

THE VARIANT [ʃ] IN THE SPANISH OF CIUDAD JUÁREZ *

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ABSTRACT. A characteristic feature of the Spanish spoken in the Mexican state of Chihuahua is the pronunciation of the standard phoneme /tʃ/ (<ch>) as a non-standard variant [ʃ] (<sh>). The present study analyzes the social and linguistic factors that influence variation in the Mexico-United States border community of Ciudad Juárez. A Direct and an indirect elicitation technique was used to gather tokens of /tʃ/ from a sample of 40 local speakers who varied in age, sex, socioeconomic status, education level, and degree of bilingualism. The data was perceptually and acoustically interpreted and then statistically examined using variable rules analysis. On the linguistic side, the results show that /s/, /i/, /u/ in preceding phonological context favor weakening. On the social side, the most prone participants to produce [ʃ] were young men from low socioeconomic status, regardless of being Spanish monolinguals or Spanish-English sequential bilinguals. These findings indicate an ongoing gender shift with respect to previous research in the same community.

Keywords: shesheo; lenition; border Spanish; Chihuahua Spanish; sociophonetics.

RESUMEN: Una de las características principales del español hablado en el estado mexicano de Chihuahua es la pronunciación del fonema /tʃ/ (<ch>) como [ʃ] (<sh>). Esta investigación analiza los factores sociales y lingüísticos que influyen dicha variación en la comunidad fronteriza de Ciudad Juárez. Para la recolección de datos se emplearon técnicas directas e indirectas con el fin de obtener realizaciones de /tʃ/ de una muestra de 40 hablantes locales de diferentes edades, sexo, estatus socioeconómico, nivel educativo y nivel de bilingüismo. Los datos fueron interpretados perceptual, acústica y estadísticamente. En la parte lingüística, los resultados demuestran que los fonemas /s/, /i/, /u/ en contexto precedente favorecen la lenición. En la parte social, los participantes que produjeron el mayor número de realizaciones de [ʃ] fueron hombres jóvenes de clase baja, independientemente de ser monolingües en español o bilingües consecutivos español-inglés. Los resultados indican un cambio lingüístico de género en desarrollo con respecto a investigaciones previas llevadas a cabo en la misma comunidad.

Palabras clave: shesheo; lenición; español fronterizo; español de Chihuahua; sociofonética.

1. Introduction

The affricate /tʃ/ is a common phone present in more than sixty documented languages around the world. It frequently undergoes the process known as lenition or weakening, to become either an independent phoneme /ʃ/ or a variant of /tʃ/. In Modern Spanish, the voiceless palato-alveolar fricative (IPA: ʃ APN: š)

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represents an allophonic and geographically dependent manifestation of the standard voiceless palato-alveolar affricate (IPA: tʃ APN: č), displayed orthographically with the grapheme <ch>.

From a historical perspective, neither /tʃ/ nor /s/ were phonemes in Classical Latin. However, /tʃ/ became a Spanish phoneme, when it evolved from the –ct– cluster through the process of palatalization (Álvarez 2007: 21).

(1) NOCTE > NO[k.t]E > NO[j.t]E > NO[tʃ] E

Concurrently, the Latin consonant cluster /ks/ (grapheme *x*) evolved into the Old Spanish /s/, to finally become /x/ in Modern Spanish (Renzi & Andreose 2003: 158).

(2) DIKSI > DI[tʃ]E > DIXE

Today, /s/ does not figure as a phoneme anymore, but as a variant [ʃ] in some Spanish variants. *Shesheo*, or /tʃ/ weakening, has been documented across some regions and social strata of Panamanian, Chilean, Andalusian, Cuban, Neo-Mexican, and Northwestern Mexican Spanish (Iribarren 2005: 246).

Even when corpora show that /tʃ/ is statistically one of the least common phonemes in American Spanish (Guirao & Jurado 1990), intralinguistic innovation, and the vast lexical influence of Nahuatl and other Uto-Aztecan languages, has significantly increased its frequency in Mexican Spanish. This process has developed to such extent that when faced with the option to use a word featuring the digraph <ch> or a synonym without it, a Mexican speaker would tend to choose the former (Nappo 2012). Since most of these words belong to a low register, a Mexican speaker interacting in an informal style will be expected to elicit evocative buzzwords with /tʃ/, increasing its frequency and therefore making variation more feasible.

Spanish also abounds in neologisms derived within the language. Examples of derived forms and borrowings that show [tʃ] in expressive words such as: *chasco* ‘trick, deceit’, *facha* ‘unusual appearance’, *pinche* ‘scullion’, *borracho* ‘drunk’, *metiche* ‘one who meddles’, *chisme* ‘gossip’, *chusma* ‘hoi polloi’. (Elerick, 2009)

It must be highlighted that /tʃ/ is one of the most variable phonemes in Mexican Spanish, along with /j/ and /s/; which Butragueño (2014a) underlines as the most fluctuating set of phonemes in the country.

This research focuses on the lenition of /tʃ/ in the Spanish of Ciudad Juárez, which represents the most distinguishable pronunciation feature for this dialect (Amastae 1996). During the last decades, the [+continuant] nature of <ch> has become a stereotypical characteristic of Chihuahua inhabitants, highly identifiable by speakers from other parts of Mexico. Based on preliminary observations, it was noticed that Juárez inhabitants commonly produce both the fricative and affricate variants in spite of not having completely replaced the affricate one yet. The following super token was extracted from one of the informants who participated in the sociolinguistic interview for this research.

