Weakening of the affricate /t[voiceless postalveolar fricative]/ in the Spanish of Ciudad Juárez

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WEAKENING OF THE AFFRICATE /ʧ/ 
IN THE SPANISH OF 
CIUDAD JUÁREZ 

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Master’s Program in Linguistics 

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CHAPTER ONE
INTRODUCTION

The affricate /ʧ/ 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 an allophone of /ʧ/. In Modern Spanish, unlike English, French, or Italian, the voiceless palato-alveolar fricative (IPA: ʃ APN: š) represents an allophonic and geographically dependent manifestation of the voiceless palato-alveolar affricate (IPA: ʧ APN: č), displayed orthographically with the grapheme <ch>.

\[
\begin{array}{c}
<CH> \\
\mid \\
/ʧ/ \\
\mid \\
[j] \quad [ʃ]
\end{array}
\]

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

\[
\text{NOCTE} \rightarrow \text{NO[k.t]E} \rightarrow \text{NO[j.t]E} > \text{NO[ʧ] E}
\]

Concurrently, the Latin consonant cluster /ks/ (grapheme x) evolved to the Old Spanish /ʃ/, and then to /ʃ/ in Modern Spanish (Renzi & Andreose, 2003, p.158).

\[
[\text{DIKSI}] > [\text{DIʃE}] > [\text{DIʃE}]
\]
Today, /ʃ/ does not figure as a phoneme anymore, but as an allophone [ʃ] in some Spanish variants. Despite the fact of not appearing systematically in all Spanish dialects, *shesheo* or /ʃ/ weakening has been documented across some regions and social strata of Panamanian, Chilean, Andalusian, Cuban, Neo-Mexican, and Northwestern Mexican Spanish (Iribarren, 2005, p. 246).

Even when corpora show that /ʃ/ 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 have 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 /ʃ/, 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 among all the other phonemes within the phonological repertoire of Mexican Spanish, /ʃ/ is one of the most variable in the country.
Butragueño (2014a) proposes that the key feature for dialectal classification lies in phonetic data. Figure 1.1 shows an outline of dialectal regions based on his research on a distributional analysis of the allophones of: /ʝ/ /ʃ/ and /s/, which he underlines as the most fluctuating set of phonemes in Mexico even more so than lexical items or syntactic structure. Based on his conclusion, Mexican Spanish is divided into five regional dialects or subdialects that differ from each other in terms of distinctive features.

This research focuses on the lenition of /ʃ/ in the Spanish of Ciudad Juárez, which represents the most distinguishable pronunciation feature for this dialect (Amastae, 1996). The goals for this study are to examine, from a variationist standpoint, the social and linguistic factors that favor weakening in this community, to compare with Amastae’s results.

Figure 1.1 Dialectal model for five regions and three phonetic variables
(1996) the current panorama regarding language change in Ciudad Juárez, and to determine if English independent phoneme /ʃ/ influences the Spanish allophonic production of [ʃ] by analyzing the weakening rate of Spanish-English bilinguals.

Based on preliminary observations, it can be said that Juárez inhabitants commonly alternate the fricative and affricate allophones despite not having completely replaced the affricate:

Speaker lMMUZZ

“Te da gusto salir de [noʃe], sales de [noʃfe] y ves [muʃos] lugares…”

Hence, the motivation for this research is to provide a more precise explanation of the causes that trigger the characteristic shesheo feature in this community.
1.2 A linguistic overview of Ciudad Juárez

Formerly known as *Paso del Norte*, Ciudad Juárez is the sixth largest municipality and the eighth largest city in Mexico with a population of 1.3 million people (INEGI, 2015). It lies south of the Rio Grande and, together with El Paso, Texas, it compromises the largest adjacent binational metropolitan area in the world (c. 2 million inhabitants), as well as the largest bilingual workforce in the Western Hemisphere (Chamberlain, 2007).

In both cities, Spanish is a unitary and transnational language as a result of a shared history and similar cultural practices. It serves as the primary communication vehicle for Mexicans and Mexican-Americans who often interact with one another for economic and social reasons (García, 1980).

Unlike El Paso, a highly diglossic community where English and Spanish are spoken by three quarters of the overall population (US Census Bureau, 2014) to different extents and under different circumstances, Juárez inhabitants are mostly monolingual in Spanish. *Juarenses*, however, are knowledgeable enough to communicate in Pidgin English (Teschner, 1995) if they are ever faced with the need to address an English monolingual or English dominant bilingual on either side of the border. Oppositely to the commonplace language alternation of bilingual El Pasoans, *Juarenses* severely reject code-switching, and even those proficient in English prefer to keep both languages detached as much as possible using English for instrumental purposes only. The cause of such rejection is the rooted belief that Mexican-Americans are displaced Mexicans who deny their ancestral roots and who outright refuse to speak Spanish. (Esquinca Moreno, 1999, p.107). Nonetheless, the recent transferral of Mexican businesses to El Paso, the increased migratory trend due to the...
Mexican Drug War, as well as the current attempt to revitalize Juárez tourism and safeness appear to be shifting the attitudes and mitigating the prejudices of *fronchis*¹ towards *pochos*,² and vice versa. After all, “El Paso is part Mexican, and Juárez is more American than it sometimes likes to admit” (Sonnichsen, 1968, p.9).

Besides English and Spanish, there are other minority languages that contribute to the borderland’s linguistic heterogeneity: Tarahumara and Tepehuano, predominantly spoken by the Tarahumara community in Ciudad Juárez, Tigua, spoken by the Native American Tigua descendants in the Ysleta del Sur community of El Paso, English in the Mormon communities of Nuevo Casas Grandes, and *Plautdeutsch* spoken by the Mennonites primarily settled in Cuauhtémoc, Chihuahua. The last two groups frequently travel to the border for commerce purposes (Hedges, 1996).

The vernacular lexicon of Juárez has four main influences that diverge from other Mexican states. The first one is the myriad of loanwords, adaptations and calques from English (*baica* ‘bike’, *birria* ‘beer’, *pichar* ‘to pitch’, *puchar* ‘to push’ etc.). This occurs for several reasons: the immediate contact between the two languages, the need for a term for a new object, the need for prestige, the need for new synonyms, and the avoidance of homonyms (Weinreich & Bloomfield as cited in Sobin, 1976, p. 15). The second influence is what is known as *jerga del hampa*, an argot originally used by *narcos* and organized criminal organizations in general which has already spread across the community and now belongs to the local lingo (*levantón* ‘kidnap’, *café* ‘marihuana’, *plomear* ‘to shoot’). A third source is a

---

¹ Derogatory demonym coined by El Pasoans to refer to Juárez inhabitants. The word comes from Chihuahua former license plates with the legend “*Fronterizo Chihuahua*”

² Derogatory pseudonym used by Mexican nationals to refer to Mexican-Americans who code-switch between English and Spanish.
set of words from the first half of the 20th century that is considered outdated in other parts of the country (fantoche ‘wannabe’, cantón ‘house’, cócono ‘turkey’, etc.) (Arzate Soltero, 2016), and lastly, some lexical items borrowed from Nahuatl that are paradoxically not commonly used or even understood in central regions of Mexico, where Nahuatl has a stronger presence (e.g. asquel, ‘ant’, zacate ‘grass’, moyote ‘mosquito’, zoquete ‘mud’) (Méndez, 2013).

On the semantic side, some peculiarities that come to mind are the tendency to describe entities with noun phrases that have designated monolexical items in other Mexican dialects (e.g. pantalón de mezclilla instead of jeans or elote en vaso instead of esquites ‘corn in a cup’). The same can be seen in some words but with different meaning, such as pantalonera in Chihuahua (‘sweat pants’) and pantalonera in Central Mexico (‘traditional pants worn by mariachis’) or zacate in Chihuahua (‘grass’) and zacate in Southern Mexico (‘sponge’).

Some other common phonological processes besides /ʃ/ weakening are: the diphthongization and deletion /ʝ/ in intervocalic position (e.g. [gwa. ka. ma ia’] ‘macaw’ [tor.ti’a] ‘tortilla’), the deletion of /d/ in intervocalic position (e.g. [mo.ja’o] ‘wet’) and to a lesser extent the oscillation between labiodental and velar fricatives (e.g. [xuimos] for [fuimos] ‘we went/were’) (Anzaldúa, 2007, p.79).

