

¿Qué empezamos con?: Attitudes, input, and acceptance of preposition stranding in U.S. Spanish

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Abstract

This study investigates Heritage Spanish Speakers' (HSSs) perceptions of U.S. Spanish in relation to their acceptability judgements of preposition stranding (PS) in Spanish, while considering their linguistic attitudes and prior exposure to this non-standard feature—an underexplored perspective in HSS research. To accomplish this, we recruited 38 HSSs to complete a written contextualized acceptability judgement task that contained PS in intra-sentential English/Spanish code-switched (CS) sentences. Prior-reported exposure to PS and the stranded preposition significantly affected PS acceptability, as did participants' speech region and variety of Spanish.

Our results showed that *de*, 'from' was the preposition most likely to be accepted in PS, with *para*, 'for' being the least acceptable. We also replicated previous findings that CS directionality, i.e., the language of the clause and therefore preposition, played a significant role. Furthermore, we found that participants who reported no prior exposure to PS in Spanish rejected it in Spanish significantly more than those who reported having been exposed to it before. We highlight our methodological contributions to both CS acceptability judgement tasks and written

contextualized tasks and the role that linguistic attitudes may play in future CS and PS research on HSSs.

Keywords: Preposition stranding, U.S. Spanish, syntactic variation in Spanish-English bilinguals, attitudes, input, exposure

1. Introduction

The notion that Spanish in the United States is neither as pure nor as complex as monolingual varieties of Spanish is both widely and erroneously held (Bessett & Carvalho 2022, Otheguy & Stern 2011). Much of the demeaning and critical focus that exists towards U.S. Spanish has been conveyed by the term ‘Spanglish’. For some, ‘Spanglish’ is a pejorative term meant to invalidate the linguistic repertoire and competencies of U.S. Spanish-English bilingual speakers (Otheguy & Stern 2011), while for others, it has been reclaimed as an empowering label for identity (Zentella 2008, 2017). To avoid its negative connotations, the present study uses the term ‘U.S. Spanish’.

The pejorative sense of ‘Spanglish’ has largely focused on lexical differences that are borrowed from English, and, to a lesser extent, on syntactic structures that diverge from those in monolingual varieties of Spanish. However, empirical analysis has demonstrated that both lexical items and syntactic structures exhibit variation across monolingual and bilingual varieties alike (Bessett & Carvalho 2022, Otheguy & Stern 2011). One example of lexical variation between monolingual varieties includes the use of distinct words for the same fruit, such as ‘peach’, (*durazno* in much of Latin America but *melocotón* in Spain), or ‘banana’ (*banana* in Argentina, Paraguay, and Uruguay, versus *guineo* in Puerto Rico, Colombia, Costa Rica, Nicaragua, Honduras, El Salvador, Panama, Cuba, and the Dominican Republic, versus *plátano* in Spain, Bolivia, Chile, Mexico, Peru, Ecuador, and the Equatorial Guinea). Meanwhile, lexical borrowings are abundant throughout the world in local varieties of Spanish that exist in contact with other languages, such as varieties of Spanish in Uruguay and Mexico that are in contact with Guaraní and Náhuatl, respectively (Otheguy & Stern 2011). Similarly, Spanish in the U.S. reflects lexical variation influenced by regional factors, the population of Spanish speakers, cross-linguistic influence of English, and cultural representations behind the words in the respective languages. Various anglicisms in U.S. Spanish include *yarda* (< ‘yard’) for *patio* or *jardín*, *carpeta* (< ‘carpet’) for *alfombra* or *tapete*, or *sóbbuey* (< ‘subway’), a word which itself varies in monolingual Spanish varieties by country and context (Otheguy & Stern 2011, Parodi 2008). Lexical variation is easily recognizable, making it a common target for prejudiced views of U.S. Spanish, though syntactic structures suffer similar stigma (Otheguy & Stern 2011).