Speaker 14:

Te da gusto salir de [no.fe], sales de [no.tʃe] y ves [mu.fos] lugares...

‘You are happy to go out at night, you go out at night and you see many places...’

Hence, the focus of this study is to analyze through the scope of variationist sociolinguistics, the specific social and linguistic factors that favor *shesheo* in this community, in order to report on the current panorama regarding language change.

2. Literature Review

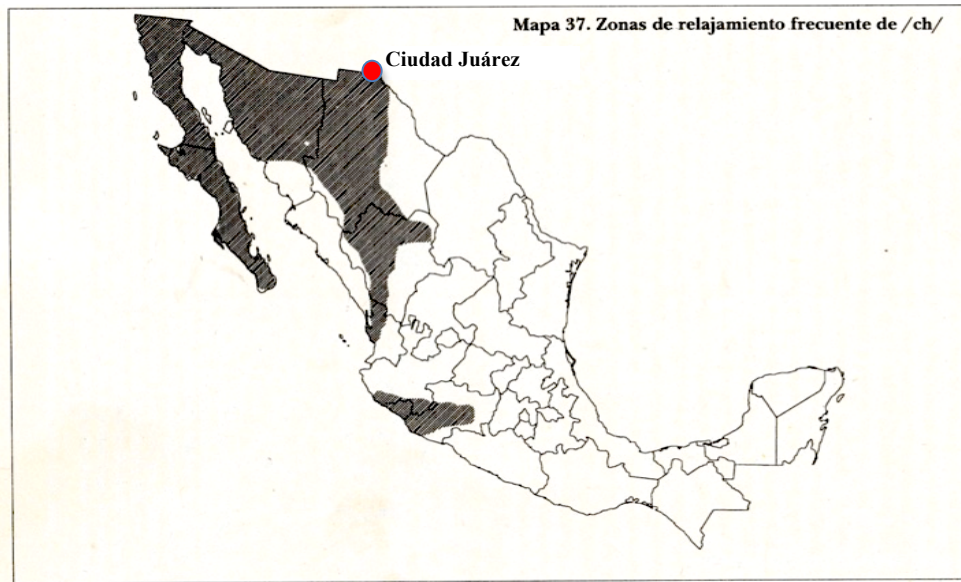
During the past decades, the lenition, weakening, fricativization or deaffrication of /tʃ/ has become a well-documented phenomenon in Mexico, Spain, and the United States. Jaramillo (1986) presented a study on the allophonic variation of /tʃ/ in the community of Tomé, New Mexico. Her findings concluded that the affricate variant most often occurred when the phonetic environment of a word contained a preceding nasal or lateral consonant. The coarticulation between a nasal or lateral and the following affricate mimicked the same articulation point to produce the affricate phoneme, even when the speakers could not differentiate both sounds in Spanish. On the social side, she proposes that the education level of the participants in correlation to age were the most important factors that prompted variation. In other words, young participants with more years of formal education in and on Spanish tended to favor the production of the affricate phone, instead of the more colloquial [ʃ].

Interestingly, this same conclusion was reached on a parallel study on Granada's Spanish (Melguizo Moreno 2006). However, besides stating that socio-economic level and age were propelling factors for lenition, sex was also a great indicator to show the vast statistical differences between the fricative production of women (5%), and men (95%). These findings can be attributed to the already well-documented role of gender in language, specifically to the notions of male retreat, which states that "working-class men, in the face of a female-dominated change, march in the opposite direction"; as well as covert prestige defined as:

A sociolinguistic singularity that reflects the value of societies and of the different sub-cultures within them, and takes the following form: for male speakers, and for female speakers under 30, non-standard working class speech forms are highly valued, although these values are not usually overtly expressed. These covert values lead to sex-differentiation of linguistic variables of a particular type. Covert prestige also appears to lead to linguistic changes "from below". (Trudgill, as cited in Tagliamonte 2012: 33)

In Mexico, Moreno de Alba (1994) addresses the differences of /tʃ/ production by presenting a map (Figure 2.1) based on the corpus from *Atlas Lingüístico de México*. The map highlights the regions where the phoneme displays a frequency equal to, or higher than 50% of lenition among the population. His proposal focuses on manner of articulation and not point of articulation for which Lope Blanch (1993) distinguishes more than five different variants with small, but acoustically significant palatal divergences.

Figure 2.1 Regions of frequent /tʃ/ weakening



Besides portraying that only around a quarter of Mexico's regions undergo the process of lenition, Figure 2.1 also displays that exactly to the east of Ciudad Juárez, /tʃ/ begins to strengthen and display the same [–continuant] feature that is shared by the vast majority of the country. Furthermore, Tsuzaki (1970: 48) also suggests that in the variety of Mexican Spanish spoken in Detroit, Michigan; [ʃ] is not related to English interference or an attempt to encompass both [ʃ] and [tʃ], but an idiosyncrasy [sic.] previously acquired by the speaker. Therefore, there is evidence to consider that perhaps the influence of English in border communities might not be a factor that correlates with /tʃ/ weakening, taking as a token the affricate production on the eastern portion of the US-Mexico borderline, where English and Spanish still collide.