A distinguishable morphological feature of the Spanish of this region is the extended use of the diminutive suffix -illo instead of–ito (chiquillo vs. chiquito ‘small’). –ito remains
to be the standard, whereas –illo is used for affective functions such as humor, satire, and downplay.

Although there has not been substantial research on the syntactical influence of English on border Spanish, Scarborough (1979) presents the study of selected syntactic structures, which demonstrate that in fact, Juárez Spanish varies from standard Mexican Spanish to a certain extent. (e.g. tomar un paseo instead of dar un paseo ‘to take a walk’. María le enseñó a Carlos cómo bailar instead of María le enseñó a Carlos a bailar ‘María taught Carlos how to dance. Alberto tiene dos años de edad instead of Alberto tiene dos años ‘Alberto is two years old’).

As far as pragmatics is concerned, the corpus for this research shows a tendency for dequeismo among young speakers. Moreno de Alba (2003, p.237) defines dequeismo as the unnecessary presence of the preposition de frequently placed before the relative pronoun que. Though this is not a recent phenomenon, it continues to develop across the Spanish-speaking world, including Mexico. Instances of this can even be seen in traiditional music such as the song Si quieres by Alberto Aguilera Valadez “Juan Gabriel” (1982) where dequeismo is portrayed in the chorus, “de que me gustas es verdad, de que te quiero es verdad.” In prescriptive Spanish grammar, the preposition de would not be necessary in dependent clauses such as que te quiero ‘that I love you.’ However, beyond the traditional definition, young Juárez speakers seem to be using de que as a filler. In other words, in addition to the locutions to signal the interlocutor, a pause to think without giving the impression of having finished speaking (Juan, 2006) such as o sea, este or pues; de que
appears to be an innovation in formulaic language. The next two transcriptions display the pragmatic usage of *de que* in spoken discourse.

Researcher

¿Qué es lo que más extrañas de Juárez? (‘What do you miss the most from Juárez?’)

Speaker LMAUZZ

“Pues, como es universidad *de que* la familia, la comida, los amigos *de que* las salidas aquí, vamos a salir pero qué hago, además soy menor.” (‘Since is college, I miss family, food, friends, going out here is not the same because I’m underage.)

Researcher:

¿Cómo ha cambiado la ciudad desde que eras niña? (‘How has the city changed since you were a kid?’)

Speaker fFMUYN:

“Pues, *de que* antes los niños podían salir al parque y no pasaba nada y ahora ya no los ves jugando solos afuera sin sus papas.” (Back then, the kids went out to the park and nothing happened, and now you don’t see them playing alone without adult supervision.)

These linguistic features summarize the foci of Ciudad Juárez isolated Spanish variant. The next chapter will address the available literature regarding sociolinguistic research and language attitudes towards the /ʃ/ weakening in Mexico and other Spanish-speaking countries.
CHAPTER TWO
LITERATURE REVIEW

2.1 Previous Research

During the past decades, the lenition, weakening, fricativization or deaffrication of /ʧ/ has become a well-documented phenomenon in Mexico, Spain, and the United States. Jaramillo (1986) presented a study on the allophonic variation of /ʧ/ 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 proposed that the education level of the participants in relationship 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 socioeconomic level and age were propelling factors for lenition, gender 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, p. 33-34)

In Mexico, Moreno de Alba (1994) addresses the differences of /ʃ/ 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 allophones with small, but acoustically significant palatal variants.
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, /ʃ/ begins to strengthen and display the same [–continuant] feature that is shared by the vast majority of the country. Furthermore, Tsuzaki (1970, p. 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 /ʧ/, 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 /ʧ/ weakening, taking as a
token the affricate production on the eastern portion of the US-Mexico borderline, where
English and Spanish still collide.

Despite the fact that the highest concentration of deaffrication occurs in the Northwest
and the bordering regions of Jalisco, Colima and Michoacán, Moreno de Alba (1994)
presents a second map (Figure 2.2) that illustrates that the weakening of /ʧ/ is not a
homogenous phenomenon *per se*. The researcher suggests that lenition does not occur in all
the communities within the highlighted regions of Figure 2.1, and some isolated towns such
as Cananea, Sonora, do not present the same rates of deaffrication as neighboring
communities. A study on the discourse of 32 young adults from Sonora (Brown, 1989),
which included one male participant from Cananea, states that when /ʧ/ appeared without the
influence of a previous nasal phoneme /n/, two thirds of the participants produced a fricative
allophone. Statistically, 81.25% of the sample displayed a fricative articulation, and 12.50%
the affricate. Brown concluded that lenition was more frequent among females than males.
Linked to Moreno de Alba’s proposal, a meticulous research by Butragueño (2014b) identifies 13 allophones of /ʧ/ 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. Figure 2.1.2 shows that 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 [ʃ] 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 $p = 0.615$, based on 51 documented samples. Strengthening, on the other hand, tends to be displayed in word initial position.

Further research based on Optimality Theory\(^3\) proposes that /ʧ/ 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 opposed by a faithfulness constraint, which requires that the observed surface form matches the underlying or lexical form in a particular way. Henceforth, and according to this proposal, lenition occurs due to intralinguistic factors that allow the “fading” of the affricate sound into the fricative allophone. Furthermore, the author suggests the possibility of a total shift from the affricate standard variant to the fricative colloquial one, stressing socioeconomic status as an important extralinguistic factor.

\textit{Por consecuencia, en el español del norte de México, el fonema /ʧ/ tiene dos variantes libres, el alófono africado [ʧ] y el fricativo [ʃ]. Aunque se ha dicho que son variantes libres, se espera que, entre más baja sea la clase social de los informantes más frecuente será en uso. La variante fricativa, incluso se puede esperar que el sonido [ʃ] remplace completamente [ʧ] que es el “único” alófono de /ʧ/, según el inventario fonético de la lengua española en general. (Carreón-Serna, 2007, p.83)}

\(^3\) A linguistic model which basic idea is that Universal Grammar consists largely of a set of constraints on representational well-formedness, out of which individual grammars are constructed. It aims to determine which analysis of an input best satisfies (or least violates) a set of conflicting conditions (Prince & Smolensky, 2004, p.2)
To find out if /ʃ/ is in fact a socially stigmatized marker, Casillas (2013) inquired on the perception of speakers who produced the fricative allophone in their speech. In order to do so, he created a webpage that contained matched-guise recordings\(^4\) of two male and two female speakers who produced both the fricative and the affricate allophones. 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 would 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\(^5\).

In Ciudad Juárez, there have only been two formal studies focusing on /ʃ/ variation. Amastae (1996) presented the study *Variación y cambio en el español de Ciudad Juárez*, in which he proposes three possible hypotheses for the weakening of /ʃ/. First, the phonological interference of English /ʃ/ due to the immediacy with the United States. Second, the contact with Tarahumara, 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.

---

\(^4\) A sociolinguistic experimental technique used to determine the true feelings of an individual or community towards a specific language, dialect, or accent. One speaker is recorded using two different variants, then participants listen to that recording and judge the alleged “two speakers” based on their perceptions (Davies & Elder, 2004).

\(^5\) A speech act, as viewed at the level of its psychological consequences, such as persuading, convincing, inspiring, etc. (Austin, 1962)
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).

Six different allophones of /ʧ/ were found among the Ciudad Juárez speakers: the standard affricate [ʧ], a weaker affricate [ʧ], a double articulation stop followed by a fricative [tʃ], an alveolar affricate [ts], and a strong and weak version of the fricative [ʃ], yielding the following results:

Table 2.1.1 Amastae’s results on /ʧ/ lenition

<table>
<thead>
<tr>
<th></th>
<th>Percentage of [ʃ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38%</td>
</tr>
<tr>
<td>Female</td>
<td>45%</td>
</tr>
<tr>
<td>Low Class</td>
<td>61%</td>
</tr>
<tr>
<td>Medium Class</td>
<td>35%</td>
</tr>
<tr>
<td>High Class</td>
<td>18%</td>
</tr>
<tr>
<td>&lt;20</td>
<td>52%</td>
</tr>
<tr>
<td>21-35</td>
<td>42%</td>
</tr>
<tr>
<td>36-55</td>
<td>54%</td>
</tr>
<tr>
<td>55+</td>
<td>5%</td>
</tr>
<tr>
<td>University</td>
<td>24%</td>
</tr>
<tr>
<td>High School</td>
<td>52%</td>
</tr>
<tr>
<td>Middle School</td>
<td>43%</td>
</tr>
<tr>
<td>Elementary School</td>
<td>75%</td>
</tr>
</tbody>
</table>
Parallel to Brown’s findings (1989), Amastae’s 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. Amastae (1996) concluded:

In the case of Ciudad Juárez, lenition represents a change from below\(^6\), possibly originated among lower income men, and then spread to the rest of the community sometime in the mid 1900’s as a result of the Bracero Program\(^7\) 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) concluded that 90% were able to perceive the weakening of /ʃ/ in matched-guise recordings. In addition, the fricative variant was labeled as a casual speech feature by 80% of the participants and valued as a masculine characteristic of spoken discourse, rather than a feminine one. (Mazzaro & De Anda, 2016)

2.2 Public Sphere

The active remark of the weakening of /ʃ/ (commonly addressed as Chihuahua’s ‘sh’ pronunciation) in forums, blogs, and social networks, authored by linguists and non-

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\(^6\) A linguistic change that occurs from below the level of consciousness.