Despite negative stereotypes that U.S. Spanish is impoverished syntactically compared to monolingual Spanish, studies have demonstrated that morphosyntactic and syntactic features likewise vary across both monolingual and bilingual varieties. Such systematic variation includes copular verb usage, subject pronoun expression, progressive constructions, phraseology, and mood choice (Otheguy & Stern 2011, Bessett & Carvalho 2022). Even structures such as dative and accusative clitics, may vary depending on the dialect. For instance, in standardized Spanish and across many

varieties, the dative pronoun, *le(s)*, is marked only for number but not gender, and undergoes a phonological change to *se* when an accusative pronoun (*lo, la, los, las*) immediately follows. Nevertheless, some varieties of Peninsular Spanish permit *laísmo*, wherein speakers inflect the dative pronoun, *le*, to *la* (which is usually the accusative pronoun) when the indirect object is feminine (Otheguy & Stern 2011). An example includes the following sentence, where *la* (<*le*) is inflected to match the feminine recipient, Pepa: *Cuando vi a Pepa, la di su regalo* (<*le di su regalo*), ‘When I saw Pepa, I gave her gift to her’ (Fernández-Ordoñez 1999: 1320). Similarly, some varieties of Mexican Spanish inflect the singular accusative pronoun (*lo, la*) to agree in number with the indirect object in sentences with double object pronouns (Company Company 1992). For example, *¿Ya les prestó el libro?*, ‘Did she already lend them the book?’ can be shortened to *Ya se los prestó* (<*Ya se lo prestó*), ‘She already lent it to them,’ where the accusative pronoun carries an ‘s’ to match the plural indirect object (adapted from Company Company 1992: 351). In a comprehensive sociolinguistic study of U.S. Spanish among speakers in Los Angeles, Silva-Corvalán (1994) conducted a large-scale and in-depth investigation of this bilingual variety in a situation of language contact. Her study examined strategies that Spanish-English bilinguals develop to navigate multilingual situations, including simplification, transfer, analysis, and convergence of tense-mood-aspect changes, the semantic extension of *estar*, the omission of clitics, the (non) incorporation of foreign grammatical elements, and the way that linguistic attitudes interact with speakers’ willingness to maintain their heritage language, Spanish.

The source of such variation has been debated as being caused by language-internal as well as external factors (i.e., language contact) but has been attested throughout historical and contemporary data (cf. Bessett & Carvalho 2022, Company Company 1992, Silva-Corvalán 1994). The focus of the current study is on one such syntactic structure—the movement of prepositions (Ps) to outside of the determiner phrase (DP)—that is characterized as restricted in standardized Spanish but may show more variability among bilingual varieties of Spanish. Recent studies indicate that variable P placement, or preposition stranding (PS), may be a common and acceptable feature in U.S. Spanish (Depiante & Thompson 2013, Koronkiewicz 2022, Pascual y Cabo & Soler 2015).

Regardless of the source of variation between standardized varieties and those in multilingual settings, raising awareness of the systematicity and variability of minoritized language varieties, especially among Heritage Spanish speakers (HSSs) in the U.S., is crucial for combating pervasive language ideologies that seek to delegitimize bilingual varieties of Spanish (Leeman 2012). HSSs face the dually challenging task of both acquiring the standard variety while embracing the legitimacy of their own (Bessett & Carvalho 2022, Carreira 2000). Previous studies have utilized surveys to assess HSSs’ attitudes towards their heritage language, and results have indicated that these students suffer from negative opinions that thoroughly undermine their self-esteem (Krashen 1998). This lack of self-esteem can, in turn, prohibit them from continuing to use and learn Spanish. While language maintenance of lesser privileged varieties is among the numerous facets of Heritage Language (HL) instruction and acquisition goals as proposed by Valdés (1995) and expanded by Aparicio (1997), it is threatened by systematic delegitimization. It is especially important to recognize that linguistic prejudice is often due to social and political reasons, rather than a lack of structural or lexical integrity of the variety (Villa 2002).

The present study focuses on HSSs' perceptions of U.S. Spanish by investigating acceptance of variable P placement in Spanish, while considering their linguistic attitudes and prior exposure to non-standard monolingual features—an underexplored perspective in HSS research. In so doing, we aim to contribute to ongoing discourse surrounding U.S. Spanish, to validate any systematicity or variation found in the data, and to examine the roles that language attitudes and prior exposure play in the acceptance of a feature in U.S. Spanish by HSSs.

2. Background

Historical linguistics has demonstrated that Spanish in the U.S. shares many traits with privileged, monolingual varieties (Carreira 2000). However, studies on Heritage Spanish speakers (HSSs) suggest syntactic variation in structures such as P placement that is unique to varieties in contact with English (Cuza 2009, Depiante & Thompson 2013, Koronkiewicz 2022, Pascual y Cabo & Soler 2015, Silva-Corvalán 1994). This variation appears in both production and perception tasks, including acceptability judgments (Badiola et al. 2017, Depiante & Thompson 2013, Koronkiewicz 2022).