Linked to Moreno de Alba's proposal, Butragueño (2014b) identifies 13 variants of /tʃ/ in terms of point of articulation. With respect to manner, the fricative articulation is said to occur in one out of twenty Mexican speakers, concentrated in very specific geographical areas. The affricate variants are the ones preferred in Central Mexico, especially in the center-east regions of the country, where they reach a $p=.602$. The data obtained for the northern states reveal minor probabilistic occurrence of [tʃ] in the Northeast ($p=.378$) and even less in the Northwest ($p=.128$); whereas the fricative results for this same area are highly meaningful with a $p=.876$ and a $f=.604$. Butragueño's results show that weakening is more likely to occur in intervocalic position with a $p=.615$ based on 51 documented samples. Strengthening, on the other hand, tends to be displayed in word initial position.

Further research based on Optimality Theory proposes that lenition in Northern Mexican Spanish and other Iberian Languages such as Catalan, Galician and Portuguese occurs by the conflict of two forces. The first one being the principle of least effort (or LAZY in terms of OT) that is a phonetically-grounded constraint, which requires that the observed surface form matches the underlying or lexical form in a certain way. Henceforth, and according to this proposal, lenition occurs due to intralinguistic factors, potentially foreign to

phonetic environment, but still related to extralinguistic influences. (Carreón-Serna 2007: 83). The weakening of [tʃ] in favor of [ʃ] can also be explained based on its phonological structure and markedness. Affricates are more complex than fricatives, due to a single root node that dominates their [-continuant] and [+continuant] features (Sagey 1986: 22), while fricatives on the other hand are just [+continuant] consonants. Therefore, it is expected that speakers would gravitate to the one variant that requires the least effort in terms of production.

To determine if /ʃ/ is in fact a socially stigmatized marker, Casillas (2013) inquired on the perception of speakers who produced the fricative variant. In order to do so, he created a webpage that contained matched-guise recordings of two male and two female speakers, who produced both, the fricative and the affricate variants. The participants were 122 students of Spanish as a Heritage Language at the University of Arizona at Tucson. They were asked to access the webpage to listen to the recordings, and then answer a questionnaire that will later be used to analyze their perception and attitudes towards the speakers. Casillas found that the participants who listened to the fricative variant, perceived the speaker as less trustworthy, and less educated, in comparison to the set of participants, who listened to the standard affricate and perceived it as an indicator of higher social class, education, and therefore, higher reliability in terms of a perlocutionary act.

In Ciudad Juárez, there have only been two formal studies focusing on /tʃ/ variation. Amastae (1996) presented the study *Variación y cambio en el español de Ciudad Juárez*, where he proposes three possible hypotheses for the weakening of /tʃ/. First, the phonological interference of English /ʃ/, due to the immediacy with the United States. Second, the contact with Tarahumara, as the largest indigenous language in the region, for which [ʃ] is an allophone of /s/. Third, an intralinguistic change that promotes variation and change on this and other Spanish dialects. The sample for the study was based on 55 interviewees of Ciudad Juárez, who were categorized and analyzed by sex, social strata (upper, middle, lower) age groups (<20, 21-35, 36-55, 56>), and education level (elementary, secondary, post-secondary, and higher).

Parallel to Brown's (1989) findings in Sonora Spanish, Amastae's (1996) analysis showed that women from a low social class, speaking in an informal register, born between 1940 and 1959, had the highest rate of weakening. In linguistic terms, the only phonetic environment that statistically favored lenition was a preceding sibilant and the only one that hindered it was a preceding nasal. It was concluded that:

In the case of Ciudad Juárez, lenition represents a 'change from below', possibly originated among lower income men, and then spread to the rest of the community, somewhere in the mid 1900's, as a result of the Bracero Program¹ that brought a large number of workers from rural towns of Chihuahua to Ciudad Juárez (p.24)

In terms of language perception and attitudes, a study based on a sample of 16 monolingual Spanish speakers from the state of Chihuahua, most of them students at the University of Texas at El Paso, stated that 90% could perceive the weakening of /tʃ/ in matched-guise recordings. In addition, the fricative variant was labeled as a casual speech feature by 80% of the participants and val-

¹ Series of laws and diplomatic agreements, initiated on August 4, 1942, when the United States signed the Mexican Farm Labor Agreement with Mexico.

ued as a masculine characteristic of spoken discourse, rather than a feminine one (Mazzaro & De Anda, 2016).

3. Methodology

Amastae's (1996) research served as the methodological outline for the present study, with the purpose of reporting changes, if any, that have taken place during the last twenty years in the sociolinguistic setting of this community.

The data for this study was collected from a heterogeneous sample of 40 speakers from Ciudad Juárez, using the friend-of-a-friend method to gain access to different sectors of the community.

The two pointers to determine subject's eligibility were that they should have acquired Spanish as their L1, and lived in Ciudad Juárez either through their formative years (0- 17 years) or, in the best-case scenario, their whole lives. Since the goal of the study is to give a variation scale model of the city as a whole, stratified random sampling was applied as the main approach. That is, the data was collected bearing in mind the maintenance of an egalitarian subject distribution of the studied social factors.