\(^7\) Series of laws and diplomatic agreements, initiated on August 4, 1942, when the United States signed the Mexican Farm Labor Agreement with Mexico.
linguists, is substantial proof to determine that this allophone is a social marker that most speakers consciously notice. This metalinguistic awareness tends to increase when speakers from Chihuahua have had enough interaction with individuals from other regions who tend to register the fricative variant rather easily and attach different connotations to it. The English translations for the following excerpts retrieved from the web can be found in Appendix 5.

*Pronunciamos la CH como si fuese lo único que vamos a decir. [...] pero la verdad sí, la “prenunciación” [sic.] de la CH es muy característico de los chihuahuenses, aunque entre nosotros no lo notamos.* (Mayricienta, 2009)

Although locals may or may not be able to tell the differences between both allophones (Mazzaro & De Anda, 2016), /ʃ/ appears to be socially stigmatized based on the perception of outsiders, who see it as a deviation from the standard dialect spoken in Central Mexico.

* Parece ser cuestión de educación. Hace treinta años, la gente que pronunciaba la “ch” como “sh” era solamente la gente de rancho y las empleadas domésticas que trabajan en la ciudad.* (JA, 2006)

The recent global coining and adoption of Internet memes (/miːmz/) that refer to the dispersion of items, such as jokes, videos, images, and websites from person-to-person through the Internet, has become a rhetorical process of identity production and mediation
(Ding, 2015). This new vehicle for the spread of information is intended to materialize social, cultural, political and linguistic nuances in an informal and satirical way. Needless to say, /ʃ/ weakening was not the exception.

Figure 2.2.1 Internet Meme

Se ha cumplido la profecía
Shile shilaca a osho oshenta

Sólo los de Chihuahua entenderán

La Diferencia
Norteño Banda
Due to this fresh semiotic process, memes have had a great impact on the way cultural information spreads through social networks, and online platforms in today’s world. This has originated an innovative approach to open discursive spaces to discuss topics that otherwise may not be openly deliberated by the speakers themselves.

A thread in WordReference.com directly addresses the potential causes for lenition in Chihuahua and Sonora. In contrast to the aforementioned blog posts, most members of this online community do have certain linguistic background knowledge. However, it must be said that their claims are merely based on their own qualitative conjectures, since they do not provide any bibliographical source whatsoever. Nonetheless, some of the commentaries present interesting standpoints that ought to be further explored.
The proposed hypotheses go from the influence of English, and the contact with regional indigenous languages such as Seri, Yaqui and Tarahumara; to the phonological heritage of the majoritarian Andalusian influx that colonized Mexico.

Yo he escuchado decir a la gente de Sonora que es debido a cierta influencia ante el idioma inglés, aunque debido a que en Sinaloa también se presenta este fenómeno yo soy más de la opinión que es por alguna influencia andaluza (es lo mismo que dicen que en el norte hablan golpeado debido a influencias españolas, en especial extremeñas, aunque yo no he escuchado un dato fidedigno. (krloszz, 2009)

La incorporación del sonido /sh/ está mucho más cercano de haber entrado por vía del inglés o por las lenguas indígenas locales. La colonización y más bien dicho, la estabilización del los territorios del norte fue bastante tardía y con muy poca influencia española, casi tan igual que la influencia irlandesa, inglesa, polaca y china. Si esa característica fue tomada del dialecto andaluz, ¿entonces por qué no se encuentra en Puebla, Guadalajara o Querétaro? que son cuasi repicas de ciudades españolas. [

Otra cosa. Alguien mencionó que este fenómeno era casi exclusivo de poblados y rancherías, aunque ciertamente no es exclusivo, sí es mucho más obvio y casi una generalidad.

1. Históricamente la gente en los pueblos y ranchos ha emigrado a Estados Unidos, casi siempre regresan y traen consigo formas de hablar y vestir bastante peculiares. Es evidente quienes están más expuestos a seguir dichas formas.
2.- También históricamente los pueblos y ranchos antes de la emigración en masas, mucho antes de eso, han estado aislados y apartados, y por lo mismo exentos de cambios y tendencias que afectaron y afectan las ciudades. Puede ser, quizá, que la /sh/ se introdujera hace cientos de años por alguna ola de inmigración andaluza, y que por lo aislado de las localidades se mantuviera hasta ahora apartándose del habla estándar del resto del país.

(Mirx, 2009)

As it was previously stated, it is not very likely that variation occurs because of the contact with English since the lenition is not a process that occurs consistently on the borderline or in exclusive regions where English and Spanish are spoken.

On the other hand, Tarahuamara or Raramuri is a minority language that is barely spoken by 4% of Chihuahua’s population. Therefore, even if it could have influenced the Spanish pronunciation of this region, it will not be a valid hypothesis for /ʃ/ lenition in Western Mexico (Jalisco, Colima, Nayarit) or in other Latin American countries, where most of the major indigenous languages do not contain /ʃ/ in their phonological repertoires.

Similarly, as some of the commentaries pointed out, the hypothetical preservation of the fricative /ʃ/ of Andalusian Spanish, would imply that the vast majority of Mexico fortified [ʧ]. In other words, that the base phoneme is the fricative and the affricate is an allophone. This of course is not feasible in language variation, because all Spanish dialects share the affricate phone as the base one, and only a handful of dialects display the fricative.

The next chapter will explain in detail the methods, techniques, and instruments applied for this research as an adapted version of Amastae (1996) original study.
CHAPTER THREE
METHODOLOGY

3.1 Sample, instruments, and procedures

Amastae’s research (1996) served as the methodological outline for the present study with the purpose of reporting changes, if any, that have taken place during the last 20 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, which consists on accessing a social group or community through an insider’s network; in this case, the investigator’s milieu, as well as the one from relatives, friends and colleagues.

The two pointers to determine the 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.

The sociolinguistic interview model was implemented as the indirect data-elicitation method. The questions asked (Appendix 2) were tailored in a journalistic style to meet the experiences and opinions of the whole community (e.g. The Drug War, Juárez heritage and traditions, binational practices, the Pope’s visit, etc.). The topics discussed during the interview were chosen based on three aspects. The first one was to guarantee that all the
participants could actively engage in the conversation by expressing their opinion and ideas. Secondly, to assure that they focused on content and not form, and third, to gradually switch from an informal to a formal register to determine if it had any influence variation. However, it was rapidly noticed that regardless of the topic’s weightiness, most of the participants tended to switch from a formal to an informal style once they felt at ease with the interview setting. 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 .5 to 1 hours 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 /ʃ/ 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. The interviewer mediated turn-taking and simultaneous talking to the most possible extent.

After the interview and as a direct way for data elicitation, the participants were asked to read a list of 30 words in isolation. 12 of them contained /ʃ/, and 3 of them /ʃ/ in different phonetic environments. The other 15 words were fillers or distracters to avoid the participant’s hypercorrection if they happened to figure out what the analyzed feature was (Appendix 3). Both the interview and the wordlist were examined combined and separately.

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8 Three common English loanwords with /ʃ/ (flash, sushi, shorts) were included in the wordlist to see if participants would pronounced them differently than words with underlying /ʃ/. This data was then cross analyzed with bilingualism as presented in Section 4.5
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 to the investigator were submitted for acoustic examination using Praat and Praat Align (Boersma & Weenink, 2016) to verify either their affricate or fricative nature.