2.1. Preposition stranding

The current investigation focuses on preposition stranding (PS), a phenomenon widely attested in modern English varieties, such as those spoken in the United States, even though it was historically considered agrammatical (Yáñez-Bouza 2006). In English, PS occurs when a P appears at the end of a complement phrase (CP), thereby becoming 'stranded' from its DP or prepositional phrase (PP). This structure frequently places the P at the end of a sentence, and appears in several syntactic constructions, as demonstrated in Table 1. PS constructions can be categorized as follows: (i) wh-questions, (ii) embedded wh-questions, and (iii) relative clauses. The opposite of PS is known as pied-piping, in which the P maintains indivisible contact with its noun phrase (NP). In English, pied-piping is associated primarily with formal registers. According to prescriptive grammar guides, Spanish prohibits PS (e.g., Blitt 2020). Table 1 illustrates the three overarching categories of PS with translations into Spanish, as well as several examples of pied-piping.

Table 1. Examples of PS categorization and pied-piping in English and Spanish

	English	Spanish – literal translation	Spanish – prescriptive translation
<i>Wh-questions</i>	Who did you go to the party <u>with</u> ?	*¿Quién fuiste a la fiesta <u>con</u> ?	¿ <u>Con</u> quién fuiste a la fiesta?
<i>Embedded wh-questions</i>	Emily doesn't remember who she went to the hospital <u>with</u> .	*Emily no recuerda quien ella fue al hospital <u>con</u> .	Emily no recuerda <u>con</u> quien fue al hospital.
<i>Relative Clause Constructions</i>	Fran told me about the place where he bought the dress <u>from</u> .	*Fran me dijo del lugar donde compró el vestido <u>de</u> .	Fran me dijo del lugar <u>de</u> donde compró el vestido.

<i>Pied-Piping</i>	<u>With</u> whom did you go to the party?		¿Con quién fuiste a la fiesta?
	<u>To</u> what store did you go?		¿ <u>A</u> qué tienda fuiste?
	Emily doesn't remember <u>with</u> whom she went to the hospital		Emily no recuerda <u>con</u> quien fue al hospital.
	Fran told me about the place <u>from</u> where he bought the dress.		<i>Fran me dijo del lugar <u>de</u> donde compró el vestido.</i>

Several generativist theories attempt to explain why PS is permitted in some languages. One perspective posits that languages such as English do not require Ps to remain structurally bound to their DP while many Romance languages do require such indivisibility (Law 2006, Salles 1995). Law (2006) proposes that this constraint is due to prepositional contraction with determiners (Ds) which, in turn, represents the entire DP. In Romance languages, there are many contractions between Ps and Ds, as in the Spanish contraction of *de*, 'of' and *el*, 'the' to form *del*, 'of.the' in Spanish. According to this view, languages with indivisibility between the D and its DP do not permit PS.

However, in code-switched contexts, several models aim to predict when and why multilingual utterances follow one of the language's syntactic rules versus the other (see §2.4 below on code-switching). According to the Matrix Language Frame (MLF) model (Myers-Scotton 2002), when code-switching is at the word level within the same CP, differences between the two languages' syntactic rules will be resolved by the matrix language (ML), while the embedded language (EL) will comply with the ML's rules. However, most studies on PS in Spanish have focused on the clause-level and not the word-level.

Meanwhile, various theories address why PS may emerge in bilingual contexts, particularly among adult second language (L2) learners and heritage speakers. For example, the Interface Hypothesis (IH, Sorace 2000) has been tested in HL acquisition and attrition (Montrul 2011). This hypothesis suggests that morphosyntactic and syntactic variability among L2 and HL learners occurs primarily when it interacts with interpretable domains—discourse, pragmatics, and semantics—but not as a function of the language's core syntactic properties such as preposition placement (Sorace 2000, Tsimpli et al. 2004). According to the IH, any syntactic variation observed in a speaker's idiolect is known as optional residuality (Sorace 2000). However, the IH remains debated, as countering theories suggest morphosyntax itself may be subject to variation. The Counter Interface Hypothesis (CIH, Montrul & Ionin 2010) proposes that (morpho)syntactic properties can, in fact, vary among bilinguals. Studies have shown that, rather than pragmatic domains in the HL being most affected by the dominant language, (morpho)syntactic structures undergo such interaction, sometimes resulting in grammatical innovations or calque-like structures that mirror English sequences (Silva-Corvalán 1994). In bilingual U.S. Spanish among HSSs, several studies have documented and investigated this phenomenon with PS (Depiante & Thompson 2013, Koronkiewicz 2022, Pascual y Cabo & Soler 2015).

