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INSIGHTS INTO SPANISH METRICAL STRUCTURE THROUGH LANGUAGE GAMES[1]

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ABSTRACT. Some Spanish language games involve reordering the syllables of the words. However, the stressed syllable of the game word does not always match the stressed syllable in the original Spanish word and/or the position of the stress in the original Spanish word. Using game words found in different sources, a corpus of 261 words from different Spanish games was created to account for the games' stress patterns. The metrical structure of the language games (e.g., Vesre, which is a game in Argentina and Uruguay) was analyzed. The results of the analysis suggest that the game words' metrical structures are composed of quantity-sensitive, right-aligned trochee, in which the stress falls in penultimate position in vowel-final words, and consonant-final words generally have final stress, confirming previous proposals about the default metrical structure of Spanish (Harris, 1983; Núñez-Cedeño and Morales-Front, 1999). Overall, these Spanish language games illustrate The Emergence of The Unmarked (TETU) in metrical structure, providing evidence of Spanish stress assignment, whereby the unmarked stress pattern is a right-aligned quantity-sensitive trochee.

Keywords: Spanish metrical structure; quantity sensitivity; trochee; language games

RESUMEN. Algunos juegos léxicos del español implican reordenar las sílabas de las palabras. Sin embargo, la sílaba acentuada de la palabra en los juegos no siempre coincide con la sílaba acentuada de la palabra original en español ni/o la posición del acento en la palabra original. Se creó un corpus de 261 palabras de diferentes juegos en español encontradas en diferentes fuentes, para analizar los patrones del acento de dichas palabras. Se analizó la estructura métrica de dichos juegos (por ejemplo, Vesre, que es un juego en Argentina y Uruguay). Los resultados del análisis sugieren que las estructuras métricas de las palabras del juego se componen de troqueos alineados a la derecha, sensibles a la cantidad, en los que el acento cae en la penúltima posición en las palabras que finalizan en vocal, y las palabras que finalizan en consonante generalmente tienen acento final, lo que confirma propuestas previas sobre la estructura métrica productiva del español (Harris, 1983; Núñez-Cedeño y Morales-Front, 1999). En general, estos juegos en español ilustran *El surgimiento de lo no marcado* en estructura métrica, proporcionando evidencia de la asignación de acentos en español, en el cual el patrón de acento no marcado es un troqueo sensible a la cantidad alineado a la derecha.

Palabras clave. Estructura métrica del español; sensibilidad a la cantidad; troqueo; juegos de lenguaje

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1. Introduction

Language games are common across different languages. In Spanish, some of these language games, like Vesre, involve reordering the syllables of a word. Sorbet (2016a) compiles different definitions, concluding that Vesre, which is a term widely known in Río de la Plata region in Argentina and Uruguay, is a mechanism of lexical formation that results from reordering some or all syllables of a Spanish word, and it might undergo other phenomena like sound deletion and/or insertion. While some studies have provided general descriptions of Vesre's phonology (e.g., Conde, 2014; Sorbet, 2016a), no studies have – to the best of my knowledge – investigated its stress patterns.[2] This is an interesting question given that there are different possibilities regarding the stress assignment in the game word.

One possibility is that the stress remains in the same syllabic position of the original Spanish position; for example, if the stress is on the final syllable of the Spanish word, the stress will remain on the final syllable of the reordered word. Another possibility is that stress moves with the segments of the stressed syllable in the Spanish word; for example, if stress is on the first syllable in the original Spanish word, stress will remain with the segments associated with that syllable, regardless of its position in the Vesre word. A third possibility is that the reordered syllables will have stress reassigned based on the productive pattern in Spanish. One clear aspect about Spanish stress is that it falls within a three-syllable window at the right edge of the word (e.g., Roca, 2006). It has been proposed that, even though final, penultimate, and antepenultimate stress are present in Spanish, the default pattern in Spanish is stress in penultimate position for vowel-final words, while consonant-final words generally have final stress – since Spanish is a quantity-sensitive language (Harris, 1983; Núñez-Cedeño and Morales-Front, 1999). However, the situation is more complex given the number of exceptions that do not follow this pattern (e.g., vowel-final words with stress in antepenultimate or final position). Therefore, some authors provide different arguments and analyses. For instance, some state that there are different stress patterns between verbs and all other types of words (Roca, 2006; Bakovic, 2016). Additionally, some authors make a distinction between the word and its morphological stem; for example, Bakovic (2016) states that stress in Spanish falls in the final syllable of the stem, and not just the word itself. Also, the quantity sensitivity claimed by some authors (e.g., Harris, 1983; Núñez-Cedeño and Morales-Front, 1999) has been questioned, and some have claimed that Spanish is instead a quantity insensitive language; for instance, the results of an experiment testing speakers' judgements of nonce words lead the author to conclude that quantity sensitivity in Spanish is not psychologically real (Alvord, 2003). It is for these reasons that examining the stress patterns of Vesre and similar language games of Spanish might be revealing, as the reordered syllables in the games might provide new insights into the metrical structure of Spanish.

A corpus was created by compiling 261 game words reported in different academic articles,[3] and the metrical structure of the words was further analyzed within Optimality Theory (Prince and Smolensky 2004). The data from these Spanish language games provide evidence of the productive stress assignment pattern in Spanish which involves quantity-sensitive right-aligned trochees. This paper is organized as follows. Section 2 provides

[2] Piñeros (1998) studied the stress patterns of Jerigonza, which is a different Spanish game created through the introduction of epenthetic syllables (e.g., *casa* → *capasapa*). The games' words analyzed in this paper are governed by different rules (reordering syllables of the Spanish word).

[3] See the Appendix for the data from the different language games.

information about the creation of the corpus. Section 3 provides a general description of the Spanish language games and different phonological phenomena manifested through them. Section 4 provides an analysis of the metrical structure of Vesre, which corresponds to the majority of the data in the corpus (207 words). Section 5 provides a summary of similar language games found in other Spanish-speaking countries, and how they support the analysis of metrical structure in section 4. Finally, a discussion and conclusions about the main results are presented in section 6.

2. Corpus

A corpus of syllable-reordering word games in Spanish was created using example words found in different academic articles that describe these games (Bohrn 2010, 2015, 2018, 2021; Conde 2014; Sorbet 2014, 2016a, 2016b, 2017, 2019, 2020). The words were identified and extracted from the articles and were then organized in a spreadsheet. Since the game words in the different articles were written in regular Spanish orthography, we were careful to document any element of the written form of the words in the articles, such as accent marks. In that sense, the use/lack of accent marks was used to determine the stressed syllable in the playful form, as Spanish orthography clearly shows stress placement.

All words in the spreadsheet included the academic source, the name of the game (if any), the country(s) in which these games occur, number of syllables in both the Spanish word and the game word, and any other possibly relevant phonological information (e.g., whether certain sounds were deleted/inserted in the game word). A standard IPA transcription was provided for both the Spanish word and the game word, marking syllable boundaries and stress locations. See the appendix section at the end of the article.

3. General Phonological Description

It is important to point out the different syllable reordering possibilities. With disyllabic words, only one reordered form is possible, and it is therefore very straightforward: the two syllables switch position ($[\sigma_1 . \sigma_2] \rightarrow [\sigma_2 . \sigma_1]$). When it comes to trisyllabic words, it becomes more complex as the number of possible reordered forms increases, as shown in (1). The greater the number of syllables in the word (e.g., 4 syllables in a word), the more reordered possibilities we expect, but these are much less common that disyllabic and tri-syllabic reordered words. In the Vesre data, the (1e) form corresponds to the most common reordering pattern (38 out of 84 words), followed by pattern (1d) (24/84). Patterns (1a-c) occur in fewer instances (8, 6 and 8 respectively). Bohrn (2015) indicates that the reordering pattern is not necessarily random but sensitive to the inflectional and derivational morphological components of the word. I do not propose an analysis of the reordering results, but merely note their frequency.