![Figure 3.1 Affricate /ch/ phonetic spectrum](image1)

![Figure 3.2 Fricative /ʃ/ phonetic spectrum](image2)
The phones that had an initial occlusion as shown in Figure 3.1 were coded as the affricate variant; whereas, the ones without initial occlusion that displayed air turbulence, longer noise duration, and higher amplitude in the acoustic spectrum (Figure 3.2) were coded as the fricative variant (Jongman, Wayland & Wong, 1998). Further allophones were not analyzed in this research.

Subsequently, each token was coded individually in a Microsoft Excel spreadsheet (Appendix 4), including the internal and external factors that will be discussed in chapter four.

After the 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 independent variables. This software uses variable rules analysis (Varbrul), a set of statistical analysis methods used to describe patterns of variation between alternative forms in language use. In other words, Varbrul software is designed 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, but in such a way that the probability of choice of either the one or the other form ([ʃ] or [ʧ] in this case) is conditioned by a variety of context factors or social characteristics (Cedergren & Sankoff, 1974).

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 any relevant commentaries.

3.2 Internal factors

Phonetic environment and stress were the two linguistic factors taken into consideration to determine if they influence \( [ʃ] \) production. Every uttered token was coded individually.

Preceding and following contexts for /ʧ/ in word initial position were always zero or pause. For /ʧ/ in word medial position, the coding for neighboring sounds were vowel, consonant, /n/ and /s/. The variant was also coded according to syllabic stress (i.e. stressed vs. unstressed) Also, some loanwords from English with <sh> (e.g. show) were included, as a future research indicator, to see if the participants pronounced them either as an affricate or a fricative, since preliminary observations showed that some speakers displayed a pronunciation swap.

3.3 External factors

The social factors that were addressed to determine whether the variation is socially dependent were sex, age, education level, socioeconomic level, and bilingualism.

- 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 our social roles, opportunities and expectations (Chesire, 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**

Understood as the psychological state of an individual who has access to more than one linguistic code as a means of social communication (Hamers & Blanc, 2000, p.6)\(^9\). Participants were asked to self-asses their fluency and proficiency in English to determine if it played a role whatsoever in Spanish /ʃ/ weakening. It would be expected that bilinguals had a higher tendency to produce [ʃ] because of a possible influence of English independent phoneme /ʃ/.

• **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, and probably the rest of Latin America, salary and income is not a piece of information that is commonly shared with researchers; especially in the delicate setting of the studied community, where no one is exempt from kidnapping, blackmailing, and extortion. For this reason, the subjects were not asked about their occupation, income or any other piece of sensitive information that could bias the results and/or make them feel

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\(^9\) Referred to as *bilinguality* in psycholinguistics and the cognitive sciences, but addressed as bilingualism in the present research to avoid confusion.
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) (Appendix 5) 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 neighborhood or ZIP code to locate them within the map.

3.4 Equipment and Privacy

It is relevant to mention that when planning the experiment, it was decided to prioritize genuineness, in spite of relinquishing quality to a certain extent. Therefore, since in most cases the investigator went to the subject’s residence, the recording equipment was not as overtly intimidating as a professional recording device or a soundproof booth would have been.

The first 10 searcher-subject interactions for the pilot study were digitally recorded with a Zoom H2 Handy Portable Stereo Recorder, in WAV 96kHz/48kHz/44.1kHz format. The rest of the interviews were recorded with a MacBook Air 2013, using Audacity 2.1.2 (Mazzoni, 2016) and an external microphone.

The Institutional Review Board of the University of Texas at El Paso determined this project (FWA No: 00001224) to be exempt from IRB review according to federal regulations.

Before proceeding with each of the interviews, all subjects were asked orally for their permission to record their voice for the purpose of this research. They were informed that none of the questions were meant to gather sensitive information (name, address, occupation,
etc.) and they could choose not to answer any question that they considered unsuitable. Also, they were explicitly told that the recordings were only to be managed by the principal investigator. Their agreements were recorded at the start of each audio file.

3.5 Pilot Study

A preliminary study was conducted with 13 speakers and presented as a term paper for the graduate course LING 5373 (Linguistic Variation). The results showed that in the current social scenario, men surpass women when it comes to the use of the non-standard allophonic variant. This could be due to the fact that women, as the main group that weakened /ʧ/ (Amastae, 1996), transmitted this linguistic feature to their offspring\textsuperscript{10} during the past two decades. However, due to the media and the female predisposition to adopt prestigious/standard forms, it can be expected that young women in Juárez have consciously switched to the standard variant.

Another important finding was the occurrence of the standard allophone among monolinguals, most likely due to the lack of interference from English; nonetheless, a larger set of data was needed to make this claim.

Although the Goldvarb multivariate analysis showed that the most important social variant is sex, it is expected that the rest of the studied social factors will also have a profound impact on the results once the complete sample has been included.

The factor of simultaneous bilinguals was discarded, since the pilot study results showed that this variable was not feasible within the community. That is to say, it is unlikely

\textsuperscript{10} Male young participants in the present study
to find people living in Ciudad Juárez who grew up receiving meaningful input in English and Spanish before the age of two, and continued to be evenly addressed in both languages up until the final stages (De Houwer, 1996).

3.6 Hypothesis

Departing from Amastae’s hypothesis of a *change from below*, it would be logical to believe that weakening developed unconsciously among speakers and was preserved throughout the years because of the isolation of Northern territories, and the vast distance from the central/“standard” variety spoken in Mexico City and its surrounding areas.

However, it is hypothesized that due to Mexico’s increasing intracommunication (e.g. Internet, low-cost airlines, educational mobility, higher rates of national tourism, circular migration, etc.), Juárez Spanish has changed during the last two decades. What was once regarded as a feminine speech trait has shifted to be perceived as a masculine one (Mazzaro & De Anda, 2016). The reason for this could be as a result of a recent *change from above* among female speakers. That is, women have become aware of the non-standard or even stigmatized implication of fricative [ʃ] and have adapted to the affricate allophone. Men, on the other hand, remain oblivious of variation or simply regard the colloquial non-standard allophone [ʃ] as a membership identity trait of Chihuahua Spanish.

Although linguistic and social factors such as education and socioeconomic status are expected to influence variation, the main foreseen change from previous research is the shift from a stereotypical female trait to a male one, and the potential influence of English in this phonological process.
CHAPTER FOUR
RESULTS

Table 4.1 presents the forty participants distributed across the social factors analyzed in this study.

Table 4.1 Participant categorization

<table>
<thead>
<tr>
<th>Sex</th>
<th>Socioeconomic level</th>
<th>Bilingualism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male: 20</td>
<td>Upper: 13</td>
<td>Sequential bilinguals: 32</td>
</tr>
<tr>
<td>Female: 20</td>
<td>Upper-middle: 16</td>
<td>Monolinguals: 8</td>
</tr>
<tr>
<td></td>
<td>Lower-middle: 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower: 6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 +: 9</td>
<td>Post-secondary: 31</td>
</tr>
<tr>
<td>35 to 49: 5</td>
<td>High School: 6</td>
</tr>
<tr>
<td>21 to 34: 19</td>
<td>Middle: 2</td>
</tr>
<tr>
<td>20 - : 7</td>
<td>Elementary: 1</td>
</tr>
</tbody>
</table>

4.1 Sociolinguistic interview and wordlist combined

The overall distribution of /ʧ/ variants in Ciudad Juárez Spanish for both elicitation methods is presented in Table 4.2

Table 4.2 Overall distribution of /ʧ/ variants in Ciudad Juárez Spanish (interview and wordlist)

<table>
<thead>
<tr>
<th>/ʧ/</th>
<th></th>
<th>/ʃ/</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>67.2</td>
<td>909</td>
<td>32.8</td>
<td>443</td>
</tr>
</tbody>
</table>

Total N 1352
Table 4.2 shows that [ʧ] has a higher frequency of occurrence (67.2%) than [ʃ] (32.8%). The distribution of both variants across the social factor groups considered in the analysis is shown in Table 4.3. The direct and indirect elicitation techniques were combined to see the weakening rates across tasks. Results are presented with the percentage (%) of [ʧ]/[ʃ] occurrence for each independent variable and the probability (prob.) of both allophones. Probability is quantified as a number between 0 and 1 (where 0 indicates impossibility and 1 indicates certainty). The higher the probability of [ʃ], the more certain weakening will occur.