Labov's (1981) sociolinguistic interview model was implemented as the indirect data-elicitation method. The questions asked were tailored in a journalistic style to evoke the experiences and opinions of the whole community (e.g. The Drug War, Juárez heritage and traditions, binational practices, the Pope's visit, etc.).

Before starting to record the interview, all participants were aware that their speech was going to be analyzed. Nonetheless, in order to avoid hypercorrection or constant self-monitoring, the researcher did not specify concretely what specific feature was the focal point of the study (Podesma & Sharma, 2013).

Each interview lasted between 30 minutes to 1 hour with a mean of 37 minutes. The interviews took place in a silent environment, to eliminate external noise that could have hindered the analysis. The number of tokens or realizations of /tʃ/ analyzed from each speaker were between 16 and 30. 34 interviews were recorded on a one-to-one approach, and three of them with two speakers at the same time, although mediating turn-taking and avoiding simultaneous talk to the most possible extent.

After the interview, and as a direct data elicitation technique, the participants were asked to read a list with 30 words in isolation, 12 of them contained <ch>, and 3 of them were common English loanwords with <sh> (flash, sushi, shorts) in different phonetic environments. The other 15 words were fillers or distracters to avoid the participant's hypercorrection. This wordlist is available in the Appendix section.

Both the interview and the wordlist were examined following the same quantitative method to determine if there was a weakening frequency shift between elicitation techniques. All the uttered tokens were then perceptually analyzed, and only those ambiguous were submitted for acoustic examination using Praat and Praat Align (Boersma & Weenink, 2016) to verify either their affricate or fricative nature.

After the Microsoft Excel coding was complete, the data was concatenated and then submitted for analysis using Goldvarb (Sankoff, Tagliamonte & Smith, 2015) to obtain a distributional analysis of the allophonic production based on the independent variables. This software uses variable rules analysis to provide a quantitative and probabilistic model of a situation where speakers

alternate between different forms that have the same meaning and stand in free variation, conditioned by a variety of linguistic and social factors (Cedergren & Sankoff, 1974) presented in Sections 3.1 and 3.2.

Finally, the participants were openly asked about their personal attitudes and metalinguistic awareness towards the variation. The responses were analyzed quantitatively and qualitatively in order to come up with a ratio of stigmatization, but also to dissect and transcribe relevant commentaries.

3.1 Internal Factors

Phonetic environment. Preceding and following contexts for /ʃ/ in word initial position was always zero or pause. For /ʃ/ in word medial position, the coding for neighboring sounds were vowel, consonant, /n/ and /s/.

Syllabic stress. The variant was also coded according to stressed or unstressed position.

3.2 External Factors

Sex. For the purposes of this research, sex was always strictly biological. Male and female speech was compared without taking into account the concept of gender, understood as the social and cultural elaboration of the difference of biological sex through a process that restricts social roles, opportunities and expectations (Cheshire, 2008).

Age. Matching the same age cohorts of previous research (Amastae, 1996) the groups were divided into four generations: Generation W (50 years +), Generation X (35 - 49 years), Generation Y (21 - 34 years), and Generation Z (20 years and below).

Bilingualism. Participants were asked to self-assess their fluency and proficiency in English to determine if it played a role whatsoever in Spanish /ʃ/ weakening, since in English /ʃ/ is an independent phoneme.

Education level. The participants' education level was divided into primary (middle school), secondary (high or technical school) and post-secondary (*licenciatura*/undergraduate/graduate degree).

Socioeconomic status. In Mexico, income is not a piece of information that is commonly shared with researchers; especially, in the delicate setting of the studied community. For this reason, the subjects were not asked about their occupation, salary or any other piece of sensitive information that could bias the results and/or make them feel uncomfortable during the data-gathering process. Thus, to propose an approximation of socioeconomic level, the municipality of Juárez was divided into four zones (upper, upper-middle, lower-middle, and lower) using as a guiding tool a demographic study published by *Instituto Municipal de Investigación y Planeación* (2010). The participants were instead asked either for their ZIP code to locate them within the map.

4. Results

The overall distribution of /ʃ/ variants in Ciudad Juárez Spanish for both elicitation methods is presented in Table 4.1.

Table 4.1 Overall distribution of /tʃ/ variants in Ciudad Juárez Spanish (interview and wordlist)

[tʃ]		[t]	
%	N	%	N
67.2	909	32.8	443

Total N 1352

Table 4.1 shows that the standard [tʃ] has an overall higher frequency of occurrence (67.2%) than [t] (32.8%). The distribution of both variants across the social factor groups considered in the analysis is shown in Table 4.2. The direct and indirect elicitation techniques were combined to see the weakening rates across tasks.

