "alley saunterer" was quantitatively analyzed by topic and professional groups (Zhang, 2005), and non-rhoticity was quantitatively analyzed by topic among other factors (Becker, 2009). For a quantitative analysis, a locally relevant topic-based analysis proves to be well suited for sociolinguistic interview data.

For example, Zhang (2005) analyzed the production of four phonological features and their variation between Beijing Mandarin and Mainland Standard Mandarin among two groups of Chinese professionals in Beijing, those who worked in foreign-owned companies and those in state-owned companies. For the production of dental sibilants (/s/, /ts/, /ts^{h}/), she found that male professionals in state-owned companies favored the local Beijing Mandarin interdental realizations ([θ], [tθ], [tθ^{h}]) more than those in foreign-owned companies, indicating that the "yuppies" avoid this local variant as they have a supra-local transnational identity compared to the locally-oriented state professionals. Furthermore, the production of the local interdental variant was even greater within state-professionals when the topic was about Beijing society and culture as opposed to professional experiences, while there was no difference in topic for the yuppie group. The inclusion of Beijing topics was meant to elicit "locally salient social categories" (Zhang, 2005:438).

In the Lower East Side of Manhattan, Becker (2009) studied syllable-coda /r/ (rhoticity) to examine if the local variant of non-rhoticity was shifting even more towards the national American English norm of rhoticity as compared to Labov's (1966) seminal study decades prior. In spite of the overall trend of rhoticity in

syllable-coda position, Becker found that speakers demonstrated more non-rhoticity when discussing topics related to their neighborhood as opposed to non-neighborhood topics. This topic was socially relevant as the neighborhood of these speakers was undergoing gentrification with new-comers who produced the rhotic variant in syllable-coda position. Thus, according to Becker, this topical switch to non-rhoticity serves as a stylistic resource to position themselves as true locals. Becker interprets this through a Speaker Design model of style (Schilling, 2013 [2002]) in which the speakers' non-rhoticity realizations are an agentive stylistic move to present themselves as authentic neighborhood residents. As Schilling (2013:340) indicates, a Speaker Design model of style focuses on "how speakers use linguistic variation in interaction to shape personal identity, interpersonal interactions, and, as individual usages cohere to individual and group styles, to shape group identities as well." Although there are several different approaches to examine dialect variants and their associations with localness, the current study follows Zhang's (2005) and Becker's (2009) approach to socially relevant topics of localness.

2.4 Research questions

The current study explored the following research questions:

(1) What is the overall rate of the affricate [tʃ] variant versus the fricative [ʃ] variant in Huelva capital and surrounding towns for /tʃ/? Given the change in progress from *ceceo* to *distinción* in Huelva capital and Lepe (Regan, 2017a, 2017b, 2020), it was hypothesized that other traditional Andalusian features in syllable-onset position are also undergoing dialect levelling so that overall there will be more affricate realizations than fricative realizations.

(2) Which linguistic and social factors govern the allophonic realizations of /tʃ/ ([tʃ] versus [ʃ])? For social factors, based on previous studies in Eastern Andalucía (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996), it was hypothesized that those with more formal education, younger speakers, women, and speakers from the city of Huelva (as opposed to the surrounding towns) would favor [tʃ] over [ʃ]. That is, it was hypothesized that different from Jerez de la Frontera (Carbonero *et al.*, 1992; Harjus, 2018) and Cádiz (Payán Sotomayor, 1988), coastal Huelva will demonstrate similar social predictors that govern the use of [tʃ] as those found in Eastern Andalucía. For linguistic factors, based on the findings from Megluizo Moreno (2007:752), it was hypothesized that word-medial position would demonstrate more [tʃ] than [ʃ] than word-initial

position. However, given the few linguistic factors examined in previous studies of /tʃ/ variation, there was no formal hypothesis for the other linguistic factors.

3. METHODS

3.1 Participants and data collection

The apparent-time production study (Labov, 1994) comprised of sociolinguistic interviews that were conducted by the author during the summers of 2013 and 2014. In order to recruit participants, the author used existing social contacts followed by snowball sampling of "friends of friends" (Milroy, 1980:53). The study included 31 participants (15 men, 16 women), ranging in age from 18 to 86 years of age (*M*: 41.81, *SD*: 17.31). Ages are based on the year 2013; thus, the youngest speaker was born in 1995 and the oldest in 1927. 20 speakers were from Huelva capital and 11 speakers were from the surrounding towns of Lepe, Gibraleón, Bonares, and Cartaya. Speakers were stratified in educational attainment (see Appendix I for individual demographic information). In the study age is treated both as a continuous variable as well as a categorical variable in traditional sociolinguistic-bin categories as seen in Table 1. The division of age into these specific categories follows Villena Ponsoda (1996) in which 35 years of age separates the youngest generation from the middle generation, and then 55 years of age is used to separate the oldest generation.