(1)

$[\sigma_1. \sigma_2. \sigma_3]$ =

a. $[\sigma_1. \sigma_3. \sigma_2]$
b. $[\sigma_2. \sigma_1. \sigma_3]$
c. $[\sigma_2. \sigma_3. \sigma_1]$
d. $[\sigma_3. \sigma_1. \sigma_2]$
e. $[\sigma_3. \sigma_2. \sigma_1]$

The syllable reordering in these language game words may result in other phonological phenomena. In example (2a), there is the appearance of a sound that does not exist in the

original Spanish word. In this case, it seems that the syllables are first reordered, and then the tap [ɾ] is added in the final syllable of the game word to mark the infinitive verb. This occurred in 4 words in the corpus: all of them verbs in the infinitival form. In addition, other cases show deletion of a sound; for example, in (2b) the coda of the final syllable gets deleted. This is not surprising as no native Spanish words end in [k] or other voiceless stops (although some recent loans do, e.g., *Facebook*). (2c) also illustrates the deletion of a sound, resulting in a three-syllable word as opposed to four syllables in the original Spanish word; perhaps to avoid vowel hiatus.

(2)	a.	[pa.'ɣaɾ]	*pagar* 'to pay'	→	[gaɾ.'paɾ]
	b.	[dok.'toɾ]	*doctor* 'doctor'	→	['toɾ.ðo]
	c.	[a.βa.'ni.ko]	*abanico* 'fan'	→	[ko.'βa.ni]
	d.	['pe.tʃo]	*pecho* 'chest'	→	['tʃe.po]
	e.	['bi.no]	*vino* 'wine'	→	['no.βi]
	f.	[pan.ta.'lon]	*pantalón* 'pants'	→	[ta.'lom.pa]
	g.	[ki.'lom.bo]	*quilombo* 'brothel'	→	[bo.'loŋ.ki]

In addition, it seems that the syllable reordering allows for metathesis, where onsets and codas from the Spanish word partner with other nuclei in the playful word. For example, (2d) show that the nuclei of the word are kept in the original syllable position, but the onsets of both syllables have changed positions, matching with a different vowel.

One of the well-known facts about Spanish phonology involves voiced stop allophonic variations. That is, voiced stops become approximants in post-vocalic position (e.g., Hualde 2014). The game words show these alternations; in fact, Sorbet (2014) points it out stating that Vesre syllable reordering transformations comply with the rules of Spanish phonetics/phonology. For example, in (2a) the intervocalic approximant [ɣ] in the original Spanish word becomes a stop [g] when it is in word initial position of the game word, and in (2e), the word-initial stop [b] becomes an approximant [β] in post-vocalic position in the game word.

There are examples that show place assimilation. For example, (2f) shows the Spanish word contains an alveolar nasal [n] in word final position; however, the reordered word shows that the nasal assimilates to the following labial stop and is then realized as a bilabial nasal [m] in the game word. Similarly, the word for 'brothel' has a bilabial nasal [m] in the Spanish word, but the nasal is then realized as a velar nasal [ŋ] in the reordered game form as it precedes a velar stop [k] (2g).

4. Stress Assignment in Vesre

As pointed out above, there has been no analysis of the stress assignment of the reordered words. However, we can think about the different possibilities outlined above. In order to analyze the stress assignment of the game words, I separated the data into two subgroups: words composed of light syllables (L) only, and words that include at least one heavy syllable (H). This analysis is based on Vesre words only, which represents the majority of the data, but other similar (or perhaps identical) language games in which the syllables of the words are reordered are discussed in section 5. Examples as those in (3) show that, if the words are composed of only light syllables, stress is assigned to the penultimate syllable regardless of the original stress pattern. This occurs regardless of words having two, three, or four syllables. As seen in examples (3a) and (3d), the stress can

remain in the same position as the Spanish word, which is in penultimate position. However, other examples show that stress can move position, as it is the case for examples (3b) and (3e) in which stress goes from the final syllable in the Spanish word to the penultimate syllable in the reordered word. Examples (3c) and (3f) show how stress goes from antepenultimate position to penultimate position.

(3)	a.	ˈL L	→	ˈL L	Example:	[ˈpe.ro]	→	[ˈro.pe]	'dog'
	b.	L ˈL	→	ˈL L	Example:	[ka.ˈfe]	→	[ˈfe.ka]	'coffee'
	c.	ˈL L L	→	L ˈL L	Example:	[ˈmu.si.ko]	→	[ko.ˈsi.mu]	'musician'
	d.	L ˈL L	→	L ˈL L	Example:	[ba.ˈɾa.to]	→	[to.ˈɾa.βa]	'cheap'
	e.	L L ˈL	→	L ˈL L	Example:	[bo.ɣo.ˈta]	→	[ta.ˈβo.ɣo]	'Bogota'
	f.	L ˈL L L	→	L L ˈL L	Example:	[te.'le.fo.no]	→	[fo.no.'te.le]	'telephone'

These patterns refute possibility 1 whereby stress remains in the same position as in the original Spanish word, as we can see in (3b) where stress is on the final syllable in the Spanish original word, but on the penultimate syllable in the Vesre word. These examples also refute possibility 2 whereby stress moves with the syllable since (3a) shows that the stressed syllable [ˈpe] in the original Spanish word is unstressed in the game word. Instead, these facts support possibility 3, in which the reordered words illustrate the preferred penultimate stress pattern in vowel-final words of Spanish, as proposed by Harris (1983) and Núñez-Cedeño & Morales-Front (1999).

So far, the data of the original Spanish words composed of light syllables only (3) suggest a right-aligned trochaic pattern.[4] We can account for this within the framework of Optimality Theory by using the following familiar constraints (4) and (5).

4) Trochee
   Assign one violation mark to every foot that is not disyllabic and head initial (Kager, 1999; McCarthy 2008).
5) Align-R
   Assign one violation mark if the right edge of a Grammatical Word does not coincide with the right edge of the foot (Kager, 1999).

(6)

[ka.ˈfe]	Trochee	Align-R
a. (fe.ˈka)	*!	
b. (ˈfe.ka) ☜		

(7)

[bo.ɣo.ˈta]	Trochee	Align-R
a. (ˈta.βo).ɣo		*!
b. ta.(βo.ˈɣo)	*!	
c. ta.(ˈβo.ɣo) ☜		

Notice that I am using the Spanish output form as the input form of the Vesre words.[5] Also, take into account that the different reordering possibilities would result in multiple candidates in tri-syllabic words; in order to keep the tableaux simple for illustration purposes, I am only including the ordering of the syllables in the actual output form of the reordered word. Tableaux (6) and (7)[6] show that the playful word might violate any

[4] Piñeros (1998) found that in Jerigonza (a different Spanish language game), there was a clear preference for a syllabic trochee in Spanish, confirming that the unmarked Spanish foot is left-headed.
[5] This is relevant given that syllabic structure is crucial in these reordered forms.
[6] As shown in 7, some syllables are left unparsed. In this analysis, I assume that there is only one foot per word.

faithfulness constraint that enforces a match to both the stress position of the original Spanish word, as well as the segments associated with the stress. This, once again, refutes both hypothesis 1 and 2. Additionally, even though final, penultimate, and antepenultimate stress are present in Spanish (e.g., Harris 1983), the resulting reordered word in Vesre is a paroxytone (stress falls in penultimate position). All words (100%) composed of light syllables in Vesre (122) follow this pattern; in other words, there are no exceptions to the pattern.