Table 4.3 Distribution of [ʧ]/[ʃ] variants by social factors (interview and wordlist)

<table>
<thead>
<tr>
<th>Factor Groups</th>
<th>[ʧ]</th>
<th>[ʃ]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob.</td>
<td>%</td>
</tr>
<tr>
<td>Socioeconomic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>.746</td>
<td>81.9</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>.565</td>
<td>74.6</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>.221</td>
<td>45.8</td>
</tr>
<tr>
<td>Lower</td>
<td>.104</td>
<td>30.1</td>
</tr>
<tr>
<td><strong>Range (.642)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>.567</td>
<td>68.5</td>
</tr>
<tr>
<td>High School</td>
<td>.292</td>
<td>64.0</td>
</tr>
<tr>
<td>Middle School</td>
<td>.273</td>
<td>53.8</td>
</tr>
<tr>
<td>Elementary</td>
<td>.907</td>
<td>93.8</td>
</tr>
<tr>
<td><strong>Range (.634)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilingualism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequential</td>
<td>.456</td>
<td>66.1</td>
</tr>
<tr>
<td>Monolingual</td>
<td>.795</td>
<td>77.09</td>
</tr>
</tbody>
</table>

34
<table>
<thead>
<tr>
<th>Range (.339)</th>
<th>Age</th>
<th>.709</th>
<th>76.3</th>
<th>116</th>
<th>.291</th>
<th>23.7</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50+</td>
<td>.566</td>
<td>80.7</td>
<td>67</td>
<td>.434</td>
<td>19.3</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>35-49</td>
<td>.508</td>
<td>65.3</td>
<td>241</td>
<td>.492</td>
<td>34.7</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>21-34</td>
<td>.392</td>
<td>64.0</td>
<td>407</td>
<td>.608</td>
<td>36.0</td>
<td>229</td>
</tr>
<tr>
<td></td>
<td>20-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range (.317)</th>
<th>Sex</th>
<th>.372</th>
<th>59.9</th>
<th>401</th>
<th>.628</th>
<th>40.1</th>
<th>268</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>.626</td>
<td>74.4</td>
<td>508</td>
<td>.374</td>
<td>26.6</td>
<td>175</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range (.254)</th>
<th>Task</th>
<th>.371</th>
<th>66.7</th>
<th>496</th>
<th>.629</th>
<th>33.3</th>
<th>258</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interview</td>
<td>.655</td>
<td>67.9</td>
<td>413</td>
<td>.345</td>
<td>32.1</td>
<td>195</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range (.284)</th>
<th>Total N</th>
<th>1352</th>
</tr>
</thead>
</table>

Table 4.3 shows that all factor groups were selected as significant in the multivariate analysis. Factor groups are presented from highest to lowest probability range\(^{11}\). As predicted, [ʃ] is favored by male speakers (.62) and disfavored by females. These results include both tasks. Section 4.2 presents the results of both tasks separately.

Both social class and education were selected as significant by the multivariate analysis. Participants from low socioeconomic level status and low levels of formal education are favored by [ʃ].

\(^{11}\) The difference between the largest and smallest values.
education favor [ʃ] (.82 and .72 respectively), which is similar to the findings presented by Amastae (1996).

Age results show that weakening is an ongoing linguistic variation that has not lost strength during that past two decades. According to Amastae’s 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 suggest that the variation affecting /ʧ/ is a change in progress which favors the use of the non-standard variant.

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 have some influence on Ciudad Juárez /ʃ/ weakening. Yet, in order to study this effect more closely, bilingualism will be cross tabulated with the dependent variable and the underlying representation to more accurately determine the influence of bilingualism on /ʃ/ weakening. This is presented in Section 4.5.

The distribution of both variants across linguistic factors considered in the analysis is shown in Table 4.4
Table 4.4 Distribution of /ʧ/ variants by linguistic factors (interview and wordlist)

<table>
<thead>
<tr>
<th>Factor Groups</th>
<th>[ʧ]</th>
<th></th>
<th></th>
<th>[ʃ]</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preceding context</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[r]</td>
<td>.665</td>
<td>82.1</td>
<td>32</td>
<td>.335</td>
<td>17.9</td>
<td>7</td>
</tr>
<tr>
<td>[n]</td>
<td>.623</td>
<td>79.5</td>
<td>97</td>
<td>.377</td>
<td>20.5</td>
<td>25</td>
</tr>
<tr>
<td><strong>Initial /ʧ/</strong></td>
<td>.552</td>
<td>68.6</td>
<td>335</td>
<td>.448</td>
<td>31.4</td>
<td>153</td>
</tr>
<tr>
<td>[a]</td>
<td>.504</td>
<td>71.9</td>
<td>115</td>
<td>.496</td>
<td>28.1</td>
<td>45</td>
</tr>
<tr>
<td>[e]</td>
<td>.501</td>
<td>65.6</td>
<td>59</td>
<td>.499</td>
<td>34.4</td>
<td>31</td>
</tr>
<tr>
<td>[o]</td>
<td>.489</td>
<td>67.9</td>
<td>91</td>
<td>.511</td>
<td>32.1</td>
<td>43</td>
</tr>
<tr>
<td>[u]</td>
<td>.454</td>
<td>59.8</td>
<td>128</td>
<td>.546</td>
<td>40.2</td>
<td>86</td>
</tr>
<tr>
<td>[i]</td>
<td>.267</td>
<td>55.4</td>
<td>36</td>
<td>.733</td>
<td>44.6</td>
<td>29</td>
</tr>
<tr>
<td>[s]</td>
<td>.107</td>
<td>36.8</td>
<td>14</td>
<td>.893</td>
<td>63.2</td>
<td>24</td>
</tr>
<tr>
<td><strong>Following context</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[e]</td>
<td></td>
<td>70.7</td>
<td>104</td>
<td></td>
<td>29.3</td>
<td>43</td>
</tr>
<tr>
<td>[u]</td>
<td></td>
<td>70.6</td>
<td>36</td>
<td></td>
<td>29.4</td>
<td>15</td>
</tr>
<tr>
<td>[i]</td>
<td></td>
<td>70.1</td>
<td>178</td>
<td></td>
<td>29.9</td>
<td>76</td>
</tr>
<tr>
<td>[a]</td>
<td></td>
<td>69.1</td>
<td>264</td>
<td></td>
<td>30.9</td>
<td>118</td>
</tr>
<tr>
<td>[o]</td>
<td></td>
<td>63.7</td>
<td>303</td>
<td></td>
<td>36.6</td>
<td>173</td>
</tr>
<tr>
<td><strong>Stress</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td>67.8</td>
<td>223</td>
<td></td>
<td>32.3</td>
<td>106</td>
</tr>
<tr>
<td>Unstressed</td>
<td></td>
<td>67.1</td>
<td>686</td>
<td></td>
<td>32.9</td>
<td>337</td>
</tr>
<tr>
<td><strong>Total N</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1352</td>
</tr>
</tbody>
</table>
Table 4.4 shows that the combined data obtained from both elicitation methods display the occurrence of [ʃ] predominantly when preceded by [s] (.89). The probability values of vowels [i] (.73) and [u] (.54) show a tendency for lenition to occur when /ʧ/ is preceded by a high vowel. On the other hand, consonants [r] (.66), [n] (.62) and initial /ʧ/ (.55) tend to hinder weakening. Therefore, words such as rancho, Chihuahua or marcha are pronounced with [ʃ]; whereas, deschavetado, dicho, or mucho, are predominantly produced with [ʃ]. Following context and stress did not show any relevant probabilistic tendency.

The distribution of the variable along the linguistic factor groups considered in this study did not change considerably in the two tasks. Therefore, in order to avoid redundancy, only data regarding the social factor groups will be presented separately for the two tasks.
4.2 Sociolinguistic Interview

The frequency of lexical items containing <ch> in Mexican Spanish is affected by style. The more informal/colloquial the speaker’s speech is, the more words with <ch> he will use (Elerick, 2009; Nappo, 2012). However, this research shows that in terms of variation, there is no connection between formality and [ʃ]/[ʧ] phonological alternation during the sociolinguistic interview. That is, subjects do not favor one allophone over the other, based on the formality of the questions asked.

The influence of the social factor groups on the variable in question was different in the two tasks. During the interview, younger participants presented a more marked style shift as observed from the higher frequency of [ʃ], compared to the hypercorrect [ʧ] during the wordlist reading task, as presented in Table 4.5

Table 4.5 Cross tabulation of elicitation technique, phonetic realization, and age.