Age in 2013 (Birth Year)	Men (n = 15)	Women (n = 16)	Total (N = 31)
18-34 (1995-1979)	8	6	14
35-54 (1978-1959)	5	5	10
55-86 (1958-1927)	2	5	7

Table 1. *Participants by age, birth year, and gender.*

The sociolinguistic interview included three parts (in this order): (1) a semi-led conversation with open-ended questions about various themes including: cultural traditions, sports (*Real Club Recreativo de Huelva, La liga*), festivities (*El Rocío*, *Fiesta de la Cinta*, *Semana Santa*, *Las Fiestas Colombinas*), city-province differences, and local gastronomy; (2) attitudinal and metalinguistic questions; and (3) demographic questions. The interviews ranged from twenty-five minutes to two hours, the average recording around forty-five minutes. Participants were recorded using a solid-state digital recorder Marantz PMD660 wearing a Shure WH20XLR Headworn Dynamic Microphone with a sampling rate of 44.1kHz (16-bit digitization). There were, however, a few participants that did not feel comfortable wearing the microphone and opted for the external microphone in locations with

minimal ambient noise such as a living room or office. While this is a limitation, the occlusion in the affricate, or lack thereof, was still easily identified in Praat (Boersma and Weenink, 2017) for these interviews. However, this presents another possible limitation as those with the head-mounted microphone may have felt as if they were in a more formal setting than those without the head-mounted microphone and could have increased their production of the supra-local feature over the local Andalusian feature. Finally, it should be acknowledged that the author is a non-native Western Andalusian Spanish speaker who generally produces affricate [tʃ], which may have influenced participants to accommodate to the affricate variant.

3.2 Dependent and independent variables

The dependent variable was a binary realization of [tʃ] or [ʃ] for /tʃ/ (orthographically represented as <ch>). All tokens were coded by the author using Praat (Boersma and Weenink, 2017) in order to visually and auditorily analyze each token. Tokens that demonstrated a full, albeit short, occlusion were coded as affricate [tʃ] such as in Figure 1. On the other hand, tokens that only demonstrated frication without an occlusion were coded as fricative [ʃ] such as in Figure 2. There was a total of 949 tokens included in the analysis with an average of 30.61 tokens per speaker (*SD*: 10.46).

Based on previous Andalusian studies and the author's observations in the speech community, the following four social independent variables were included: (i) gender (male, female); (ii) age, treated as a continuous variable (18-86) and a categorical variable as age group (18-34, 35-54, 55-86); (iii) education (primary/ secondary, university); and (iv) origin (Huelva capital, surrounding towns). The only previous studies to include linguistic factors in analyzing /tʃ/ variation were Melguizo Moreno (2007) and Moya Corral and García Wiedemann (1995a, 1995b) coding for position in word. Melguizo Moreno (2007:752) found that the fricative variant was more common in word-initial than word-medial position. Building on these studies, the following five linguistic independent variables were included in order to test for language-internal constraints: (i) position in word (initial, medial); (ii) following vowel, treated as all five vowels (/i e a o u/) as well as vowel frontness/roundedness (back and rounded /o u/ versus mid/front and unrounded /i e a/); (iii) syllabic stress (tonic, atonic); (iv) number of syllables in word (2, 3, 4, 5); and (v) semantic category (local, other).

The rationale for semantic category was inspired by the author's observations that some speakers were producing particular lexical features, local foods and the local gentilic, with a higher percentage of [ʃ] realizations, even if the same speakers did

not demonstrate a high overall percentage of [ʃ] realizations. Following Becker (2009), the study deemed these semantic categories, or local words, as socially relevant information for localness. Originally, semantic category was coded as *other*, *local foods*, and *local gentilic*. Due to similar trends between local foods and the gentilic, and relatively low token numbers, these two categories were combined to form one category. The local foods included both the Spanish ham from *la sierra de Aracena* (the mountains in the north of the province known to have the best ham in all of Spain) as well as the local seafood from Huelva's coast. Specifically, the local foods included the following words with <ch>: *chacina* (cured meat), *choco(s)* (cuttlefish), *choquito* (cuttlefish + diminutive {-ito}), *chorizo* (pork sausage), *churicito* (pork sausage + diminutive {-ito}), *cochino* (pig/pork), *gazpacho*, and *puchero* (stew). The local gentilic included *choquero(s)* and *choquera(s)*. It should be noted that the official gentilic of people from Huelva is *onubense* in homage to the former city name of Onuba, the name of the city in the time of the Phoenicians, the Tartessians, and then the Romans. *Choquero/a* is the unofficial gentilic of the people of Huelva in reference to the famous local food *choco* (cuttlefish), an emblem of Huelva's gastronomy. While both gentilics are used, *choquero/a* is more informal and not as well known outside of Huelva.

3.3 Statistical analysis

Mixed effects logistic regression models were fitted using the *lmer* function (Bates *et al*., 2015) and *lmerTest* (Kuznetsova *et al*., 2014) in R (R Core Team, 2017) with all linguistic and social independent variables as fixed factors and speaker as a random factor. Following Tagliamonte and Baayen (2012), a random forest was calculated using the *cforest()* function from the *party* package (Hothorn *et al.*, 2020) in order to determine the importance of each variable. The results of the variable importance determined the order of the independent variables from most important to least in the various models, as variable order impacts the regression output. All independent variables were tested in the original model construction. Additionally, two-way interactions were tested between independent variables. Non-significant main effects and interactions were then discarded from each subsequent model. Models were compared using ANOVA testing. Model comparison demonstrated that categorical age group demonstrated a better fit of the data than continuous age, thus age group was used in the final analysis. The model with the lowest AIC was chosen for the final analysis. All figures were created with *ggplot2* (Wickham, 2013).