What happens when the words have one or more heavy syllables? Examples in (8)[7] show that if there is a H syllable in either final or penultimate position in the playful form, the H syllable will generally attract the stress; this is the case for examples (8a-d, f). If the H syllable falls in the antepenultimate position as shown in (8e), the stress will be assigned to the penultimate position, as expected.

(8)									
	a.	ˈH L	→	L ˈH	Example:	[ˈom.bɾe]	→	[bɾe.ˈon]	‘man’
	b.	L ˈH	→	ˈH L	Example:	[pa.ˈtɾon]	→	[ˈtɾom.pa]	‘boss’
	c.	H ˈH	→	H ˈH	Example:	[kal.ˈson]	→	[sol.ˈkan]	‘trousers’
	d.	H ˈL L	→	L ˈH L	Example:	[es.ˈki.na]	→	[na.ˈes.ki]	‘corner’
	e.	L L ˈH	→	H ˈL L	Example:	[ka.pi.ˈtan]	→	[tam.ˈpi.ka]	‘captain’
	f.	H H ˈL L	→	H L ˈH L	Example:	[kal.son.ˈsi.ʒo]	→	[sol.si.ˈʒoŋ.ka]	‘briefs’

These data suggest that the right-aligned trochee in Spanish is also quantity-sensitive. In order to account for these patterns, we need an additional constraint as shown in (9).

9) Weight-To-Stress-Principle (WSP)
Assign one violation mark for every unstressed heavy syllable (McCarthy 2008).

Tableau (10) shows the role of WSP in the reordered form of *hombre* [ˈom.bɾe]→ [bɾe.ˈon] ‘man’. Stress is assigned to the consonant-final syllable, which happens to be in word final position in the game word; crucially, stress is not assigned to the penult syllable which is light. Harris (1983) affirms that paroxytonic stress (stress in penultimate position) is restricted in consonant-final words, and this claim is supported by the stress pattern of these playful words. This also goes against different proposals that have claimed that Spanish is a quantity insensitive language (e.g., Roca 1990; Alvord 2003; Piñeros, 2016).

(10)

[ˈom.bɾe]	Align-R	WSP
a. (ˈbɾe.on)		*
b. bɾe.(ˈon)☜		

Additionally, as shown in (8c), if the penultimate and final syllables of the word are both heavy, the final syllable gets the stress. Tableau (11) illustrates constraint for the reordered form of *calzón* [kal.'son] → [sol.'kan] ‘trousers.’ When the output form is composed of two H syllables, the stressed syllable is right aligned in the prosodic word as shown in (11a),

[7] I categorize all syllables with codas as H; this include [s] as in example (8d). However, as shown later in the paper, the word-final plural “s” morpheme does not participate in stress assignment.

and the unstressed syllable is found in penultimate position, violating WSP. In that sense, the winning candidate does not incur in a violation to the Align-R constraint.[8]

(11)

[kal.'son]	Align-R	WSP
a. ('sol).kan	*!	*
b. sol.('kan) ☜		*

The reordered words in Vesre that contain heavy syllables can be accounted for with a quantity-sensitive right-aligned trochee in 96.4% of the words (i.e., 81 out of 85). However, there are four exceptions to the pattern, which are shown in (12).[9] These four exceptions assign the stress in penultimate position regarding of a consonant-final syllable in final position.

(12) a. ['bul.to] → ['to.βul] *bulto* 'backpack'
b. ['goɾ.do] → ['do.ɣoɾ] *gordo* 'fat'
c. ['teŋ.go] → ['go.ten] *tengo* 'I have'
d. [a.'ðen.tro] → [a.'tro.ðen] *adentro* 'inside'

For words that contain a H syllable, one apparent exception is the word *gaviones* 'big cages' [ga.'βjo.nes] which becomes ['bjoŋ.gas]; in this case, we could assume that stress should fall in the final syllable, but the [s] in final position represents the plural morpheme, which does not attract stress. Words containing plural 's' such as *gaviones* are therefore not treated as exceptions given that they represent examples in which morphology trumps phonology.

Considering all Vesre words regardless of syllable weight, the stress pattern can be accounted for with a right-aligned quantity-sensitive trochee in 98.5% of the cases; that is, 203 out 207 words, with four exceptions to the pattern shown in (12).

5. Other Games

As mentioned earlier, Vesre corresponds to the majority of the words in the corpus (207 words), but similar language games in which the syllables of the Spanish words are reordered are also found across other Spanish speaking countries. Some examples of these games were also reported by the different authors, so they were analyzed for the stress patterns as well. One of these games has its own name, as is the case of Parlache which is the game found in Colombia, but others do not have a specific name, so I refer to them by the name of the country to which they belong. I will now summarize the extent to which these words follow the right-aligned, quantity-sensitive trochee pattern.

The metrical structure pattern previously described occurs in 100% of the words in the Peru game (18 words), the Panama game (6 words), and the Chile game (1 word). There is one apparent exception to the stress assignment generalizations is a word composed of L syllables in the Panama data — *pasó* [pa.'so] 'he/she/it passed' — which has stress in final position in the game word [so.'pa]. However, this is not a counter example to the

[8] In a different analysis, this could be accounted by a Rightmost constraint, in which the rightmost foot receives the stress. However, as mentioned before, I assume that there is only one foot per word.

[9] Sorbet (2014) reported the game word for (12a) as [a.tro.'ðen], which actually supports the pattern. However, Conde (2013) reported that the game word for *adentro* 'inside' is [a.'tro.ðen], which is then an exception.

phonological generalization since final stress marks the preterit form. This is an intriguing example of the role of morphological templates in stress assignment. The data in Parlache game, which is the one from Colombia, has the pattern in 88.23% of the words (15 out of 17; only two exceptions). The exceptions in Parlache are the word for *aguanta* 'put up with' [a.'ɣwan.ta], which becomes ['ta.ɣwan], and *sancocho* 'stew' [san.'ko.tʃo] which is [ko.'tʃo.san] in the game form. These exceptions follow a similar pattern to those exceptions of Vesre, as stress is on the penultimate syllable even though they are consonant-final words and final stress is expected.

Interestingly, there is one language game that seems to behave differently: the Costa Rican game. In this variation, the data suggest a quantity insensitive right-aligned trochee; in other words, all 12 words have stress on the penultimate syllable regardless of the weight of the final syllable. 6 of those 12 words assign stress to the penultimate syllable when the final syllable is L (e.g., *primo* 'cousin' ['pɾi.mo] → ['mo.pɾi]), as expected, while the other six assign stress to the penultimate syllable even though they are consonant final words (e.g., *cuenta* 'bill' ['kwen.ta] → ['ta.kwen).

Cumulatively, the data across the five different games with a quantity-sensitive trochee (Vesre, Parlache, Chile game, Peru game and the Panama game) show a consistent right-aligned, quantity-sensitive trochaic pattern. This pattern occurs in 97.5% of the cases (243 out of 249 words), with 4 exceptions from Vesre and one from Parlache. The Costa Rican variation seems to be governed by a different stress assignment principle, as the 12 words of this variety assign stress to penultimate position regardless of syllable weight.