2.2. Heritage Spanish in the United States

While there is no single way to classify a heritage language learner, this study adopts the broad definition proposed by Valdés (2000: 1), which describes a heritage learner as one “who is raised in a home where a non-English language is spoken, who speaks or merely understands the heritage language, and who is to some degree bilingual in English and the heritage language.” This definition is considered narrow because it requires some degree of measurable proficiency from childhood exposure, thus excluding individuals who acquire the language for cultural reasons (Beaudrie 2012). Although this definition still encompasses a diverse range of bilingual speakers with varying proficiencies in their languages and ages of acquisition, Valdés emphasizes their shared experience of naturalistic HL acquisition from family members starting at birth. Frequently, HL learners are exposed to the HL primarily at home and within the community. This restricted context often leads them to acquire a more informal or ‘popular’ variety of the HL (Beaudrie 2012, Beaudrie et al. 2014, Otheguy & Stern 2011) while receiving some exposure to English. As HL users enter formal education where instruction is predominantly in English, their linguistic input shifts correspondingly, causing significant differences in their HL use and exposure compared to monolingual speakers (Beaudrie et al. 2014). Furthermore, HL maintenance and use are influenced by generation of HL learner. Typically, first-generation (G1) speakers share more features with the immigrant generation (their parents) than do following generations (G2, G3, etc.) (Beaudrie 2012, Silva-Corvalán 1994).

To account for variability and heterogeneity in HL experience studies increasingly examine age of acquisition (AoA) of the dominant language (English) as a key factor in HL linguistic outcomes. AoA refers to the age at which a speaker began acquiring their second language (L2), though the exact age varies across studies. Montrul (2008) broadly classifies bilingual as either simultaneous (acquiring both the HL and L2 from birth) or sequential bilinguals (acquiring the L2 later). Some studies further refine these categories, distinguishing between child sequential bilinguals (AoA: 3 years) and early sequential bilinguals (AoA: 5 years) (Meisel 2013, Montrul 2008). In the present study, participants’ AoA for both English and Spanish is collected to ensure comparability with previous research (Koronkiewicz 2022, Pascual y Cabo & Soler 2015).

2.3. Preposition stranding among heritage speakers of Spanish

PS in Spanish has been previously studied among L2 populations (Bove & Limerick 2020), HL populations (Depiante & Thompson 2013, Pascual y Cabo & Soler 2015, Phillips 2018, Koronkiewicz 2022), and in contexts of language contact with languages other than English (Guijarro-Fuentes & Marinis 2009, Ibarretxe-Antuñano 2012). Below, we summarize the research on PS in U.S. Spanish.

In one of the first studies on PS among HSSs, Depiante and Thompson (2013) used a survey to measure the acceptability of sentences featuring non-prescriptive prepositional movement in Spanish. Their survey employed a Likert-type scale to capture the participants’ reactions to stimuli. The scale began with *1-Acceptable*, went through *4-Completely Unacceptable*, and included a fifth option, *5-I’m not sure*. The investigators categorized their stimuli in the three groups that exist in English (Table

1). They found that participants, being from an English-dominant environment, demonstrated PS variation following English patterns—they accepted PS more than monolingual speakers of Spanish. This study supports the CIH, showing that core syntactic structures among HSSs may vary according to the dominant language's rules.

Pascual y Cabo and Soler (2015) conducted a follow-up study to Depiante & Thompson (2013), using two comprehension tasks and one production task. They set an English AoA threshold of five years to distinguish simultaneous bilinguals from sequential bilinguals and included a monolingual Spanish-speaking group as a baseline. Their results indicated that while all participants preferred pied-piping in Spanish (see Table 1), simultaneous bilinguals generally accepted and produced PS, whereas sequential bilinguals rejected PS in Spanish and aligned with monolingual Spanish speakers. Notably, simultaneous bilinguals accepted PS in comprehension tasks, even when rejecting it in production. The authors suggest that PS use and acceptability among HSSs may be reinforced by its widespread use in English-dominant environments, with input to the feature from other HSSs potentially proliferating its use. However, they argue that input alone cannot account for PS in Spanish.