4. RESULTS

Overall, of the 949 /tʃ/ tokens, there were 702 [tʃ] realizations (73.97%) and 247 [ʃ] realizations (26.03%). The individual speaker realizations can be seen in Appendix I. The random forest results indicate that the most important predictor in /tʃ/ variation is speaker, followed by age group, education, gender, origin, syllable stress, position in word, number of syllables, semantic category, and following vowel as seen in Figure 4. Given speaker was the most important variable according to the random tree, this demonstrates the importance of including speaker as a random factor in the regression in order to avoid any Type I statistical error.

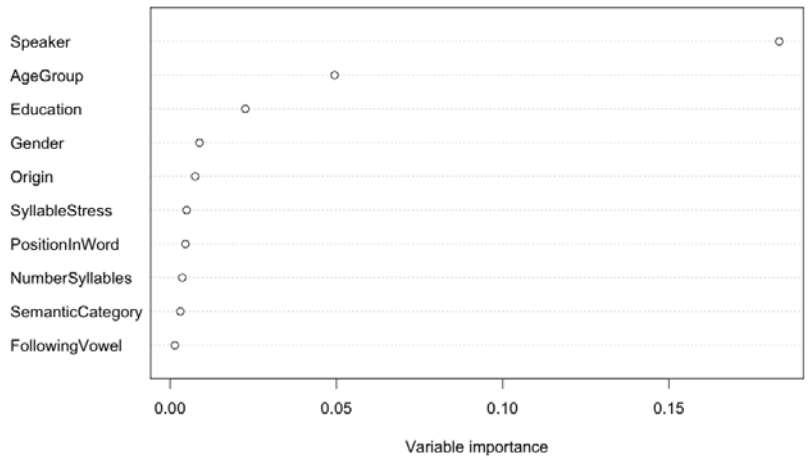

Figure 4. *Random forest with all predictors of /tʃ/ variation.*

The best-fit mixed effects logistic regression demonstrated a main effect for age, education, and gender as well as an interaction between semantic category and gender; see Table 2. The mixed effects logistic regression presents the estimate, standard error (*SE*), *z*-value, percent of affricate [tʃ] realizations per factor level, total number of /tʃ/ tokens per factor level, and *p*-value. Larger estimates in either direction from zero indicate a stronger effect of the main effect or interaction. The model is in reference to [tʃ] realizations, so that positive estimates indicate that the listed factor level favors [tʃ] more than the reference level. Similarly, negative estimates indicate that the listed factor level favors [ʃ] more than the reference level. Marginal R-squared (R^2m) and conditional R-square (R^2c) values are listed for the model in order to provide a goodness-of-fit of the variation (Nakagawa and Schielzeth, 2013). Reference levels (Ref) are displayed in the table.

Predictors	Estimate	*SE*	*z*-value	% [tʃ]	Total tokens	*p*-value
(Intercept)	3.19	0.85	3.73	---	---	***
AgeGroup (Ref = 18-34)	---	---	---	85.9	397	---
35-54	1.00	0.95	1.06	86.9	289	0.29
55-86	-3.48	0.93	-3.72	41.8	263	***
Education (Ref = Prim/Sec)	---	---	---	59.8	564	---
University	2.18	0.80	2.71	94.8	385	**
Gender (Ref = Female)	---	---	---	74.2	496	---
Male	-1.83	0.80	-2.28	73.7	453	*
SemanticCategory (Ref = Other)	---	---	---	76.3	823	---
Local	0.55	0.50	1.09	61.1	126	0.27
Gender*SemanticCategory (Ref = Female:Other)	---	---	---	74.9	423	---
Male:Local	-1.72	0.65	-2.65	49.1	53	**

Table 2. *Summary of mixed effects logistic regression for /tʃ/ variation in reference to [tʃ] realizations (vs. [ʃ]), speaker as random factor; N = 949 (R^2m: 0.49, R^2c: 0.72). Note: *** = p < 0.001, ** = p < .01, * = p < .05.*

The main effect of age group indicates that the oldest group, those above 55 years of age (as of 2013), produce significantly more [ʃ] than the two younger groups (Figure 5). In other words, the younger (18-34) and middle (35-54) age groups produce significantly more [tʃ] than the oldest age group. There were no significant differences between the youngest and middle age groups.

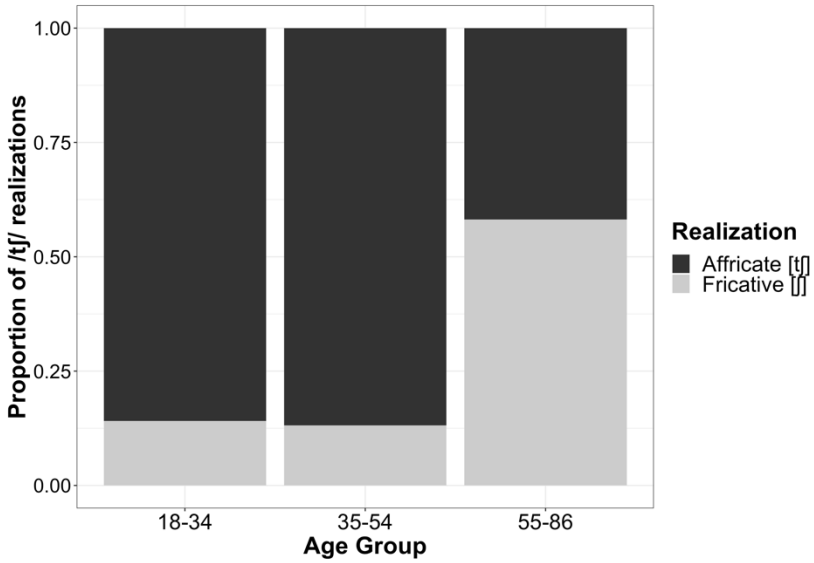

Figure 5. *Main effect of age group for /tʃ/ realizations.*

The main effect of education demonstrates that those with university studies favor [tʃ] more than those with primary/secondary studies (Figure 6). It is noteworthy the low proportion of the traditional Andalusian feature of [ʃ] present among those with university education.