6. Conclusions

The data across Vesre, as well as other similar or identical Spanish language games in which the syllables of the words are reordered show a consistent stress pattern and confirm previous proposals about Spanish stress assignment; that is, vowel-final words generally have stress in penultimate position, and consonant-final words generally have final stress (Harris, 1983; Núñez-Cedeño and Morales-Front, 1999). This is also consistent with recent accounts of Spanish acronyms that illustrate the aforementioned stress patterns (see Torres-Tamarit and Martinez-Paricio, 2024). Additionally, the analysis of the stress patterns in these language games provides a novel probe into the metrical structure of Spanish illustrating The Emergence of The Unmarked (TETU) in metrical structure. Under constraint-based theories, TETU is a phenomenon whereby marked structures that are allowed in the language are banned in particular contexts; in such contexts in which the marked structures are banned, the unmarked structure thus emerges (e.g., McCarthy and Prince, 1994; Becker and Potts, 2011). In that sense, the marked structures in Spanish stress correspond to structures such as antepenultimate stress (e.g., *músico* ['mu.si.ko] 'musician'), final stress in vowel-final words (e.g., *café* [ka.'fe] 'coffee') and penultimate stress in consonant-final words (e.g., *examen* [ek.'sa.men] 'exam'), while the unmarked stress pattern in Spanish metrical structure corresponds to a quantity-sensitive trochee.

Further research should continue to examine these Spanish language games (as well as games from other languages) from a generative perspective, as they serve as resources that illustrate clear phonological and morphological patterns, as well their interface.

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Appendices

Spanish-game words corpus compiled from different academic articles.

Notes about the appendices:

a. ***** Indicates exception to the quantity-sensitive, right-aligned trochaic pattern.
b. **+** Indicates apparent exception, but not treated as one as there is a morphological interaction (e.g., words that have plural 's' morpheme, such as the game word for *gaviones*, which is ['bjoŋ.gas] with stress in penultimate position)
c. Many words are used colloquially, so the English equivalent corresponds to a standardized translation.
d. Some words were reported for two different games/countries (e.g., Vesre and Peru). However, they are only reported once, under the Vesre game, as it is the game with the most data.
e. As reported in the different articles, some games have their own names (Vesre and Parlache). However, others do not have a specific name, so I refer to them by the name of the country to which they belong (e.g., Panama).
f. Some words allow alternations between masculine vs feminine grammatical gender, and/or plural vs singular forms (e.g. *primo* 'male cousin' is [mo.pri] but it could as well be *prima* 'female cousin' [ma.pri]. These words are reported in one single form as provided by the authors.
g. The **Game Word** column represents the Spanish orthography form provided in the articles from which these words were retrieved (sources found in the column **Source(s)**). The author of this paper has provided a standardized IPA transcription for both the Spanish and the game word.

Appendix 1: Chile data

Spanish Word	English gloss	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)
chico	guy	['tʃi.ko]	cochi	['ko.tʃi]	Chile	Sorbet 2022

Appendix 2: Panama data

Spanish Word	English gloss	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)
comer	to eat	[ko.'meɾ]	merco	['meɾ.ko]	Panamá	Sorbet 2016b
firme	firm	['fiɾ.me]	merfi	['meɾ.fi]	Panamá	Sorbet 2016b, 2019
silla	chair	['si.ʒa]	llasi	['ʒa.si]	Panamá	Sorbet 2016b
vaca	cow	['ba.ka]	cava	['ka.βa]	Panamá	Sorbet 2016b
pasó	he/she/it passed'	[pa.'so]	sopá	[so.'pa] +	Panamá	Sorbet 2016b
pelao	young / no money	[pe.'la.o]	laope	[la.'o.pe]	Panamá	Sorbet 2016b

Appendix 3: Parlache (Colombia)

Spanish Word	English Meaning	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)
chimbo	worn out	['tʃim.βo	bochim	[bo.'tʃim]	Parlache	Sorbet 2016b
sancocho	stew	[san.'ko.tʃo]	cochosan	[ko.'tʃo. san] *	Parlache	Sorbet 2016b
calor	heat	[ka.'loɾ]	lorca	['loɾ.ka]	Parlache	Sorbet 2016b
gamín	rude	[ga.'min]	minga	['miŋ.ga]	Parlache	Sorbet 2016b
dormir	to sleep	[doɾ.'miɾ]	mirdor	[miɾ.'ðoɾ]	Parlache	Sorbet 2016b
aguanta	put up with	[a.'ɣwan.ta]	taguan	['ta.ɣwan] *	Parlache	Sorbet 2016b
güevón	stupid/ stubborn	[gwe.'βon]	vongüe	['boŋ.gwe]	Parlache	Sorbet 2016b
cabeza	head	[ka.'βe.sa]	bezaca	[be.'sa.ka]	Parlache	Sorbet 2016b, 2022
noche	night	['no.tʃe]	cheno	['tʃe.no]	Parlache	Sorbet 2016b, 2019; Conde 2013
billete	bill	[bi.'ʒe.te]	tebille	[te.'βi.ʒe]	Parlache	Sorbet 2016b
camisa	shirt	[ka.'mi.sa]	misaca	[mi.'sa.ka]	Parlache	Sorbet 2016b, 2018, 2022
teléfono	phone	[te.'le.fo.no]	fonotele	[fo.no.'te.le]	Parlache	Sorbet 2016b
pollo	chicken	['po.ʒo]	llopo	['ʒo.po]	Parlache	Sorbet 2016b
pene	penis	['pe.ne]	nepe	['ne.pe]	Parlache	Sorbet 2016b
cacorro	homosexual	[ka.'ro.ko]	rocaco	[ro.'ka.ko]	Parlache	Sorbet 2016b
Bogotá	Bogota	[bo.ɣo.'ta]	tabogo	[ta.'βo.go]	Parlache	Sorbet 2016b
gramo	gram	['gra.mo]	mogra	['mo.ɣra]	Parlache	Sorbet 2016b, 2018, 2019

Appendix 4: Peru data

Spanish Word	English Meaning	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)
uruguayo	uruguayan	[u.ɾu.'gwa.ʒo]	yorugua	[ʒo.'ɾu.ɣwa]	Peru	Sorbet 2019; Bohrn 2021
callejón	alleyway	[ka.dʒe.'xon]	jonlleca	[xon.'dʒe.ka]	Peru	Sorbet 2019, 2020
saco	sack	['sa.ko]	corsa	['koɾ.sa]	Peru	Sorbet 2019, 2022
cholo	dark skinned	['tʃo.lo]	lorcho	['loɾ.tʃo]	Peru	Sorbet 2019
salón	hall	[sa.'lon]	lonsa	['lon.sa]	Peru	Sorbet 2019
cañón	canyon	[ka.'ɲon]	ñonca	['ɲon.ka]	Peru	Sorbet 2019
nadie	nobody	['na.dje]	naide	['naj.de]	Peru	Sorbet 2019
clueca	bloory hen	['klwe.ka]	culeca	[ku.'le.ka]	Peru	Sorbet 2019
cabro	male goat	['ka.βro]	broca	['bro.ka]	Peru	Sorbet 2019
casa	house	['ka.sa]	saca	['ka.sa]	Peru	Sorbet 2019; Bohrn 2021
plaza	plaza	['pla.sa]	zapla	['sa.pla]	Peru	Sorbet 2019
casaca	jacket	[ka.'sa.ka]	sacaca	[sa.'ka.ka]	Peru	Sorbet 2019
carro	car	['ka.ro]	roca	['ro.ka]	Peru	Sorbet 2019
flaco	skinny	['fla.ko]	cofla	['ko.fla]	Peru	Sorbet 2019
patas	feet	['pa.tas]	tapas	['ta.pas]	Peru	Sorbet 2019
esquina	corner	[es.'ki.na]	esnaqui	[es.'na.ki]	Peru	Sorbet 2019
calzón	trousers	[kal.'son]	zolcán	[sol.'kan]	Peru	Sorbet 2019, 2020
mujer	woman	[mu.'xeɾ]	jerma/ germa	['xeɾ.mu]	Peru	Sorbet 2019, 2020, 2022

Appendix 5: Vesre data (Argentina and Uruguay)