Using a mixed-methods approach with both online psycholinguistic and offline measures, Phillips (2018) studied simultaneous and sequential HSSs' perception and processing of PS in both English (grammatical) and Spanish (ungrammatical) sentences. In an eye-tracking experiment with a self-paced listening paradigm, participants heard sentences containing PS. Results showed that sequential bilinguals' processing of PS in Spanish was facilitated by repeated exposure to PS in English, whereas simultaneous bilinguals exhibited no priming effect. This lack of priming effect suggests that simultaneous bilinguals already process PS as an existing structure in Spanish. In a subsequent Acceptability Judgement Task (AJT), results aligned with previous studies (e.g., Pascual y Cabo & Soler 2015) confirming that simultaneous bilinguals demonstrated higher acceptability of PS in Spanish than sequential bilinguals. These combined findings were tentatively attributed to bilingual syntactic and lexical integration, whereby HSSs may develop shared syntactic representations and processing procedures for structures with similar word surface orders, potentially extending lexical item processing between languages, as seen with PS. Phillips argued that cross-linguistic influence alone does not cause divergence or instability in HL grammar but rather that HSSs access syntactic representations and processing strategies from their dominant language when using their HL. Importantly, analyses of participants' language background data suggests that proficiency in each language played a more significant role than mere exposure to the HL or dominant language (English). The current study builds on this finding by incorporating both self-rated proficiency and targeted questions about exposure to PS and/or metalinguistic awareness of PS in Spanish.

Building on prior work (Badiola et al. 2017, Pascual y Cabo & Soler 2015, Depiante & Thompson 2013), Koronkiewicz (2022) investigated PS in code-switched (CS) contexts among simultaneous and sequential bilinguals using an AJT with a 7-point Likert scale. To increase comparability with previous studies, Koronkiewicz controlled AoA of English and Spanish to classify simultaneous bilinguals ($AoA < 5$) and sequential bilinguals ($AoA \geq 5$). Additionally, participants were all speakers of Mexican dialects to mitigate potential confounding factors due to dialectal variation. Consistent with Badiola et al. (2017) on using code-switching (CS) in experimental

paradigms, the AJT included intra-sentential CS conditions to activate participants' bilingual perception, and participants with negative attitudes towards CS were excluded from the analysis. Participants evaluated sentences across four conditions: CS from English to Spanish, CS from Spanish to English, Spanish-only, and English-only. Results showed that simultaneous bilinguals accept PS across both CS directions. Koronkiewicz frames these findings in a generativist perspective, positing that simultaneous HSSs permit the P to be extracted from its DP, suggesting a more unified syntactic representation for PS across their two languages. In contrast, the sequential bilinguals patterned with monolingual Spanish speakers, accepting PS in English but rejecting it in Spanish, indicating separate representations of DPs for each language based on AoA. Koronkiewicz (2022) advances previous PS research among Spanish as an HL by controlling for AoA, incorporating CS stimuli, and addressing negative perceptions towards CS as a confounding factor.

From the existing literature on the acceptance and processing of PS in Spanish among HSSs in the US, it is evident that this structure exhibits greater variability than in monolingual varieties of Spanish. However, previous studies on PS among HSSs have not directly examined the role of language attitudes and prior exposure to PS in shaping its acceptability. The present study seeks to address this gap by investigating how language attitudes and exposure to a non-standard, and potentially emerging, feature in U.S. Spanish affect acceptability of that feature.

2.4. Methodological considerations for code-switching and language attitudes research

For the purposes of this study, code-switching (CS) refers to the use of multiple languages within a single interaction. CS may occur within the same discourse at sentence boundaries (i.e., intersentential CS), within the same sentence (i.e., intra-sentential CS) or at the constituent level (Poplack 1980). For instance, an English-Spanish bilingual speaker might say: “*I know that guy porque fue a mi Universidad*, ‘I know that guy because we went to the same university’” (Badiola et al., 2017: 3). As a well-documented feature of bilingual speech, CS has increasingly been used as a tool in experimental linguistics to investigate syntactic structures that might otherwise remain obscured in monolingual data (e.g., Badiola et al. 2017, González-Vilbazo et al. 2013, among others). Psycholinguistic research provides additional evidence for coactivation—the simultaneous activation of lexical and structural elements from both languages (see discussion in Hayakawa & Marian 2019).

From a minimalist perspective, experimental research on CS has been used to explore bilinguals' I-Language—the mental representation of language reflected in native speakers' competence (Chomsky 1986). Bilingual speakers' intuitions about the acceptability of CS structures have provided evidence both supporting and refuting the notion that CS follows rule-governed syntactic constraints. While some studies suggest that CS is a byproduct of bilingual lexical access (González-Vilbazo et al. 2013), others argue that it adheres to systematic structural principles. The prevailing view, however, supports the idea that CS follows predictable patterns, leading to multiple attempts to formally codify and use these patterns in research (Badiola et al. 2017, Koronkiewicz 2014, 2022, Parafita Couto et al. 2015). Poplack (1980) posited that CS is permissible as long as it does not violate the syntactic rules of either language. In cases where these rules clash, such instances are termed ‘conflict sites.’