The gender main effect suggests that women favor [tʃ] more than men. This main effect is not visualized as the overall percentages/proportions were not so different. The model revealed a significant interaction between semantic category and gender as seen in Figure 7. A post-hoc analysis of the estimated marginal means, using *emmeans* (Lenth *et al*., 2018), revealed that men produce more [tʃ] for other words as compared to local words ($p < 0.01$), while women did not show any statistical difference in [tʃ] production between local and other words ($p = 0.27$). Women also produced more [tʃ] than men for other words ($p < 0.05$) as well as for local words ($p < 0.001$). Thus, the interaction indicates that semantic category appears to impact men's realizations of /tʃ/ more than women in which men produce more of the traditional dialect variant [ʃ] for local words (local foods and gentilic) than they do for nonlocal words.

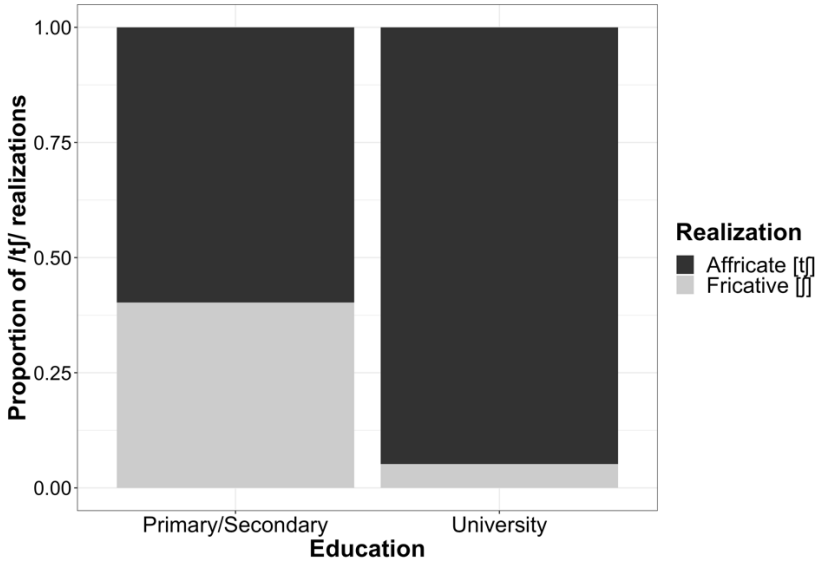

Figure 6. *Main effect of education for /tʃ/ realizations.*

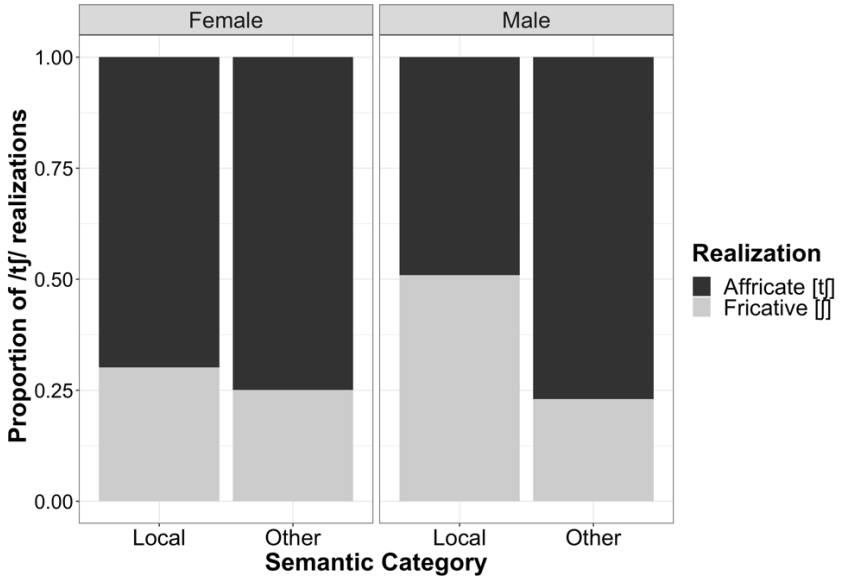

Figure 7. *Semantic category by gender interaction for /tʃ/ realizations.*

5. DISCUSSION

5.1 Findings in comparison to previous studies in Andalucía

The overall production of the affricate [tʃ] variant, 73.97% of all /tʃ/ tokens, is similar to the large amount of [tʃ] realizations found in studies of Eastern Andalucía in Granada with 82% [tʃ] realizations (Moya Corral and García Wiedemann, 1995a, 1995b), among Pinos Puente immigrants in Granada with 81.8% [tʃ] realizations (Melguizo Moreno, 2007), and in Málaga with 75% realizations [tʃ] (Villena Ponsoda, 1996). These results stand in contrast to findings in parts of Western Andalucía where in Cádiz capital[10] there was only 50.24% [tʃ] realizations (Payán Sotomayor, 1988) and in Jerez de la Frontera with only 17% [tʃ] (Carbonero *et al*., 1992) and 19% [tʃ] realizations (Harjus, 2018). These findings do, however, support the previous findings of de las Heras *et al.* (1996) with 94% [tʃ] realizations in the peripheral towns near Huelva capital (Aljaraque, San Juan del Puerto, Trigueros). The specific percentages should be taken with caution due to differences in sample populations and number of tokens per study. That is, these descriptive statistics should be treated more as an indication of a common trend towards an overall favoring of the affricate variant over the fricative variant in certain communities. Perhaps what is more important, however, are the results from the inferential statistics regarding the factors that govern variable /tʃ/ realizations. The current findings that younger speakers, those with university education, and women favor the supra-local Castilian feature [tʃ] as opposed to the traditional Andalusian feature [ʃ] parallels previous findings in Eastern Andalucía (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996).