Spanish Word	English Meaning	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)
Maestro	teacher	[ma.ˈes.tɾo]	troesma	[tɾo.ˈes.ma]	Vesre	Sorbet 2014, 2016a, 2016b, 2022; Conde 2013; Bohrn 2015, 2018, 2021
revés	reverse	[re.ˈβes]	vesre	[ˈbes.re]	Vesre	Conde 2013, Sorbet 2014, Bohrn 2015, 2018, 2021; Sorbet 2016a, 2016b, 2017, 2018, 2019, 2020, 2022
país	country	[pa.ˈis]	ispa	[ˈis.pa]	Vesre	Conde 2013, Sorbet 2014, Bohrn 2015
camión	truck	[ka.ˈmjon]	mionca	[ˈmjoŋ.ka]	Vesre	Conde 2013; Bohrn 2015, 2018, 2021; Sorbet 2014, 2016a, 2016b, 2019
botín	ankle boot	[bo.ˈtin]	timbo	[ˈtim.bo]	Vesre	Conde 2013
gordo	fat	[ˈgoɾ.do]	dogor	[ˈdo.goɾ] *	Vesre	Conde 2013; Bohrn 2010, 2015, 2018; Sorbet 2022
tango	tango	[ˈtan.go]	gotán	[go.ˈtan]	Vesre	Conde 2013; Bohrn 2015, 2021; Sorbet 2014, 2016b, 2017
pinta	spot	[ˈpin.ta]	tapín	[ta.ˈpin]	Vesre	Conde 2013
panza	belly	[ˈpan.sa]	zapán	[sa.ˈpan]	Vesre	Conde 2013
quilombo	mess	[ki.ˈlom.bo]	bolonqui	[bo.ˈloŋ.ki]	Vesre	Conde 2013
sanguche	sandwich	[ˈsaŋ.gu.tʃe]	chegusán	[tʃe.gu.ˈsan]	Vesre	Conde 2013; Bohrn 2015, 2018, 2021
adentro	inside	[a.ˈðen.tɾo]	atrodén	[a.tɾo.ˈðen]	Vesre	Sorbet 2014
adentro	inside	[a.ˈðen.tɾo]	atroden	[a.ˈtɾo.ðen] *	Vesre	Conde 2013; Sorbet 2014, 2016b; Bohrn 2015
bombacha	panties	[bom.ˈba.tʃa]	chabomba	[tʃa.ˈβom.ba]	Vesre	Conde 2013
pendejo	stupid	[pen.ˈðe.ho]	jopende	[ho.ˈpen.de]	Vesre	Conde 2013, Sorbet 2014
esquina	corner	[es.ˈki.na]	naesqui	[na.ˈes.ki]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b
hermano	brother	[eɾ.ˈma.no]	noerma	[no.ˈeɾ.ma]	Vesre	Conde 2013; Sorbet 2014, 2016b
corpiño	corset	[kor.ˈpi.ɲo]	ñocorpi	[ɲo.ˈkoɾ.pi]	Vesre	Conde 2013, Bohrn 2021
permiso	permit	[peɾ.ˈmi.so]	sopermi	[so.ˈpeɾ.mi]	Vesre	Conde 2013; Sorbet 2016a, 2016b; Bohrn 2021
pabellón	hall	[pa.βe.ˈʒon]	bellompa	[be.ˈʒom.pa]	Vesre	Conde 2013; Sorbet 2014, 2020; Bohrn 2015, 2021
patrón	boss	[pa.ˈtɾon]	trompa	[ˈtɾom.pa]	Vesre	Conde 2013; Sorbet 2014, Bohrn 2021
conventillo	tenement	[kon.ben.ˈti.ʒo]	llotivenco/ yotivenco/ yotibenco	[ʒo.ti.ˈβeŋ.ko]	Vesre	Conde 2013; Sorbet 2014, Sorbet 2016b, 2022; Bohrn 2015, 2021
calzoncillo	men underware	[kal.son.ˈsi.ʒo]	zolcillonca/ solsillonca	[sol.si.ˈʒoŋ.ka]	Vesre	Conde 2013; Sorbet 2016b, 2020; Bohrn 2015, 2021
cagar	to poop	[ka.ˈɣaɾ]	garcar	[gaɾ.ˈkaɾ]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2019, 2020
pagar	to pay	[pa.ˈɣaɾ]	garpar	[gaɾ.ˈpaɾ]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b, 2019, 2020
caminar	to walk	[ka.mi.ˈnaɾ]	namicar	[na.mi.ˈkaɾ]	Vesre	Conde 2013

caminar	to walk	[ka.mi.'naɾ]	narmicar	[naɾ.mi.'kaɾ]	Vesre	Sorbet 2014
pasarse	to go over	[pa.'saɾ.se]	sarparse	[saɾ.'paɾ.se]	Vesre	Conde 2013
apoliyar/ apolillar	to eat	[a.po.li.'ʒaɾ]	yolipar	[ʒo.li.'paɾ]	Vesre	Conde 2013; Sorbet 2016b
coger	to grab	[ko.'xeɾ]	gerco	['xer.ko]	Vesre	Conde 2013
batidor	mixer	[ba.ti.'ðoɾ]	ortiba	[oɾ.'ti.βa]	Vesre	Conde 2013; Sorbet 2014, 2016b, 2020; Bohrn 2015
canchero	groundsman	[kan.'tʃe.ɾo]	cheronca	[tʃe.'ɾoŋ.ka]	Vesre	Conde 2013; Bohrn 2015, 2021
poronga	penis	[po.'ɾoŋ.ga]	garompa	[ga.'ɾom.pa]	Vesre	Conde 2013
pantalón	pants	[pan.ta.'lon]	talompa, lompa	[ta.'lom.pa]	Vesre	Conde 2013, Sorbet 2014, 2017, 2019, 2020; Bohrn 2021
doctor	doctor	[dok.'toɾ]	tordo	['toɾ.ðo]	Vesre	Conde 2013; Bohrn 2010, 2015; Sorbet 2017
pierna	leg	['pjeɾ.na]	naerpi	[na.'eɾ.pi]	Vesre	Conde 2013; Sorbet 2016a, 2017, 2019; Bohrn 2021
garcha	penis	['gaɾ.tʃa]	chagar	[tʃa.'ɣaɾ]	Vesre	Conde 2013; Sorbet 2020
gente	people	['gen.te]	tegén	[te.'gen]	Vesre	Conde 2013; Bohrn 2021
ganchos	handles	['gan.tʃos]	chosgán	[tʃos.'gan]	Vesre	Conde 2013
gaviones	big cages	[ga.'βjo.nes]	viongas	['bjoŋ.gas] +	Vesre	Conde 2013
Japón	Japan	[ha.'pon]	ponja	['pon.ha]	Vesre	Conde 2013; Sorbet 2014, 2016b, 2019; Bohrn 2015
cajón	big box	[ka.'hon]	jonca	['hoŋ.ka]	Vesre	Conde 2013; Sorbet 2019, Bohrn 2021
galán	Handsome man	[ga.'lan]	langa	['lan.ga]	Vesre	Conde 2013
bulto	backpack	['bul.to]	tobul	['to.βul]	Vesre	Sorbet 2014, Sorbet 2016b
banco	bank	['ban.ko]	cobán	[ko.'βan]	Vesre	Sorbet 2014, Sorbet 2016b
vento	wind	['ben.to]	tovén	[to.'βen]	Vesre	Sorbet 2014, Bohrn 2021
cagón	crappy	[ka.'ɣon]	gonca	['gon.ka]	Vesre	Sorbet 2014
hombre	man	['om.bɾe]	breón	[bɾe.'on]	Vesre	Sorbet 2014, 2016a, 2016b
garrón	difficult situation	[ga.'ron]	ronga	['roŋ.ga]	Vesre	Sorbet 2014, 2016b
tiempo	time	['tiem.po]	potién	[po.'tien]	Vesre	Sorbet 2014, 2019; Bohrn 2021
limpio	clean	['lim.pio]	piolín	[pio.'lin]	Vesre	Sorbet 2014
bacán	awesome	[ba.'kan]	camba	['kam.ba]	Vesre	Sorbet 2014, 2019, 2020; Bohrn 2021
botón	police	[bo.'ton]	tombo	['tom.bo]	Vesre	Sorbet 2014, 2016b
corbata	tie	['koɾ.ba.ta]	tacorba	[ta.'koɾ.ba]	Vesre	Sorbet 2014, 2016a, 2016b, 2019
comedor	dining room	[ko.me.'ðoɾ]	mecodor	[me.ko.'ðor]	Vesre	Sorbet 2014, 2016a, 2016b, 2019; Bohrn 2021
cagador	shitter	[ka.ga.'ðoɾ]	gadorca	[ga.'ðoɾ.ka]	Vesre	Sorbet 2014, 2016b
derretir	to melt	[de.re.'tiɾ]	redetir	[re.ðe.'tiɾ]	Vesre	Sorbet 2014
vigilante	vigilant	[bi.hi.'lan.te]	telangivi	[ta.len.'hi.βi]	Vesre	Sorbet 2014
lanza	arrow	['lan.sa]	salán	[sa.'lan]	Vesre	Sorbet 2014
botas	boots	['bo.tas]	tasbo	['tas.bo]	Vesre	Sorbet 2014, Bohrn 2021
cinco	five	['sin.ko]	cocín	[ko.'sin]	Vesre	Sorbet 2014
cuarenta	forty	[kwa.'ɾen.ta]	tacuarén	[ta.kwa.'ɾen]	Vesre	Sorbet 2014
pasar	to pass	[pa.'saɾ]	zarpar	[saɾ.'paɾ]	Vesre	Sorbet 2014; Bohrn 2015
frente	front	['fɾen.te]	tefrén	[te.'fren]	Vesre	Sorbet 2014, 2016b
mango	mango	['man.go]	gomán	[go.'man]	Vesre	Sorbet 2014, Bohrn 2021