<table>
<thead>
<tr>
<th></th>
<th>20 years and under</th>
<th>21 to 35 years</th>
<th>36 to 50 years</th>
<th>50 years and above</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Wordlist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonetic [ʧ]</td>
<td>71</td>
<td>67</td>
<td>64</td>
<td>176</td>
</tr>
<tr>
<td>Phonetic [ʃ]</td>
<td>29</td>
<td>28</td>
<td>98</td>
<td>36</td>
</tr>
<tr>
<td>Interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonetic [ʧ]</td>
<td>51</td>
<td>72</td>
<td>65</td>
<td>241</td>
</tr>
<tr>
<td>Phonetic [ʃ]</td>
<td>49</td>
<td>68</td>
<td>35</td>
<td>128</td>
</tr>
</tbody>
</table>
Table 4.6 Distribution of /ʧ/ variants by social factors (interview)

<table>
<thead>
<tr>
<th>Factor Groups</th>
<th>[ʧ]</th>
<th></th>
<th></th>
<th>[ʃ]</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob.</td>
<td>%</td>
<td>N</td>
<td>Prob.</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Socioeconomic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>.793</td>
<td>82.5</td>
<td>185</td>
<td>.207</td>
<td>17.5</td>
<td>39</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>.548</td>
<td>72.6</td>
<td>246</td>
<td>.452</td>
<td>246</td>
<td>93</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>.181</td>
<td>44.2</td>
<td>38</td>
<td>.819</td>
<td>55.5</td>
<td>48</td>
</tr>
<tr>
<td>Lower</td>
<td>.082</td>
<td>29.2</td>
<td>28</td>
<td>.918</td>
<td>70.8</td>
<td>68</td>
</tr>
<tr>
<td><strong>Range (.711)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>.490</td>
<td>64.9</td>
<td>384</td>
<td>.510</td>
<td>35.1</td>
<td>208</td>
</tr>
<tr>
<td>High School</td>
<td>.658</td>
<td>80.0</td>
<td>88</td>
<td>.342</td>
<td>20.0</td>
<td>22</td>
</tr>
<tr>
<td>Middle School</td>
<td>.094</td>
<td>30.8</td>
<td>8</td>
<td>.906</td>
<td>69.2</td>
<td>18</td>
</tr>
<tr>
<td>Elementary</td>
<td>1.0</td>
<td>100.00</td>
<td>16</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Range (.510)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilingualism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequential</td>
<td>.406</td>
<td>65.4</td>
<td>419</td>
<td>.594</td>
<td>34.6</td>
<td>222</td>
</tr>
<tr>
<td>Monolingual</td>
<td>.912</td>
<td>74.8</td>
<td>77</td>
<td>.088</td>
<td>25.2</td>
<td>256</td>
</tr>
<tr>
<td><strong>Range (.506)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.372</td>
<td>59.9</td>
<td>401</td>
<td>.628</td>
<td>40.1</td>
<td>268</td>
</tr>
<tr>
<td>Female</td>
<td>.626</td>
<td>74.4</td>
<td>508</td>
<td>.374</td>
<td>26.6</td>
<td>175</td>
</tr>
<tr>
<td><strong>Range (.254)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50+</td>
<td>[ ]</td>
<td>76.3</td>
<td>116</td>
<td>[ ]</td>
<td>23.7</td>
<td>36</td>
</tr>
<tr>
<td>35 to 49</td>
<td>[ ]</td>
<td>80.7</td>
<td>67</td>
<td>[ ]</td>
<td>19.3</td>
<td>16</td>
</tr>
<tr>
<td>21 to 34</td>
<td>[ ]</td>
<td>65.3</td>
<td>241</td>
<td>[ ]</td>
<td>34.7</td>
<td>128</td>
</tr>
<tr>
<td>20-</td>
<td>[ ]</td>
<td>51.4</td>
<td>72</td>
<td>[ ]</td>
<td>48.6</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total N</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>744</td>
</tr>
</tbody>
</table>

40
Table 4.6 shows the data obtained from the sociolinguistic interview as an indirect method and perhaps a more natural representation of spoken discourse. The occurrence of [ʃ] was predominant among male speakers (.62) In contrast to only 22.9% (.37) of females who presented weakening in unmonitored speech.

Participants of low socioeconomic status (.91) whose education level was not higher than middle school (.90) favored the realization of weakening, while participants of upper socioeconomic status (.20) whose education level was higher than middle school (.34) disfavored it.

Based on Amastae’s (1996) results, it was expected that participants older than 50 would have a higher production of [ʃ]. However, the results show that it was the youngest group of participants (.70) who had higher rates of /ʃ/ weakening.

Participants who self-assessed as sequential Spanish-English bilinguals due to schooling or working in the United States, tended to produce [ʃ] 34.6% (.59) more often than Spanish monolinguals who pronounced the affricate allophone more often (74%).

4.3 Wordlist

The wordlist was the direct elicitation experiment utilized in the present research. The totality of the sample was asked to read a list with 30 words (Appendix 1) that contained lexical items with /ʃ/ in different position, English loanwords with /ʃ/, and several distracters, in order to mitigate as much as possible, the immediate realization of the study’s focus. Since this was a guided task, it is expected that the participants’ pronunciation patterns would be
self-monitored, formal and therefore different from the natural discourse style of the interview. The distribution of both variants across social factor groups considered in the wordlist analysis is shown in Table 4.7

Table 4.7 Distribution of /ʧ/ variants by social factors (wordlist)

<table>
<thead>
<tr>
<th>Factor Groups</th>
<th>[ʧ]</th>
<th></th>
<th></th>
<th>[ʃ]</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob.</td>
<td>%</td>
<td>N</td>
<td>Prob.</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>.597</td>
<td>74.0</td>
<td>296</td>
<td>.403</td>
<td>26.0</td>
<td>104</td>
</tr>
<tr>
<td>High School</td>
<td>.137</td>
<td>48.2</td>
<td>54</td>
<td>.763</td>
<td>51.8</td>
<td>58</td>
</tr>
<tr>
<td>Middle School</td>
<td>.352</td>
<td>61.2</td>
<td>49</td>
<td>.648</td>
<td>38.8</td>
<td>31</td>
</tr>
<tr>
<td>Elementary School</td>
<td>.719</td>
<td>87.5</td>
<td>14</td>
<td>.281</td>
<td>12.5</td>
<td>2</td>
</tr>
<tr>
<td><strong>Range (.582)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Socioeconomic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>.675</td>
<td>79.2</td>
<td>152</td>
<td>.325</td>
<td>20.8</td>
<td>40</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>.616</td>
<td>77.3</td>
<td>198</td>
<td>.384</td>
<td>22.7</td>
<td>58</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>.190</td>
<td>47.5</td>
<td>38</td>
<td>.810</td>
<td>52.5</td>
<td>42</td>
</tr>
<tr>
<td>Lower</td>
<td>.140</td>
<td>31.2</td>
<td>25</td>
<td>.860</td>
<td>68.8</td>
<td>55</td>
</tr>
<tr>
<td><strong>Range (.535)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 +</td>
<td>.678</td>
<td>75.0</td>
<td>120</td>
<td>.312</td>
<td>25.0</td>
<td>40</td>
</tr>
<tr>
<td>35 to 49</td>
<td>.362</td>
<td>62.5</td>
<td>50</td>
<td>.638</td>
<td>37.5</td>
<td>30</td>
</tr>
<tr>
<td>21 to 34</td>
<td>.433</td>
<td>65.4</td>
<td>178</td>
<td>.567</td>
<td>34.6</td>
<td>94</td>
</tr>
<tr>
<td>20 -</td>
<td>.478</td>
<td>67.7</td>
<td>65</td>
<td>.522</td>
<td>32.3</td>
<td>31</td>
</tr>
<tr>
<td><strong>Range (.316)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bilingualism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequential</td>
<td>.406</td>
<td>67.5</td>
<td>335</td>
<td>.594</td>
<td>32.5</td>
<td>161</td>
</tr>
<tr>
<td>Monolingual</td>
<td>.705</td>
<td>69.6</td>
<td>78</td>
<td>.295</td>
<td>30.4</td>
<td>34</td>
</tr>
<tr>
<td><strong>Range (.299)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

42
Table 4.7 shows the data obtained from the wordlist. Once again, the occurrence of [ʃ] was predominant among male speakers (.62). The percentage of female weakening was higher than in the interview (.41) although still not probabilistically significant.