It was surprising there were no significant interactions found between the social factors (i.e. gender and age, education and gender, etc.) given the results of previous /tʃ/ studies in Eastern Andalucía. In order to further examine the possibility of interactions between the main effects, a conditional inference tree was created using the *cforest()* function in the *party* package (Hothorn *et al.*, 2020). The conditional inference tree as seen in Figure 8, indicates that the most important predictor is age group, similar to the results from the random forest. It appears that the oldest generation, regardless of level of educational attainment, demonstrates more [ʃ] realizations compared to the two younger generations. For the younger two generations, the next most important predictor is education. For those with university education, the younger group (18-34) produces slightly more [ʃ] than the

[10] Given how long ago these results are for Cádiz capital, it should not be taken for granted that today there would be the same percentage.

middle-aged group (35-54). However, as seen in Figure 8, the [ʃ] realizations among those with university education from the younger generations are quite low. For the speakers of the two younger generations with primary or secondary education, the next most important predictor is gender, in which men produce more [ʃ] than women. However, for men it depends on the semantic category as they produce more [ʃ] for local words than other words.

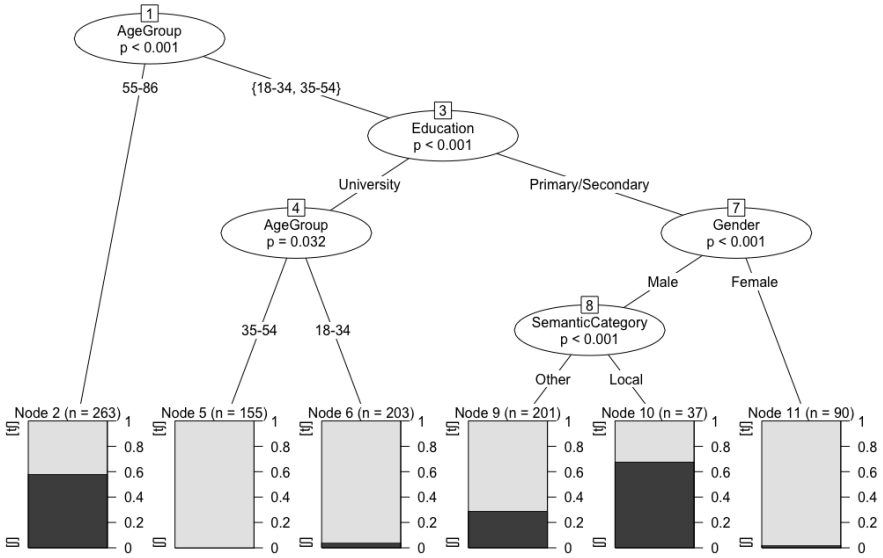

Figure 8. *Conditional inference tree of the factors that predict /tʃ/ variation ([tʃ] = light gray, [ʃ] = dark gray).*

Now that potential interactions of main effects have been analyzed with a conditional inference tree, here we examine each main effect and interaction from the regression model. The main effect of age indicates that there is an apparent-time evidence of a change in progress in which speakers under the age of 55 are more likely to produce [tʃ] as opposed to [ʃ]. The oldest speaker in the current study, 86 years of age in 2013 (birth year 1927), reflects the speakers sampled during the 1950s *ALEA* data collection (Alvar *et al.*, 1973) when Huelva demonstrated more [ʃ] realizations. This finding supports previous studies in which speakers under 55 years of age favor the affricate variant (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996). While there was not an age by gender interaction, most likely due to fewer participants in the oldest age

group, the conditional inference tree supports Villena Ponsoda's (1996:124) finding in which men and women over 55 years of age show no differences in the production of variable /tʃ/, but that [ʃ] realizations function as a "gender marker" among the younger generations. Although age group proved to explain the variation better than continuous age in the regression model as per ANOVA model comparisons, Figure 9 presents age as continuous to better visualize this change in apparent-time. In order to best examine the overall trends in variable /tʃ/ realizations as opposed to individual speaker effects, the scatterplot is plotted with a LOESS curve. As one observes, the highest proportion of [tʃ] realizations is among speakers under 55 years of age. Of note is the slight drop in [tʃ] realizations among the youngest speakers. This average was brought down by a few young men with less formal education. This may support the findings of Villena Ponsoda (1996:124) in Málaga and Melguizo Moreno (2007:755) in Granada who found that younger men of lower socioeconomic status or with less formal education show a tendency to produce more [ʃ] compared to other speakers from their age group.