compañero	mate	kom.pa.'ɲe.ɾo]	ñorecompa	[ɲo.ɾe.'kom.pa]	Vesre	Bohrn 2015, 2021; Sorbet 2016b, 2019
puerta	door	['pweɾ.ta]	tapuer	[ta.'pweɾ]	Vesre	Bohrn 2015, 2021
botón	button	[bo.'ton]	tombo	['tom.bo]	Vesre	Bohrn 2015, 2018, 2021; Sorbet 2020
centavo	cent	[sen.'ta.βo]	votacén	[bo.ta.'sen]	Vesre	Sorbet 2016a
señor	sr	[se.'ɲoɾ]	ñorse	['ɲoɾ.se]	Vesre	Sorbet 2016a, 2016b, 2019
papel	paper	[pa.'pel]	pelpa	['pel.pa]	Vesre	Sorbet 2016a, 2016b, 2017, 2019, 2020
pelar	to peel	[pe.'laɾ]	lepar	[le.'paɾ]	Vesre	Sorbet 2016b, 2018
soldado	soldier	[sol.'ða.ðo]	dodalso	[do.'ðal.so]	Vesre	Sorbet 2016b
detective	detective	[de.tek.'ti.βe]	vetitecde	[be.ti.'tek.de]	Vesre	Sorbet 2016b
capitán	captain	[ka.pi.'tan]	tanpica	[tam.'pi.ka]	Vesre	Sorbet 2016b
conmigo	with me	[kon.'mi.ɣo]	congomi	[koŋ.'go.mi]	Vesre	Sorbet 2017
cuarto	four / room	['kwaɾ.to]	torcua	['toɾ.kwa]	Vesre	Sorbet 2018
chorizo	chorizo	[tʃo.'ɾi.so]	zochori	[so.'tʃo.ɾi]	Vesre	Bohrn 2021
gurda	stubborn	['guɾ.da]	dagur	['da.ɣuɾ]	Vesre	Bohrn 2021
gringo	foreigner / American	['gɾiŋ.go]	gongri	['goŋ.gɾi]	Vesre	Bohrn 2021
tengo	I have	['ten.go]	goten	['go.ten] *	Vesre	Bohrn 2021
corte	cut	['koɾ.te]	tecor	['te.koɾ] *	Vesre	Bohrn 2021
café	coffee	[ka.'fe]	feca	['fe.ka]	Vesre	Bohrn 2010, 2015, 2018, 2021; Sorbet 2014, 2016a, 2016b, 2017, 2018, 2019, 2022
amigo	friend	[a.'mi.go]	gomía	[go.'mi.a]	Vesre	Bohrn 2010; Conde 2013; Sorbet 2014, 2016a, 2016b; Bohrn 2015, 2021
pibe	guy	['pi.βe.	bepi	['be.pi]	Vesre	Conde 2013; Sorbet 2014
libro	book	['li.bɾo]	broli	['bɾo.li]	Vesre	Conde 2013; Sorbet 2014
macho	manly	['ma.tʃo]	choma	['tʃo.ma]	Vesre	Conde 2013, Bohrn 2015, 2021
macho	manly	['ma.tʃo]	chamo	['tʃa.mo]	Vesre	Sorbet 2017
machito	manly diminutive	[ma.'tʃi.to]	chomita	[tʃo.'mi.ta]	Vesre	Conde 2013, Bohrn 2021
traje	I brought	['tɾa.he]	jetra	['he.tɾa]	Vesre	Conde 2013
baño	bathroom	['ba.ɲo]	ñoba	['ɲo.βa]	Vesre	Conde 2013; Sorbet 2016a, 2016b, 2019; Bohrn 2021
tira	string	['ti.ɾa]	rati	['ra.ti]	Vesre	Conde 2013
tiras	string	['ti.ɾas]	ratis	['ɾa.tis]	Vesre	Conde 2013
pieza	piece	['pje.za]	zapie	['sa.pje]	Vesre	Conde 2013; Sorbet 2014
pelado	young / no money	[pe.'la.ðo]	dolape	[do.'la.pe]	Vesre	Conde 2013; Sorbet 2014, Bohrn 2015, 2018; 2022
marido	husband	[ma.'ɾi.ðo]	dorima	[do.'ɾi.ma]	Vesre	Conde 2013; Bohrn 2015, 2021; Sorbet 2016a, 2016b, 2019
carajo	fuck	[ka.'ɾa.ho]	joraca	[ho.'ɾa.ka]	Vesre	Conde 2013
barato	cheap	[ba.'ɾa.to]	toraba	[to.'ɾa.βa]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b, 2019; Bohrn 2021
cabeza	head	[ka.'βe.sa]	zabeca	[sa.'βe.ka]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b, 2019; Bohrn 2021
pedazo	piece	[pe.'ða.so]	zodape	[so.'ða.pe]	Vesre	Conde 2013