Participants of low (.86) and lower-middle socioeconomic status (.81) were the groups with the highest tendency for weakening. In contrast to previous results, participants whose education level was not higher than middle school or high school favored [ʃ] (.64 and .76, respectively) while participants from upper socioeconomic status with college education disfavored [ʃ] (.32 and .40, respectively). The data obtained from the Elementary School group is rather contradictory. This can be attributed to hypercorrection as it is sometimes found among speakers of less prestigious language varieties who produce forms associated with high-prestige varieties, even in situations where speakers of those varieties would not (Labov, 1966). It is also worth mentioning that there was only one male participant from age 50+ belonged to this group, and during the interview he stated that he left the city for almost two decades after age twenty. Adding more participants to this group and reanalyzing the data should corroborate this seemingly strange finding.

Interestingly, for the age factor group, results from the interview and wordlist switched. The rate of weakening among the youngest age group of 20 years old and under,
went from a 48.6% (.70) to 32.2% (.52), implying that younger speakers are able to accurately switch from the fricative allophone to the affricate one depending on formality degree and self-monitoring. The age group of participants from 36 to 49 also displayed an allophonic switch between both elicitation techniques. However, for this group, lenition occurred more often during the reading task (.63), instead of the interview. These findings imply that variation is triggered in part by self-monitoring, even though alternation from the fricative/colloquial to the affricate/standard allophone is not uniform among speakers.

Results presented in Section 4.4 provide further evidence for this claim.

4.4 Allophonic alternation: [ʃ] for [f]

Spanish does not contain any word spelled with ⟨sh⟩ from within the language itself. The sequence ⟨sh⟩ is only found in the affixation of the prefix ‘des-’ to a stem that begins with a mute ⟨h⟩ and therefore it is pronounced as [s] (e.g. deshacer, deshilar, deshebrada). However, most dialects, have adopted foreign words from English that are pronounced with /ʃ/ in the source language (e.g. flash, show, sushi, shorts). Thus, with the purpose of finding out how the participants would pronounce those items, the isolated words they were asked to read in a direct elicitation basis, included three common loanwords pronounced with /ʃ/, which were ‘show’, ‘sushi’ and ‘shorts’.

The results show that 55.9% (.70) of the participants pronounced borrowed English words orthographically realized with ⟨sh⟩ as [ʃ] (e.g. [su.ʃi] [ʃou] and [ʃorts]). The occurrence of [ʃ] in these examples may be the result of hypercorrection and linguistic insecurity related to this variable in Chihuahua Spanish. The next section will discuss the role of bilingualism and its relation to lenition in greater detail.
4.5 Bilingualism and /ʃ/ lenition

One rooted relief around the overall notion of [ʃ] in Northwestern Mexico is that the proximity that Spanish has with English may account for it, especially in border communities. 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 research presented by Moreno de Alba (1994). 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 affricate phoneme (22.9%).

Therefore, as a means 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 wordlist.
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 /ʧ/, or to produce [ʧ] when the underlying representation is /ʃ/. For instance, both group were prone to pronounce /ʧiko/ as [ʃiko] and /suʃi/ as [suʧi]. If English played a role it would be expected that unlike bilinguals, Spanish monolinguals would be able to accurately match words with underlying /ʃ/ with the standard corresponding allophone [ʃ].

Thus, these results suggest that bilingualism and language contact does not represent a factor that contributes to weakening. However, a more meticulous experiment to carefully determine language dominance and proficiency of English and Spanish, could display different results than the presently specified, solely based on self-perception.

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Table 4.8 Cross tabulation of bilingualism, underlying representation and phonetic realization

<table>
<thead>
<tr>
<th>Phonemic UR /ʃ/</th>
<th>Phonetic [ʃ]</th>
<th>%</th>
<th>N</th>
<th>Phonetic [ʧ]</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilinguals</td>
<td>28</td>
<td>106</td>
<td>26</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monolinguals</td>
<td>72</td>
<td>266</td>
<td>74</td>
<td>62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phonemic UR /ʧ/</th>
<th>Phonetic [ʃ]</th>
<th>%</th>
<th>N</th>
<th>Phonetic [ʧ]</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilinguals</td>
<td>44</td>
<td>55</td>
<td>43</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monolinguals</td>
<td>56</td>
<td>69</td>
<td>57</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.6 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?

The results are presented in Figure 4.1:

![Figure 4.1 Language Attitudes](image)

The results on Figure 4.1 show that 97.5% of the sample considers /tʃ/ lenition to be 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. The relevant quotes extracted from the interviews are presented below. Their English translations are presented in Appendix 6.

Speaker cFMSWZ:

“Se nota más en los ranchos y en los pueblos.”

Speaker qFAUYZ

“La gente que lo pronuncia diferente son los chihuahuitas.”

Even though there may be other communities within the state of Chihuahua where weakening is more prevalent than in Ciudad Juárez; virtually all participants recognized weakening as a linguistic marker of this region.

Speaker eMPUYZ

“Cuando fui al D.F. por lo golpeado sabían que era del norte, pero por la /ʃ/ sabían que era de Chihuahua.”

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

Speaker wMMUYZ

“Yo lo mezclo, pero empecé conscientemente a cambiarlo.”

Speaker KMAUZZ

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

“Las personas con familias de otros lados no lo hacen.”

Speaker vMAUWZ

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

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 uMAUYZ

“Normalmente la gente un poquillo como naquilla lo hace.”

Speaker CFMUXZ

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

Finally, the great majority of the sample consensually agreed that weakening is a characteristic feature of Chihuahua Spanish that has no explicit link 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.
CHAPTER FIVE
CONCLUSION

Over the last 20 years, the characteristic pronunciation of /ʃ/ in the Spanish of Ciudad Juárez has remained a steady language variation with a current 3:10 occurrence ratio. Seen from a linguistic standpoint, the phonetic environment for weakening continues to match the one reported by past studies carried out in communities where Spanish is spoken either as an official or de facto language (Amastae, 1996; Brown, 1986, Carreón-Serna, 2007; Jaramillo, 1986). This suggests shared universal patterns. Results from the present research demonstrate that speakers with a tendency for weakening produce [ʃ] when it is preceded by a sibilant [s] (e.g. deschavetado ‘crazy’) or a high vowel [i]/[u] (e.g. dicho ‘said’ / mucho ‘a lot’). On the other hand, [ʃ] tends to occur in initial position (e.g. Chihuahua), with a nasal [n] in previous context (e.g. rancho ‘ranch’), a flap [ɾ] (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 /ʃ/ occurs. The results presented by Amastae (1996) showed that women from low educational and socioeconomic backgrounds, from ages 36-55 were the group with the highest prevalence for weakening among Ciudad Juárez population. The data obtained from the present research, however, indicates that men are currently the group with the highest rate of weakening. This corresponds to the results obtained in Granada, Spain by Melguizo Moreno (2006). The 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\textsuperscript{12} 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 supports 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 a similar tendency for weakening. Therefore, the widely held

\textsuperscript{12} Sometimes dialects stigmatized by the education system still enjoy a covert prestige among working-class men for the very reason that they are considered incorrect. These situations occur when the speaker wants to gain recognition, acceptance, or solidarity with a specific—and non-prestigious—group of people, or to signal to other speakers their identification with that group (Chambers & Trudgill, 1998).
assumption that the occurrence of [:f:] in Chihuahua Spanish is due to the contact with English received no support from this data.

Related to the previously mentioned results, it was found that more than half of the sample displayed a general tendency for alternation in English loanwords that contained underlying /ʃ/. For instance, words such as ‘sushi’ or ‘flash’ were recurrently pronounced with [:ʃ:]. Under the scope of applied linguistics, this is a matter that should not be overlooked in course syllabi when teaching minimal pairs in English or other languages to students from this region. Also, English orthography is not nearly as transparent as Spanish which, if clearly addressed, may bring benefits to student when it comes to understanding that graphemes and phonemes are two separate entities.

The most noteworthy difference between the direct and indirect elicitation techniques was the shift among young males (20 years and younger) to produce the fricative variant during the interview, and then switched to the affricate when reading the wordlist. This implies that unlike the other age groups, young male speakers seem to be aware of the difference between both allophones and, although they do not avoid using [:f:] altogether, they tend to use it more frequently in the most informal register. This finding further supports the observation that [:f:] is favored in the more colloquial and natural speech, which matches the results presented by Jaramillo (1986) and Amastae (1996). However, the opposite tendency was found among older participants (35 to 49 years old) who switched from the affricate allophone during the interview to the fricative allophone during the wordlist. This implies that although allophone alternation is triggered in part by style, the switch from the fricative/colloquial to the affricate/standard allophone is not uniform among all speakers.
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 a self-evaluation could 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 50 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 /ʧ/ in the Spanish of Ciudad Juárez diachronically matches the patterns of other dialects. Young men from middle-low socioeconomic status with secondary education produce the non-standard variant more often (Melguizo Moreno, 2016). These results reflect the lack of arbitrariness in language variation and change.