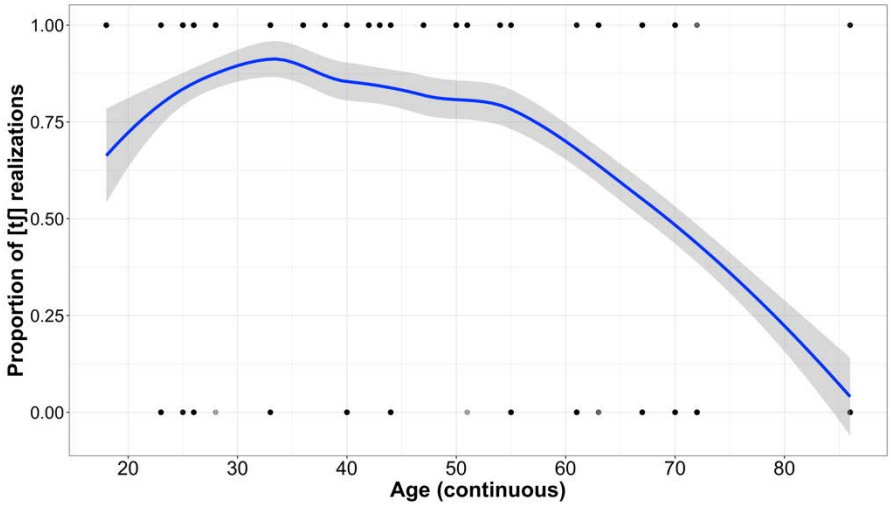

Figure 9. *Scatterplot with LOESS curve of age (continuous) for amount of [tʃ] realizations; Note: 0.0 = 0% [tʃ] and 1.0 = 100% [tʃ].*

The education main effect found in the regression supports previous studies in which speakers with more formal education favor the affricate variant (Melguizo Moreno, 2007; Moya Corral and García Wiedemann, 1995a, 1995b; Villena Ponsoda, 1996). The influence of education is a recurring finding across many studies of phonetic

dialect levelling occurring throughout Andalucía. One rationale for such a strong main effect is the increase in educational attainment throughout Andalucía in the last two generations. In Huelva capital, the increase in educational attainment since the 1950s has been significant. In fact, in 1950 only 1.31% of the total population had secondary education and 0.7% had university degrees while in 2011, 57.45% had secondary education and 19.99% had a university degree (*Instituto nacional de estadística*, 2011). As social dialectologists have noted (Hinskens *et al.*, 2005:23-24), the significant increase in educational attainment, in addition to other large-scale societal changes in the 20th century, has led to dialect levelling of local traditional dialectal features in favor of prestigious national features throughout Europe.

It should also be noted that Huelva capital has seen a large increase in population ever since the insertion of the *Polo Industrial* (industrial plants) in 1964, bringing immigrants from the north of the province as well as other parts of Spain (Feria Toribio, 1994; Martínez Chacón, 1992; Ruiz García, 2001). Given a large proportion of these immigrants came from northern parts of the province of Huelva, including *la sierra de Aracena*, where according to the *ALEA*, the affricate variant was the norm (Alvar *et al.*, 1973), this would have increased dialect contact by bringing in speakers that produced the affricate variant. Thus, it appears that societal changes in coastal Huelva, including an increase in education and dialect contact, have promoted dialect levelling of [ʃ] to [tʃ].

The effect of gender on /tʃ/ realizations supports studies in Eastern Andalucía and in turn also supports Labov's *Gender Pattern* as there appears to be a change from above in which women are adopting the more prestigious variant [tʃ] at a faster rate than their male counterparts (Labov, 1990:213, 2001:274). However, it should be noted that gender was the least significant main effect ($p < 0.05$) in the model. Hence, not all men or women behave monolithically in which all women favor affricate [tʃ] and all men favor fricative [ʃ]. As noted by many scholars, gender almost always interacts[11] with other social factors (Eckert, 1989; Eckert and McConnell-Ginet, 1999, 2003). While not found in the regression model, most likely to a relatively low number of participants, the conditional inference tree demonstrates that it is men of lower educational attainment that favor [ʃ] more than other groups. That is, younger men with university education favor [tʃ]. The regression model did, however, find an interaction between gender and semantic category, in which men produced more [ʃ] for local words than other words, while

[11] See Villena (1996) for interactions between gender and socioeconomic status, age, and education with a large-scale data set of 119 participants for /tʃ/ variation.

women did not. These findings suggest that men, more so than women, may utilize the traditional Andalusian variant [ʃ] with local words in order to index some type of localness, whether or not they use the Andalusian variant frequently. While this could be interpreted as a type of word-specific phonetics (Pierrehumbert, 2002) in which certain local words favor the traditional Andalusian variant, as the main effect of semantic category was not significant, this may indicate a type of stylistic variation that is more present among men. And more specifically, as indicated by the conditional inference tree, this appears to be strongest among men without university studies.