pedazo	piece	[pe.'ða.so]	zopeda	[so.'pe.ða]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b
abajo	under	[a.'βa.xo]	ajoba	[a.'xo.βa]	Vesre	Conde 2013; Sorbet 2014, Bohrn 2015
afuera	outside	[a.'fue.ɾa]	arafue	[a.'ɾa.fue]	Vesre	Conde 2013
debute	debut	[de.'βu.te]	detebu	[de.'te.βu]	Vesre	Sorbet 2014, 2016a, 2016b, 2019; Conde 2013; Bohrn 2021
boludo	big balls	[bo.'lu.ðo]	dobolu	[do.'βo.lu]	Vesre	Conde 2013; Sorbet 2014; Bohrn 2021
boludo	big balls	[bo.'lu.ðo]	dolobu	[do.'lo.βu]	Vesre	Sorbet 2022
petiso	short person	[pe.'ti.so]	sopeti	[so.'pe.ti]	Vesre	Conde 2013; Sorbet 2016a
abrazo	hug	[a.'bɾa.so]	zoabra	[so.'a.bɾa]	Vesre	Conde 2013
pajero	wanker	[pa.'he.ɾo]	jeropa	[he.'ɾo.pa]	Vesre	Conde 2013; Sorbet 2019; Bohrn 2021
patrona	female boss	[pa.'tɾo.na]	tronapa	[tɾo.'na.pa]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2016b, 2017, 2019; Bohrn 2021
pasa	it passes	['pa.sa]	sapa	['sa.pa]	Vesre	Conde 2013; Sorbet 2016a, 2016b
dije	I said	['di.he]	jedi	['he.di]	Vesre	Conde 2013; Sorbet 2016a, 2016b
almacén	store	[al.ma.'sen]	Celmán	[sel.'man]	Vesre	Conde 2013
abanico	fan	[a.βa.'ni.ko]	cobani	[ko.'βa.ni]	Vesre	Conde 2013; Sorbet 2014, 2016a
abanico	fan	[a.βa.'ni.ko]	cobana	[ko.'βa.na]	Vesre	Sorbet 2014
fémina	female	['fe.mi.na]	manife	[ma.'ni.fe	Vesre	Sorbet 2014, 2016a, 2016b; Bohrn 2021
hembra	female	['em.bɾa]	brame	['bɾa.me]	Vesre	Conde 2013; Sorbet 2014, 2016a, 2017, 2020
médico	doctor	['me.ði.ko]	codemi	[ko.'ðe.mi]	Vesre	Conde 2013; Sorbet 2016a; Bohrn 2021
payaso	clown	[pa.'ʒa.so]	yosapa	[ʒo.'sa.pa]	Vesre	Conde 2013
mucama	janitor	[mu.'ka.ma]	camuca	[ka.'mu.ka]	Vesre	Conde 2013
gallego	Gallician	[ga.'ʒe.ɣo]	yoyega	[ʒo.'ʒe.ɣa]	Vesre	Conde 2013; Sorbet 2019
farra	party	['fa.ra]	rafa	['ra.fa]	Vesre	Conde 2013; Sorbet 2016b, 2020; Bohrn 2021
cabaret	cabaret	[ka.'βa.ɾet]	bareca	[ba.'ɾe.ka]	Vesre	Conde 2013; Bohrn 2015, 2021; Sorbet 2017
cabrero	goatherd	[ka.'βɾe.ɾo]	robreca	[ro.'βɾe.ka]	Vesre	Bohrn 2021
vieja	old lady	['bje.xa]	jaevi	[xa.'e.βi]	Vesre	Conde 2013
vieja	old lady	['bje.xa]	javie	['xa.βje]	Vesre	Sorbet 2014; Bohrn 2015, 2018, 2021; Sorbet 2016a, 2020, 2022
vivo	alive	['bi.βo]	vovi	['bo.βi]	Vesre	Conde 2013; Sorbet 2016a, 2016b
loco	crazy	['lo.ko]	colo	['ko.lo]	Vesre	Conde 2013; Sorbet 2014, 2020; Bohrn 2021
coche	car	['ko.tʃe]	checo	['tʃe.ko]	Vesre	Conde 2013
muchacho	young guy	[mu.'tʃa.tʃo]	chochamu	[tʃo.'tʃu.ma]	Vesre	Conde 2013; Bohrn 2015, 2028, 2021; Sorbet 2022
pelota	ball	[pe.'lo.ta]	talope	[ta.'lo.pe]	Vesre	Conde 2013; Sorbet 2017
bigote	mustache	[bi.'ɣo.te]	tegobi	[te.'ɣo.βi]	Vesre	Conde 2013; Sorbet 2014, 2016b; Bohrn 2021
bigotito	little mustache	[bi.ɣo.'ti.to]	tegobito	[te.ɣo.'βi.to]	Vesre	Conde 2013

reo	convict	['re.o]	orre	['o.re]	Vesre	Conde 2013; Sorbet 2014, 2016a
bruja	witch	['bɾu.xa]	jabru	['xa.βɾu]	Vesre	Conde 2013
hotel	hotel	[o.'tel]	telo	['te.lo]	Vesre	Conde 2013; Sorbet 2014, 2016b, 2017, 2019
leche	milk	['le.tʃe]	chele	['tʃe.le]	Vesre	Sorbet 2014, 2016a, 2016b
calle	road / street	['ka.ʒe]	yeca	['ʒe.ka]	Vesre	Sorbet 2014, 2016a, 2016b, 2019; Bohrn 2021, 2015
barrio	neighborhood	['ba.rio]	rioba	['rio.βa]	Vesre	Sorbet 2014, 2016a, 2016b, 2019; Bohrn 2015, 2021
mano	hand	['ma.no]	noma	['no.ma]	Vesre	Sorbet 2014
pija	preppy	['pi.xa]	japi	['xa.pi]	Vesre	Sorbet 2014
caña	cane	['ka.ɲa]	ñaca	['ɲa.ka]	Vesre	Sorbet 2014
pelo	hair	['pe.lo]	lope	['lo.pe]	Vesre	Sorbet 2014, 2016a, 2016b, 2019
vida	life	['bi.ða]	davi	['da.βi]	Vesre	Sorbet 2014; Bohrn 2021
hecho	made	['e.tʃo]	choe	['tʃo.e]	Vesre	Sorbet 2014
hijo	son	['o.xi]	jói	['i.xo]	Vesre	Sorbet 2014; 2016b
burro	donkey	['bu.ro]	robu	['ro.βu]	Vesre	Sorbet 2014
perro	dog	['pe.ro]	rope	['ro.pe]	Vesre	Sorbet 2014, 2019; Bohrn 2021
grupo	group	['gɾu.po]	pogru	['po.ɣɾu]	Vesre	Sorbet 2014
botella	bottle	[bo.'te.ʒa]	llatebo	[ʒa.'te.βo]	Vesre	Sorbet 2014
requisa	requisition	[re.'ki.sa]	sarequi	[sa.'re.ki]	Vesre	Sorbet 2014
trabajo	work	[tɾa.'βa.ho]	batrajo	[ba.'tɾa.βa]	Vesre	Sorbet 2014; Sorbet 2016a, 2016b, 2017, 2019
trabajo	work	[tɾa.'βa.xo]	jotraba	[xo.'tɾa.βa]	Vesre	Sorbet 2014; Bohrn 2015, 2021; Sorbet 2016a, 2017
querida	beloved	[ke.'ɾi.da]	darique	[da.'ɾi.ke]	Vesre	Sorbet 2014, 2016a, 2017, 2022
querida	beloved	[ke.'ɾi.da]	daqueri	[da.'ke.ɾi]	Vesre	Sorbet 2014, 2016a, 2017; Bohrn 2021
tarugo	ignorant person	[ta.'ɾu.ɣo]	goruta	[go.'ɾu.ta]	Vesre	Sorbet 2014
milonga	reunion	[mi.'loŋ.ga]	galomi	[ga.'lo.mi]	Vesre	Sorbet 2014
músico	musician	['mu.si.ko]	cosimu	[ko.'si.mu]	Vesre	Sorbet 2014, 2016a, 2016b
caminado	walked	[ka.mi.'na.ðo]	namicado	[na.mi.'ka.ðo]	Vesre	Sorbet 2014
caballo	horse	[ka.'βa.ʒo]	yobaca/ llobaca	[ʒo.'βa.ka]	Vesre	Sorbet 2014; Bohrn 2015, 2021
baraja	deck	[ba.'ɾa.ha]	jaraba	[ha.'ɾa.βa]	Vesre	Sorbet 2014
billete	bill	[bi.'ʒe.te]	teyebi	[te.'ʒe.βi]	Vesre	Sorbet 2014, 2016b
callo	callus	['ka.ʒo]	yoca	['ʒo.ka]	Vesre	Sorbet 2014
cuadro	chart	['kwa.dɾo]	drocua	['dɾo.kwa]	Vesre	Sorbet 2014
Pedro	Name	['pe.dɾo]	drope	['dɾo.pe]	Vesre	Sorbet 2014, 2016b
Pedro	Name	['pe.dɾo]	drepo	['dɾe.po]	Vesre	Sorbet 2018
cuatro	four / room	['kwa.tɾo]	trocua	['tɾo.kwa]	Vesre	Sorbet 2014
muñeca	doll	[mu.'ɲe.ka]	cañemu	[ka.'ɲe.mu]	Vesre	Sorbet 2014, 2016a, 2020
litro	litter	['li.tɾo]	troli	['tɾo.li]	Vesre	Sorbet 2014; Bohrn 2021
pasada	passed	[pa.'sa.ða]	sadapa	[sa.'pa.ða]	Vesre	Bohrn 2015, 2021
asado	roast	[a.'sa.ðo]	doasa	[do.'a.sa]	Vesre	Bohrn 2015
boliche	bowling	[bo.'li.tʃe]	cheboli	[tʃe.'βo.li]	Vesre	Bohrn 2015; Sorbet 2017
camisa	shirt	[ka.'mi.sa]	samica	[sa.'mi.ka]	Vesre	Bohrn 2015, 2021; Sorbet 2018, 2019, 2020, 2022