Table 4.2 Distribution of /f/ variants by social factors

Factor Groups	[ʃ]			[f]		
	Prob.	%	N	Prob.	%	N
Socioeconomic						
Upper	.746	81.9	336	.254	19.0	79
Upper-middle	.565	74.6	444	.435	25.4	151
Lower-middle	.221	45.8	76	.779	54.2	90
Lower	.104	30.1	53	.896	69.9	123
Range (.642)						
Education						
University	.567	68.5	676	.433	31.5	311
High School	.292	64.0	142	.708	36.0	80
Middle School	.273	53.8	57	.727	46.2	49
Elementary	.907	93.8	30	.093	6.2	2
Range (.634)						
Bilingualism						
Bilingual	.456	66.1	748	.544	34.7	382
Monolingual	.795	77.09	202	.205	22.9	60
Range (.339)						
Age						
50 +	.709	76.3	116	.291	23.7	36
35 to 49	.566	80.7	67	.434	19.3	16
21 to 34	.508	65.3	241	.492	34.7	128
20 -	.392	64.0	407	.608	36.0	229
Range (.317)						
Sex						
Male	.372	59.9	401	.628	40.1	268
Female	.626	74.4	508	.374	26.6	175
Range (.254)						
Task						
Interview	.371	66.7	496	.629	33.3	258
Wordlist	.655	67.9	413	.345	32.1	195
Range (.284)						
			Total N 1352			

Table 4.2 shows that all factor groups were selected as significant in the multivariate analysis. Both social class and education level were selected as significant by the multivariate analysis, indicating that participants from low socioeconomic level status and low levels of formal education favor [ʃ] (.82 and .72 respectively), which is similar to the findings presented by Amastae (1996).

Participants who self-assessed as sequential Spanish-English bilinguals due to schooling or working in the United States, favored the use of [ʃ] more frequently (.54) while Spanish monolinguals disfavored it (.20). This finding suggests that English may in fact have some influence on Ciudad Juárez /tʃ/ weakening. Yet, in order to study this effect more closely, bilingualism was cross tabulated with the dependent variable and the underlying representation to more accurately determine the influence of bilingualism on /tʃ/ weakening. This is presented in Section 4.1.

Age results show that weakening has not lost strength during that past two decades. According to Amastae's (1996) findings, the eldest group presented the highest rate of weakening; yet this study shows that young speakers of 20 years and below displayed the highest likelihood for lenition (.60). These results suggests that the variation affecting /tʃ/ is a change in progress which favors the use of the non-standard variant.

Contrary to previous results (Amastae 1996), [ʃ] is favored by male speakers (.62) and disfavored by females in both tasks, which indicates a gender shift.

Regarding the direct (sociolinguistic interview) and indirect (wordlist) elicitation techniques, it was displayed that participants were more likely to produce [ʃ] in colloquial speech (.62) than in monitored reading (.34).

The distribution of both variants across linguistic factors considered in the analysis is shown in Table 4.3.

Table 4.3 Distribution of /ʃ/ variants by linguistic factors

Factor Groups	[ʃ]			[ʎ]		
	Prob.	%	N	Prob.	%	N
Preceding context						
[r]	.665	82.1	32	.335	17.9	7
[n]	.623	79.5	97	.377	20.5	25
Initial /ʃ/	.552	68.6	335	.448	31.4	153
[a]	.504	71.9	115	.496	28.1	45
[e]	.501	65.6	59	.499	34.4	31
[o]	.489	67.9	91	.511	32.1	43
[u]	.454	59.8	128	.546	40.2	86
[i]	.267	55.4	36	.733	44.6	29
[s]	.107	36.8	14	.893	63.2	24
Following context						
[e]	[]	70.7	104	[]	29.3	43
[u]	[]	70.6	36	[]	29.4	15
[i]	[]	70.1	178	[]	29.9	76
[a]	[]	69.1	264	[]	30.9	118
[o]	[]	63.7	303	[]	36.6	173
Stress						
Stress	[]	67.8	223	[]	32.3	106
Unstressed	[]	67.1	686	[]	32.9	337
			Total 1352	N		

Table 4.3 shows that the analyzed data from both elicitation methods display the occurrence of [ʃ] predominantly when preceded by [s] (.89) (e.g. ‘deschavetado’) that was sometimes deleted and some other times carefully pronounced by separating syllables. It is proposed that coda [s] undergoes total assimilation before /ʃ/ and originates two possible outcomes: a phonetic geminate [ʃ:] or [ʃ:]. The latter is considered the most feasible one due to its unmarkedness.

The probability values of vowels [i] (.73) (e.g. ‘dicho’) and [u] (.54) (e.g. ‘mucho’) show a tendency for weakening. This was expected since diachronic and synchronic lenition processes operate in such environment. However, it was interesting to notice that high vowels favor the fricative realization more than mid vowels, and mid vowels more than low vowels. This leads to believe

that lower sonority favors the fricative variant, as it occurs in other languages such as Modern Greek, in which some dialects fricativize high glides (Baltazani et al. 2016).

On the other hand, consonants [r] (.66), [n] (.62) and initial /ʃ/ (.55) tended to hinder weakening. Therefore, words such as *rancho* ‘ranch’, *Chihuahua* or *marcha* ‘march’ were predominantly pronounced with [ʃ]. Regarding the post-nasal and post-lateral contexts, the situation is natural: both nasals and laterals can be considered as [–continuant] segments. However, after the flap, more instances of the fricative would be expected, because in this context stop spirantization also applies. The fact that a preceding flap favors the affricate realization goes against what might have been expected. Following context and stress did not show any relevant probabilistic tendency.