It is of note that neither the social factor of origin nor any of the other linguistic factors were significant. The lack of significance of origin should be taken with caution as there were only eleven participants included from the surrounding towns as opposed to twenty from Huelva capital. Thus, it could be that both Huelva capital and surrounding towns are shifting towards the affricate variant, but with so few participants from the surrounding towns, this lack of significance should be taken with caution. Additionally, the lack of significance of the linguistic factors suggests that this allophonic variation is primarily governed by social factors. This could also indicate that this change in progress is quite advanced. The only previous study of /tʃ/ in Andalucía to demonstrate a significant main effect of a linguistic factor was Melguizo Moreno in which she found that word-initial position favored [ʃ] more than word-medial position (2007:752). The lack of significance of word position in the current study could be due to differences between speech communities, but also perhaps due to the fact that Melguizo Moreno's analysis of word position was a univariate analysis as opposed a multivariate regression analysis. A similar trend to Melguizo Moreno's (2007) word position findings was qualitatively found for word position in which word-initial position (31.9%) demonstrated a higher proportion of [ʃ] realizations that word-medial position (24.6%). However, a chi-squared test of goodness-of-fit did not find this statistically significant, X^2 (1, N = 949) = 3.74, p = 0.053. Although future work should continue to examine the position in the word, the current mutlivariant analysis demonstrates that the social factors are the strongest predictors of /tʃ/ realizations among the sampled speakers.

Returning to differences between Western and Eastern Andalucía based on the prestige of *la norma sevillana* (the Sevilla norm) (Hernández-Campoy and Villena Ponsoda, 2009; Villena Ponsoda, 1996, 2008), it appears that Huelva is following similar trends of dialect levelling as Eastern Andalucía, at least with /tʃ/ and coronal fricatives (Regan 2017a, 2017b, 2020). While there is a lack of recent studies for variable /tʃ/ realizations in Sevilla, the recent production data in Sevilla on coronal fricatives (Gylfadottir, 2018; Santana Marrero, 2016, 2016-2017, 2017) demonstrate

that *seseo* is demerging into *distinción*, indicating that perhaps *la norma sevillana* is losing its regional linguistic prestige even in Western Andalucía (García-Amaya, 2008:69; Harjus, 2017:12, 2018:194; Regan, 2017a:151, 2017b:238; Samper-Padilla, 2011:116). However, based on the available data available, it appears that Cádiz and Jerez de la Frontera maintain the traditional Andalusian [ʃ] variant more so than Huelva. Consequently, more studies are needed to examine the effect of *la norma sevillana* throughout Western Andalucía.

5.2 Local orientation and local dialectal variants

In Andalucía, while dialect levelling of traditional phonological and phonetic features is occurring among much of the population, several scholars note a maintenance of syllable-onset traditional features among urban working class, rural, and *rurban*[12] speakers (Hernández-Campoy and Villena Ponsoda, 2009; Villena Ponsoda, 2008; Villena Ponsoda and Ávila-Muñoz, 2014) as well as among men with less formal education and high local loyalty (Villena Ponsoda and Vida Castro, 2017, 2020). These scholars interpret the maintenance of these features by these social groups as a rejection of the supra-local identity during large-scale societal changes. Several studies (Villena Ponsoda, 2005:325; Villena Ponsoda and Requena Santos, 1996: 41-46) have found that speakers in Málaga with less formal education have higher local social network scores and those with more formal education have lower social network scores. Their results suggest that speakers with less education and high social network scores favor local traditional features such as [ʃ] or *ceceo/seseo* and reject supra-local Castilian features like [tʃ] or *distinción*.

However, the maintenance or favoring of a local variant like [ʃ] does not necessarily need to be categorical or even the dominant norm in order to exhibit a local orientation as demonstrated by the nuanced stylistic variation found in the interaction of sematic category and gender. The finding that words containing <ch> that are linked to locality (i.e., local foods and the local gentilic (*choquero/a*)) favored the traditional [ʃ] variant more than other words for men, indicate that some speakers of Huelva, may agentively use the traditional dialectal feature with local words to index some type of local identity, not unlike Becker's (2009) speakers' use of non-rhoticity with neighborhood topics or Zhang's (2005) state professional speakers' use of interdental realizations with Beijing cultural topics. According to the conditional inference tree, this effect seems strongest among men with less formal education. That is, whether or not certain men overall favor the traditional

[12] *Rurban* refers to "rural speakers living in the city and maintain strong links with their rural acquaintances and kin" (Villena Ponsoda, 2008:146).

variant, they use the [ʃ] variant more often with local words perhaps in order to demonstrate a locally[13] oriented identity. Thus, these results tentatively support previous studies in which a local variant undergoing dialect levelling can take on socially relevant local meaning (Becker, 2009; Johnstone, 2007; Johnstone *et al*., 2002; Johnstone *et al*., 2006; Johnstone and Kiesling, 2008; Labov, 1963; Zhang, 2005).

5.3 Social motivation for a phonetic change

The production data alone cannot fully answer the question of *why* this change is happening. Or rather, *what* motivates this change to occur? As Labov states, "one cannot understand the development of a language change apart from the social life of the community in which it occurs. Or to put it another way, social pressures are continually operating upon language" (1963:275). Following this reason, Milroy (2004:161) proposes that variationist studies should account for language attitudes and how these attitudes can catalyze or inhibit linguistic change. To this end, here we connect the current production results to previous social perception results (Moya Corral and García-Wiedemann, 1995a; Regan, forthcoming) in order to best understand the phonetic change from [ʃ] to [tʃ]. That is, we can only understand the "total linguistic fact" (Silverstein, 1985:220) by examining how the linguistic form, the social use, and the social evaluations (attitudes and ideologies) of a linguistic variable mutually influence one another (Woolard, 2008:436).