guacho	orphaned	['gwa.tʃo]	chogua	['tʃo.ɣwa]	Vesre	Bohrn 2015, 2018; Sorbet 2022
madre	mom	['ma.ðɾe]	drema	['dɾe.ma]	Vesre	Bohrn 2015; Sorbet 2019, 2022
padre	dad	['pa.ðɾe]	drepa	['dɾe.pa]	Vesre	Bohrn 2015; Sorbet 2022
blancos	white	['blaŋ.kos]	coblanes	[ko.'βla.nes] +	Vesre	Bohrn 2015; Bohrn 2018
cana	gray hair	['ka.na]	naca	['na.ka]	Vesre	Sorbet 2016a, 2016b, 2019; Bohrn 2021
micro	bus	['mi.kɾo]	cromi	['kɾo.mi]	Vesre	Sorbet 2016a
trigo	wheat	['tɾi.ɣo]	grito	['gɾi.to]	Vesre	Sorbet 2016b
bato	buddy	['ba.to]	toba	['to.βa]	Vesre	Sorbet 2016b
policía	police	[po.li.'si.a]	cialipo	[sia.'li.po]	Vesre	Sorbet 2016b
policía	police	[po.li.'si.a]	ciapoli	[sia.'po.li]	Vesre	Bohrn 2021
mesa	table	['me.sa]	same	['sa.me]	Vesre	Sorbet 2016b, 2022
playa	beach	['pla.ʒa]	yapla	['ʒa.pla]	Vesre	Sorbet 2016b
tuya	yours	['tu.ʒa]	yuta	['ʒu.ta]	Vesre	Sorbet 2018
boca	mouth	['bo.ka]	coba	['ko.βa]	Vesre	Sorbet 2018; Bohrn 2021
boca	mouth	['bo.ka]	cabo	['ka.βo]	Vesre	Bohrn 2021
pecho	chest	['pe.tʃo]	chepo	['tʃe.po]	Vesre	Sorbet 2018
pecho	chest	['pe.tʃo]	chope	['tʃo.pe]	Vesre	Sorbet 2022
flaco	skinny	['fla.ko]	caflo	['ka.flo]	Vesre	Sorbet 2022
compadre	buddy	[kom.'pa.ðɾe]	condrepa	[kon.'dɾe.pa]	Vesre	Bohrn 2021
marroco	bread	[ma.'ro.ko]	corroma	[ko.'ro.ma]	Vesre	Bohrn 2021
mina	mine	['mi.na]	nami	['na.mi]	Vesre	Bohrn 2021
cara	face	['ka.ɾa]	raca	['ra.ka]	Vesre	Bohrn 2021
queso	cheese	['ke.so]	soque	['so.ke]	Vesre	Bohrn 2021
llave	key	['dʒa.βe]	vella	['be.dʒa]	Vesre	Bohrn 2021
vino	wine	['bi.no]	novi	['no.βi]	Vesre	Bohrn 2021
medio	half	['me.djo]	diome	['djo.me]	Vesre	Bohrn 2021
mozo	young man	['mo.so]	somo	['so.mo]	Vesre	Bohrn 2021
bute	magnificent	['bu.te]	tebu	['te.βu]	Vesre	Bohrn 2021
chofer	drive	[tʃo.'feɾ]	fercho	['feɾ.tʃo]	Vesre, Parlache	Conde 2013; Sorbet 2014, 2016a, 2016b, 2017, 2019, 2022
centro	center	['sen.tɾo]	trocén	[tɾo.'sen]	Vesre, Parlache	Conde 2013; Sorbet 2014, 2016b
mujer	woman	[mu.'xeɾ]	jermu/ germu	['xeɾ.mu]	Vesre, Parlache	Conde 2013; Bohrn 2015, 2021; Sorbet 2016b, 2022
borracho	drunk person	[bo.'ra.tʃo]	choborra	[tʃo.'βo.ra]	Vesre, Parlache	Bohrn 2010, 2015, 2018, 2021; Conde 2013; Sorbet 2016b, 2019, 2022
frío	cold	['fɾi.o]	ofri	['o.fɾi]	Vesre, Parlache	Conde 2013, Sorbet 2016a, Sorbet 2016b
negro	balck	['ne.ɣɾo]	grone	['gɾo.ne]	Vesre, Parlache	Sorbet 2014, 2016a, 2016b, 2018, 2019, 2022; Bohrn 2015, 2018, 2021

Appendix 6: Costa Rica data

This data shows a quantity-insensitive right-aligned trochee.

Spanish Word	English Meaning	Spanish Transcription	Game Word	Game Word Transcription	Game name / Country	Source(s)

donde	where	['don.de]	deon	['de.on]	Costa Rica	Sorbet 2016b
cuenta	bill	['kwen.ta]	tacuen	['ta.kwen]	Costa Rica	Sorbet 2016b
venga	come	['ben.ga]	gaven	['ga.βen]	Costa Rica	Sorbet 2016b
fiesta	party	['fies.ta]	tafies	['ta.fies]	Costa Rica	Sorbet 2016b
puta	bitch	['pu.ta]	tapu	['ta.pu]	Costa Rica	Sorbet 2016b
cuanto	how much	['kwan.to]	tocuan	['to.kwan]	Costa Rica	Sorbet 2016b
venganza	revenge	[beŋ.'gan.sa]	zagaven	[sa.'ɣa.βen]	Costa Rica	Sorbet 2016b
picha	dick	['pi.tʃa]	chapi	['tʃa.pi]	Costa Rica	Sorbet 2016b, Sorbet 2017
bicho	bug	['bi.tʃo]	chobi	['tʃo.βi]	Costa Rica	Sorbet 2016b
chema	t-shirt	['tʃe.ma]	mache	['ma.tʃe]	Costa Rica	Sorbet 2016b
primo	cousin	['pɾi.mo]	mopri	['mo.pɾi]	Costa Rica	Sorbet 2016b, Sorbet 2017, Sorbet 2019, Sorbet 2022
tía	aunt	['ti.a]	ati	['a.ti]	Costa Rica	Sorbet 2022