4.1 Bilingualism and /ʃ/ lenition

One rooted supposition around the overall notion of [ʃ] in Northwestern Mexico is that the proximity that Spanish has with English may account for it. The initial argument to discard this premise was that weakening does not occur homogenously through the U.S.-Mexico Border, and in fact, it stops to the east of Ciudad Juárez, in accordance to the map presented by Moreno de Alba (1994) (Figure 2.1). However, the interview and the wordlist showed a tendency among self-assessed English-Spanish bilinguals to produce [ʃ] (.54) more than their Spanish monolingual counterparts who were more “loyal” to the standard variant (.20).

Therefore, to inquire further into the supposed interference of English phonology, Table 4.8 displays the cross tabulation of self-perceived bilingualism, word underlying phonemic representation, and phonetic production from the direct elicitation technique. The wordlist contained three common English loanwords with /ʃ/ (‘flash’, ‘sushi’, ‘shorts’) that were expected to be pronounced [ʃ] as in other regions of Mexico where *shesheo* does not occur, and speakers are aware of the contrast between both sounds.

Table 4.1.1 Cross tabulation of bilingualism, underlying representation and phonetic realization

		Bilinguals		Monolinguals	
		%	N	%	N
Phonemic UR /ʃ/	Phonetic [ʃ]	28	106	26	22
	Phonetic [tʃ]	72	266	74	62
Phonemic UR /s/	Phonetic [ʃ]	44	55	43	12
	Phonetic [tʃ]	56	69	57	16

The results from the cross-tabulation indicates that bilinguals and monolinguals display almost identical likelihood to produce [ʃ] when the underlying representation of the word is /ʃ/, or to produce [tʃ] when the underlying representation is /s/. For instance, both groups were prone to pronounce /ʃiko/ as [ʃiko] and /suʃi/ as [sufi]. Also, the fact that [ʃ] shows a higher percentage of production in these loanwords, but not in the other set of words, clearly sug-

gests that Spanish speakers of Ciudad Juárez might be able to categorize the two sounds as two distinct contrastive sounds. That is, although both [ʃiko] ('chico') and [súʃi] ('sushi') are possible, the former is still more probable than the latter.

If English played a role it would be expected that bilinguals would be able to produce both sounds matching their underlying representation. Thus, these results suggest that bilingualism and language contact does not represent a factor that contributes to weakening. However, a more meticulous experiment to assess participants' dominance and proficiency in English may display different results.

4.2 Language Attitudes

After reading the wordlist, all participants were asked three open-ended metalinguistic questions to obtain a deeper understanding of the perceptual attitudes related to /tʃ/ lenition.

Question 1. Do you think /ʃ/ pronunciation is a feature of Juárez/Chihuahua Spanish?

Question 2. Do all *juarenses* pronounce /tʃ/ as [ʃ]?

Question 3. Is it negatively perceived?

Results show that 97.5% of the sample considered [ʃ] as a characteristic feature of Ciudad Juárez Spanish. Nonetheless, some of the participants emphasized that weakening is even more frequent in the state's capital and isolated rural areas of Chihuahua. Relevant quotes extracted from the interviews are presented below.

Speaker 10:

Se nota más en los ranchos y en los pueblos

'It is more noticeable in the countryside and in small towns'

Speaker 23:

La gente que lo pronuncia diferente son los chihuahuistas

'The ones who pronounce it (/tʃ/) differently are people from Chihuahua City'

Speaker 34:

Cuando fui al D.F. por lo golpeado sabían que era del norte, pero por la 'sh' sabían que era de Chihuahua

'When I went to Mexico City, people knew I was from the north because of my energetic accent, but they knew I was from Chihuahua, because of my 'sh' pronunciation'

Some of the participants stated that they could discriminate between [tʃ] and [ʃ]. Nonetheless, when they were asked to pronounce both phones, most of them were unable to. Those who could produce them distinctively expressed that they try to pronounce standard [tʃ] in their own speech as much as possible.

Speaker 37:

Yo lo mezclo, pero empecé conscientemente a cambiarlo

'I mix them both, but I consciously started to change it'

Speaker 40:

Algunos juarenses cambian entre leshe y leche y siento que hay otros que nomás dicen leshe

‘Some juarenses switch between “leshe” and “leche” and I feel that some others just say “leshe”’

This participant’s perception of increased use of [ʃ] suggests that today /tʃ/ weakening is still present among more than half (57.5%) of Juárez inhabitants. Certainly, the interviewees pointed out that there are some factors that determine if a person will display weakening or not. Ancestry and age were the two most commonly factors mentioned as influencing factors.

Speaker 17

Las personas con familias de otros lados no lo hacen

‘People with families from other parts of the country do not do it’

Speaker 23

Antes era común. La gente tenía muy arraigada la pronunciación de /tʃ/ como /ʃ/, pero ya no lo escucho tanto

‘It used to be common. People had a very rooted pronunciation of /tʃ/ as /ʃ/, but I do not hear it so frequently anymore’

Twenty percent of the subjects regarded lenition as a language feature that is negatively perceived and should be avoided. It is important to mention that the portion of the sample that displayed the aforementioned perception were mostly from the upper socioeconomic/educational group.