The departure point for further research on /ʧ/ 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, and second, finding the frequency among chihuahuenses who have migrated to other Mexican cities away from the border and might either consciously or unconsciously mold their speech to that of other Spanish variants. A third study would focus on speakers from other Mexican states (e.g. Veracruz) who have migrated to Ciudad Juárez after their formative years and may or may not start weakening /ʧ/ in multidialectal environments such as maquiladoras.


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 (Doctoral dissertation) University of California, Santa Barbara.


Jaramillo, J. A. (1986). *Variation in /ch/ and second person address in the Spanish of Tomé, New Mexico*. The University of New Mexico Albuquerque: NM, US.


APPENDIXES

Appendix 1

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1. INFORMACIÓN DEMOGRÁFICA DEL PARTICIPANTE
2. PREGUNTAS DE ENTREVISTA
   • ¿Cuáles son los platillos típicos de Ciudad Juárez?
   • ¿Cuál es su favorito?
   • A su parecer, ¿cuáles son los lugares más emblemáticos de Ciudad Juárez?
   • ¿Recuerda algún bar o restaurante que antes frecuentara y que ahora ya no existe?
   • ¿Ha viajado a otras ciudades en el estado? ¿en qué año?
   • ¿En el país?
   • ¿Fuera del país?
   • ¿Cuál es la que más le ha gustado? ¿por qué?
   • ¿Cuáles son las diferencias que usted ve entre Cd. Juárez y el resto de México?
   • ¿A qué jugaba cuando era niño?
   • ¿Todavía existen esos juegos?
   • ¿Cómo siente que ha cambiado la ciudad desde que usted era niño hasta el día de hoy?
   • ¿Cómo afecta la cercanía con Estados Unidos la forma de vida en nuestra ciudad?
   • ¿Sería Juárez igual si estuviéramos lejos de la frontera?
   • ¿Tiene familia en El Paso, TX?
   • ¿Va seguido para allá?
   • ¿Qué le gusta de allá?
   • ¿Cómo describiría el Juárez de hace seis años, cuando la guerra?
   • ¿Cambió su estilo de vida?
   • ¿Se fue de la ciudad o al menos pensó en irse?
   • ¿Ha bajado la violencia?
   • ¿A qué cree que se deba?
   • ¿Se siente más segur@?
   • ¿Siente que la actual administración municipal, estatal o federal ha hecho algo por Juárez?
   • ¿Qué le hace falta a la ciudad para mejorar?
   • ¿Fue a ver al papa?
   • ¿Qué opina acerca de su visita?
   • ¿Qué cree acerca de la religión católica en México?
3. LISTA DE PALABRAS
4. PREGUNTAS METALINGÜÍSTICAS
   • ¿Cree que la pronunciación de la “sh” es una característica del español de Juárez?
DEMOCRATIC QUESTIONS

1. QUESTIONS
   • Which are the traditional dishes of Ciudad Juárez?
   • What is your favorite?
   • According to you, which are the most emblematic places of Juarez?
   • Do you remember a bar or restaurant that you liked before and it does not exist anymore?
   • Have you traveled to other cities in the state? When?
   • In Mexico?
   • In other countries?
   • Which one have you liked the most? Why?
   • Which are the differences that you have seen between Juarez and the rest of Mexico?
   • What did you play to as a child?
   • Are those games still popular?
   • How have Juarez changed since you were a kid?
   • How does the proximity with the United States affect Juarez lifestyle?
   • Would it be the same city if it were far from the border?
   • Do you have family in El Paso?
   • Do you go there often?
   • What do you like about that city?
   • How would you describe Juarez six years ago, when the Drug War reached its peak?
   • Did your lifestyle change?
   • Did you leave the city or at least thought about it?
   • Has violence decreased? If yes, what is it due to?
   • Do you feel safer?
   • Do you think the government has done something about it?
   • What is missing?
   • Did you go to see the Pope?
   • How do you feel about his visit?
   • What do you think about Catholicism in Mexico?

2. WORD LIST

3. METALINGUISTIC QUESTIONS
   • Do you think “sh” pronunciation is a feature of Juarez Spanish?
   • Is this feature homogenous among people form Juarez? Which groups?
   • Is it stigmatized?
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Socioeconomic strata in Ciudad Juárez
Appendix 5

We pronounce CH as if it were the only thing we are going to say […] but it is, The “prenunciation” [sic.] of CH is characteristic feature of Chihuahuans, although we do not perceive it among us. (Mayricienta, 2009)

It seems to be a matter of education. Thirty years ago, people who pronounced “ch” as “sh” were mostly people from the countryside and maids who worked in the city (JA,2006)

People in Sonora say that this is due to English influence, but since this also occurs over there (in Chihuahua), I believe that it is because of some Andalusian influence. They also say that in the north we have an aggressive accent due to Spanish influence, especially from Extremadura, although I have not heard anything from a reliable source. (krloszz, 2009)

The addition of /sh/ sound is closer to have entered through English or the local indigenous language. Colonization or rather the stabilization of northern territories was late and had very small Spanish influence, almost as much as Irish, English, Polish and Chinese. If this characteristic was taken from Andalusian dialect then why isn’t it present in Puebla, Guadalajara or Querétaro, which almost exact replicas of Spanish cities? […]

Another thing. Someone mentioned that this phenomenon was almost exclusive of small towns and villages, although it is obviously not exclusive there, it is a lot more noticeable and almost a generalization.

1.- Historically, people from the countryside has migrated to the United States. They tend to come back and bring with them different ways of speaking and dressing, which are very peculiar. It is evident then who is more prone to follow those ways.

2.- Also historically, the countryside was isolated before mass migration, and that is why they exempt from all the changes and tendencies that affect cities. It could be that /sh/ was
assimilated hundreds of years ago due to an Andalusian migration wave and as a result of isolation, the countryside was set aside from the standard language of the rest of the country. (Mirx, 2009)
Appendix 6

Speaker c-F-M-S-W-Z:

“It is more common in the countryside.”

Speaker q-F-A-U-Y-Z

“The ones who pronounce it like that are chihuahitas\textsuperscript{13}.”

Speaker e-M-P-U-Y-Z

“When I went to Mexico City they knew that I was from the north because of my aggressive accent, but they knew that I was from Chihuahua, because of my /sh/ pronunciation.”

Speaker w-M-M-U-Y-Z

“I mix them both, but I consciously started to change it.”

Speaker K-M-A-U-Z-Z

“Some juarenses cambian switch between \textit{leshe} y \textit{leche} and I feel there are others that only say \textit{leshe}.”

Speaker d-F-M-U-Y-Z

“People with families from other regions don’t do it.”

Speaker v-M-A-U-W-Z

\textsuperscript{13} Derogatory demonym for Chihuahua city inhabitants, whose legitimate name is \textit{chihuahuense}. 
“Antes era común. La gente tenía muy arraigada la pronunciación de /ch/ como /sh/, pero ya no lo escucho tanto.”

Speaker u-M-A-U-Y-Z

“Normally tacky people are the ones who do it.”

Speaker C-F-M-U-X-Z

“As the culture level decreases /sh/ pronunciation increases.”
CURRICULUM VITAE

Luis Alberto Méndez was born in October 1991 in El Paso, Texas; and raised in Ciudad Juárez, Chihuahua. After graduating from Colegio Latinoamericano in 2010, he was accepted at Universidad de las Américas Puebla. In 2013, he won the first place of the essay contest El despertar universitario en México with the essay Carencias educativas del México Contemporáneo. During his time in Puebla he worked as a translator and English teacher. In 2014, Luis graduated by high cumulative GPA, and obtained a Bachelor’s of Arts in Foreign Languages and Applied Linguistics.

In 2015, he started working towards a Master of Arts in Linguistics at the University of Texas at El Paso. From 2015 to 2016, he performed different tasks as a Teaching Assistant, including editorial board member in Revista de Literatura Mexicana Contemporánea, organizer of the first conference of The Cleric’s Craft: Crossroads in Medieval Spanish Literature, and writing/speaking mentor for students enrolled in the program of English as a Second Language.

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