In Regan's (forthcoming) matched-guise study, [tʃ] guises were evaluated as higher status and more cosmopolitan than [ʃ] guises. However, listeners with more formal education ascribed more status and cosmopolitan-ness to the supra-local Castilian [tʃ] variant and simultaneously less status and cosmopolitan-ness to the traditional Andalusian [ʃ] variant than those with less formal education. Thus, more years in the educational system affects the social evaluation of /tʃ/ realizations. Given these language attitudes, it is perhaps not surprising that speakers with university education produce more [tʃ]. Another factor to consider is the role of perceived occupational prestige. Moya Corral and García Wiedemann (1995a) found that [tʃ] was ranked higher in occupational prestige than [ʃ]. While Regan (forthcoming) did not find a significant main effect for perceived occupational prestige, there was a significant variant by listener education interaction in which listeners with more years of formal education evaluated [tʃ] guises as higher occupational prestige than those with less formal education. As those with university education generally work

[13] In Málaga, Villena Ponsoda (1996:125) found a positive correlation between [ʃ] realizations and "local loyalty scale", in which higher scores had more [ʃ] production.

in places in which the linguistic market (Sankoff and Laberge, 1978) places more linguistic capital on supra-local Castilian features like [tʃ] as opposed to traditional Andalusian features like [ʃ], it is perhaps no surprise that these speakers produce more of the affricate [tʃ] variant. As younger generations have more educational attainment, this could also explain the differences found between the oldest and two younger generations. As Regan (forthcoming) found that women perceived [tʃ] as more cosmopolitan than men, this could indicate a motivation for women to avoid [ʃ] realizations. Thus, as perception studies (Moya Corral and García Wiedemann, 1995a; Regan, forthcoming) have demonstrate that [tʃ] has more overt prestige than [ʃ], there is social motivation for this sound change (Labov, 1963) as reflected in the current production data in tandem with production studies in Eastern Andalucía.

6. CONCLUSIONS

While the findings are noteworthy, the study is not without limitations, particularly the number of participants from the surrounding towns and number of older participants. Future studies should look at the production data of variable /tʃ/ in smaller Andalusians towns as it is generally assumed that traditional dialectal features are maintained in towns and more rural areas. Future studies in Andalucía should examine the linguistic production and the social perception of the nearby capital city of Sevilla in order to better understand the current influence, or lack thereof, of *la norma sevillana* (the Sevilla norm). Finally, given the relatively low number of tokens of local words in the semantic category by gender results, these findings should be taken with caution. Future work, in Huelva, and other parts of Andalucía, should seek to examine the effect of local words or topics that are ideological connected to the area (Becker, 2009; Zhang, 2005) on the production of variable /tʃ/.

This study suggests that the traditional Andalusian feature of the voiceless prepalatal fricative [ʃ] is undergoing dialect levelling in favor of the supra-local Castilian feature of the voiceless prepalatal affricate [tʃ] in Huelva capital and surrounding towns. The affricate [tʃ] variant is favored by younger and middle-aged women of all educational levels and younger and middle-aged men with university education. However, among men, local words favor the use of fricative [ʃ] more so than nonlocal words. The results imply that there is a change in apparent-time (Labov, 2001) from [ʃ] to [tʃ] in Huelva, similar to cities in Eastern Andalucía. However, the traditional Andalusian feature [ʃ] remains a linguistic resource among men for constructing a local identity.

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APPENDIX I: Individual token count and speaker demographics

Speaker	Gender	Origin	Age	Education	[tʃ]	[ʃ]	Total
1	Male	Huelva	26	Prim/Secon	27	13	40
2	Female	Huelva	26	University	25	0	25
3	Male	Huelva	33	University	29	3	32
4	Male	Lepe	23	Prim/Secon	11	29	40
5	Female	Bonares	67	Prim/Secon	40	11	51
6	Male	Bonares	70	University	16	11	27
7	Male	Huelva	25	University	32	3	34
8	Female	Huelva	26	University	27	1	28
9	Male	Huelva	55	Prim/Secon	9	18	27
10	Male	Huelva	33	Prim/Secon	18	2	20
11	Female	Huelva	28	University	13	0	13
12	Female	Huelva	86	Prim/Secon	5	46	51
13	Female	Huelva	25	University	32	1	33
14	Female	Huelva	33	Prim/Secon	38	2	40
15	Female	Lepe	72	Prim/Secon	2	45	47
16	Female	Huelva	61	Prim/Secon	5	20	25
17	Male	Huelva	42	University	28	0	28
18	Male	Huelva	43	University	31	0	31
19	Male	Huelva	51	Prim/Secon	27	1	28
20	Male	Lepe	28	University	25	0	25
21	Male	Gibraleón	40	Prim/Secon	25	18	43
22	Male	Gibraleón	28	Prim/Secon	33	1	34
23	Male	Lepe	25	University	10	2	12
24	Male	Huelva	44	Prim/Secon	12	19	31
25	Female	Huelva	36	University	35	0	35
26	Female	Huelva	63	Prim/Secon	34	2	36
27	Female	Huelva	50	Prim/Secon	25	0	25
28	Female	Huelva	18	Prim/Secon	18	0	18
29	Female	Lepe	38	Prim/Secon	7	0	7
30	Female	Lepe	47	University	28	0	28
31	Female	Cartaya	54	University	35	0	35