Speaker 13

Normalmente la gente un poquillo como naquilla lo hace

‘Normally, tacky people do it’

Speaker 24

Entre menos nivel cultural más todavía se nota la [ʃ]

‘As cultural level decreases, [ʃ] pronunciation increases’

Finally, the great majority of the sample consensually agreed that weakening is a characteristic feature of Chihuahua Spanish that has no explicit correlation with the speaker’s background other than place of origin. Although speakers from other parts of the country may look upon it with a humorous remark, in terms of metalinguistic perception it has simply become an endemic phonological phenomenon of this Spanish dialect.

5. Conclusion

Over the last twenty years the characteristic pronunciation of /ʃ/ in the Spanish of Ciudad Juárez has remained a steady variation with a current 3:10 ratio among inhabitants. Seen from a linguistic standpoint, the phonetic environment for weakening continues to match the one reported by past studies (Amastae, 1996; Brown, 1986, Carreón-Serna, 2007; Jaramillo, 1986). Results from the present research demonstrate that speakers with a tendency for weakening tend to produce [ʃ] when it is preceded by a sibilant [s] (e.g. *deschavetado* ‘crazy’) or a high vowel [i] or [u] (e.g. *dicho* ‘said’ / *mucho* ‘a lot’). On the other hand, [tʃ] tends to occur in initial position (e.g. *Chihuahua*), with a nasal [n] in previous context (e.g. *rancho* ‘ranch’), a flap [r] (e.g. *marcha* ‘march’), a low front vowel [a], or a high-mid front vowel [e] (e.g. *racha* ‘streak’ / *pecho* ‘chest’). Following context or syllable stress did not show any clear trend towards either lenition or the standard variant.

However, the past two decades have brought some changes in regard to the social fabric where variation affecting /tʃ/ occurs. The results presented by Amastae (1996) showed that women from a low educational and socioeconomic background from ages 36-55 were the group with the highest prevalence for weakening among Ciudad Juárez population. The data obtained from the present research, on the other hand, indicates that men are currently the group with the highest rate of weakening; corresponding to the results obtained in Granada, Spain by Melguizo Moreno (2006). This shift may be a result of a recent change from above among female speakers. It is proposed then that due to the increasing communication advancements within Mexico, women have become aware of the non-standard connotation of weakening /tʃ/, and have consciously shifted to the prescribed pronunciation as a manifestation of overt prestige. Men, on the other hand, display covert prestige by maintaining the fricative pronunciation as a marker of their sociocultural background.

Although low educational and socioeconomic backgrounds are still factors that significantly increase the incidence of *shesheo*, it does not appear to be as highly stigmatized as it previously was, based on the language attitudes expressed by the participants themselves. Nonetheless, since the language attitude survey was conducted through a direct approach that straightforwardly asked the participants about their opinions, there is a chance that they might have not felt at complete ease to share their perceptions, as they would have with a more indirect method such as a matched-guise test.

Furthermore, according to Amastae's (1996) results of middle age women being the group with the strongest tendency for lenition, it was expected that twenty years later women aged 50 years and above, would be the group most prone to lenition. However, in this study, the youngest age group of 20 years and below had the highest tendency for it. This leads to support the claim that this is still an ongoing linguistic change that is increasing strength in this region.

Concerning bilingualism, a deeper analysis of the data showed that, both bilinguals and monolinguals have similar percentages of [tʃ] and [ʃ]. Therefore, the widely-held assumption that the occurrence of /ʃ/ in Chihuahua Spanish is due to the contact with English received no support from these data.

The limitations for this research include the inability to objectively determine the level of English proficiency and dominance among speakers. A more precise method to assess bilingualism without self-evaluation could contribute to provide a more accurate idea of the degree of influence from English, and therefore a more accurate explanation of the source of this sociolinguistic phenomenon. Also, a sample that includes a larger number of subjects from low socioeconomic/low educational backgrounds and from age fifty and above may provide a more precise effect of social factors on the variable under study.

The findings of this study suggest that the weakening of the affricate /tʃ/ in the Spanish of Ciudad Juárez diachronically match the sociolinguistic patterns of other dialects: young men from middle-low socioeconomic status with secondary education (Melguizo Moreno, 2016); with [s], [i] or [u] in preceding context (Butragueño, 2014b). The departure point for further research on /tʃ/ sociophonetic variation goes north and south. First, determining the frequency of weakening among simultaneous bilinguals living in American diglossic communities such as El Paso, Texas. Second, among *chihuahuenses* who have migrated to other Mexican cities away from the border, and might have molded

their speech to that of other Spanish variants. Third, among speakers from other Mexican states (e.g. Veracruz) who have migrated to Ciudad Juárez and might have started weakening /ʃ/ in multidialectal environments such as *maquiladoras*.

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References

- Álvarez, B. A. (2007). Estudio sobre la realización de algunas consonantes en coda en el habla popular de la Ciudad de México: Hacia una interpretación causal de los hechos. *Boletín De Filología* 42, pp. 11-35.
- Amastae, J. (1996). *Variación y cambio en el español de Ciudad Juárez. Ciudad Juárez, México*. Universidad Autónoma de Ciudad Juárez.
- Baltazani, M. et al. (2016). Vowid-driven processes: palatalization and glide hardening in Greek and its dialects. *Glossa* 1(1): 23, pp. 1-38. <https://doi.org/10.5334/gjgl.108>
- Boersma, P. & Weenink, D. (2016). *Praat: doing phonetics by computer* [Computer program]. Version 6.0.19, retrieved 13 June 2016 from <http://www.praat.org/>
- Brown, D. (1989). El habla juvenil de Sonora, México: La fonética de 32 jóvenes. *Nueva Revista De Filología Hispánica* 37, pp. 43-82.
- Butragueño, P. M. (2014a). La división dialectal del español mexicano, in R. Barriga & P. Martín (eds.), *Historia sociolingüística de México* (Vol. 3). Mexico City, El Colegio de México.
- Butragueño, P. M. (2014b). *Fonología variable del español de México* (Vol. I: Procesos Segmentales). Mexico City, El Colegio de México.
- Carreón-Serna, Y. A. (2007). *La lenición en el español del Norte de México y otras lenguas romances una aproximación a la variación sociolingüística y un modelo formal basado en la Teoría de la Optimidad*. PhD Dissertation, University of California Santa Barbara.
- Casillas, J. V. (2013). La fricativización del africado /ʃ/: actitudes lingüísticas cerca de la frontera, in Ana M. Carvalho and Sara Beaudrie (dirs.), *Selected Proceedings of the 6th Workshop on Spanish Sociolinguistics*. Somerville (Mass.), Cascadilla Proceedings Project, pp. 177-188.
- Cedergren, H. & Sankoff, D. (1974). Variable rules: Performance as a statistical reflection of competence. *Language* 50, pp. 333-355. <https://doi.org/10.2307/412441>
- Cheshire, J. (2008). *Sex and gender in variationist research. The Handbook of Language Variation and Change*. Blackwell Publishing Ltd, pp. 423-443. <https://doi.org/10.1002/9780470756591.ch17>
- Elerick, Ch. (2009). Compensatory strengthening and phonetic salience in the evolution of the Latin > Spanish obstruent system, in A. Cortazar & R. Orozco (dirs.), *Lenguaje, Arte y Revoluciones Ayer y Hoy: New Approaches to Hispanic Linguistic, Literary, and Cultural Studies*. Oxford, Oxford Scholars Press.

- Guirao, M., & Jurado, M. A. (1990). Frequency of Occurrence of Phonemes in American Spanish. *Revue Québécoise De Linguistique* 19(2), 135. <https://doi.org/10.7202/602680ar>
- Instituto Municipal de Investigación y Planeación. (2010). *Contexto Geográfico y Socioeconómico*. Vol. 2. Ciudad Juárez. Available at <http://observatoriodejuarez.org/dnn/Portals/0/diagnosticos/Vol3parte2.pdf>
- Iribarren, M. C. (2005). *Fonética y fonología españolas*. Spain, Editorial Síntesis.
- Jaramillo, J. A. (1986). *Variation in /ch/ and second person address in the Spanish of Tomé, New Mexico*. The University of New Mexico Albuquerque.
- Labov, W. (1981). *Field methods of the project on linguistic change and variation*. Austin, TX, Southwest Educational Development Laboratory. Available at <http://www.ling.upenn.edu/~wlabov/L470/Labov1984.pdf>
- Lope Blanch, M. (1993). *Nuevos estudios de lingüística hispánica*. Mexico City, Universidad Nacional Autónoma de México, Instituto de Investigaciones Filológicas.
- Mazzaro, N. & De Anda, R. (2016). *Estudio acústico y perceptual de la asibilación de róticas en el español de Chihuahua*. Academic Presentation, Day of the Mother Tongue, Universidad Autónoma de Ciudad Juárez.
- Melguizo Moreno, I. (2006). La fricativización de la /ch/ en una comunidad de hablantes granadina. *Interlingüística* 17, pp. 777-789.
- Moreno de Alba, J. G. (1994). *La pronunciación del español en México*. Mexico City, Colegio de México.
- Nappo, D. (2012). The frequency of ch /tʃ/ in Contemporary Mexican Highland Spanish. *Hipertexto* 16, pp. 147.
- Podesva, R., & Sharma, D. (2013). *Research methods in linguistics*. Cambridge, Cambridge University Press.
- Sagey, E. (1986). *The representation of features and relations in nonlinear phonology*. PhD dissertation, MIT.
- Sankoff, D., Tagliamonte S. & Smith, E. (2015). *Goldvarb Yosemite: A multivariable analysis application for Macintosh* [Computer program]. Retrieved 4 July 2016 from <http://individual.utoronto.ca/tagliamonte/goldvarb.html>
- Tagliamonte, S. (2012). *Variationist sociolinguistics: Change, observation, interpretation*. Malden (Mass.), Wiley-Blackwell.
- Tsuzaki, S. M. (1970). *English influences on Mexican Spanish in Detroit*. The Hague, Mouton.

Appendix

AGACHAR

POBREZA

CORREO

MARCHA

TANQUE

SANDWICH

LATA

CHAMACO

RATÓN

RACHA

CELULAR

SHOW

JAMÓN

CHANCHO

EDIFICIO

BACHE

LÁPIZ

RANCHO

GALLINA

DESCHAVETADO

SUSHI

TOMATE

CHUPÓN

TENEDOR

OCHO

HOJA

SHORTS

TAZA

CHAT

ACEITE