Parafita Couto et al. (2015) examined an instance of a ‘conflict site’ among Welsh-English bilinguals, specifically in adjective-noun word order in both CS production and judgement tasks, to test two competing theoretical models that aim to predict the grammatical principles behind CS. As previously mentioned, the MLF model predicts that the matrix language governs the syntactic structure of the embedded language in a bilingual utterance. In contrast, Cantone & MacSwan (2009) use a minimalist approach to argue that that noun-adjective surface word order is caused by overt noun movement to precede the adjective. The findings from Parafita Couto et al. (2015) found that both models, and especially the MLF, successfully predicted bilinguals’ CS production and acceptability judgements regarding adjective-noun order, reinforcing the structured nature of CS.

Despite its widespread use, CS remains a stigmatized practice among many bilingual and monolingual speakers, with Spanish in the U.S. on the receiving end of pejorative terms such as ‘Spanglish’ or ‘Tex-Mex’ (Montes-Alcalá 2000, Otheguy & Stern 2011). A vast body of sociolinguistic research has examined how language attitudes—mental constructs learned through socialization—mediate social behavior and thought. Since Labov’s (1966) seminal study on prestige speech forms, prestige has been understood as the association of linguistic features with higher social status, while stigma reflects the converse (Milroy 2006). Relatedly, language ideologies shape beliefs about ‘correct’ language use and what it means to speak ‘correctly’ (Garrett 2006, Leeman 2012, Zentella 2017).

Given CS’s stigma, language attitudes have been hypothesized to influence the way that bilinguals perceive and produce structures with code-switched structures or words, prompting researchers to incorporate attitudes as a variable in experimental studies (Badiola et al. 2017, Montes-Alcalá 2000, Otheguy & Stern 2011, Parodi 2008, Parafita Couto et al. 2015). However, the relationship between language attitudes, linguistic behavior and perception remains debated. While some studies suggest that attitudes do condition behavior (Parafita Couto et al. 2015, Redinger 2010), others show no direct correlation (Labov 1972, Montes-Alcalá 2000), and recent work in language attitudes and CS has shown that they do not condition acceptability of features in bilingual or code-switched language (Badiola et al. 2017, Parafita Couto et al. 2015). Parafita Couto et al. (2015) investigated how language attitudes shaped Welsh-English bilinguals’ production and acceptability judgements of CS and adjective-noun word order. Their findings suggest that attitudes influence production behavior—participants with positive attitudes towards CS used it more often—yet did not significantly correlate with AJT results. This suggests that attitudes may be more predictive with production data than with grammaticality judgements, and that AJTs may not be useful for CS research as they measure language users’ conscious and explicit awareness of language rules. While this evidence indicates that attitudes are not deterministic in CS perception with acceptability judgements, they remain an important factor in sociolinguistic research and, in combination with language ideologies, are scrutinized in the field of Spanish as a Heritage Language (SHL) education as an important factor in SHL educational goals that can undermine maintenance of these heritage languages (Leeman 2012, Valdés et al. 2003). By including language attitudes and ideologies in the present study, we aim to clarify their role in the perception of a non-standard structure in U.S. Spanish.

Balam, Parafita Couto & Stadthagen-Gonzalez (2020) further examined how dialect-specific CS patterns influence bilinguals’ oral production and acceptability

judgements. Comparing acceptability judgements among Spanish-English bilinguals from Northern Belize, New Mexico, and Puerto Rico, they found significant variation in the acceptability of bilingual compound verbs (BCVs). Northern Belizean bilinguals exhibited the highest acceptance, Puerto Ricans the lowest, and New Mexicans fell in between. Notably, despite geographical distance, New Mexican and Northern Belizean bilinguals shared similar intuitions regarding non-canonical BCVs. The study underscores the role of community-specific bilingual practices in shaping acceptability, emphasizing the importance of input and prior exposure as a conditioning variable for language processing (Beatty-Martínez et al. 2018).

Methodological concerns regarding CS in experimental research remain, as a standardized framework has yet to be rigorously established or validated (Badiola et al. 2017, Beatty-Martínez et al. 2018, González-Vilbazo et al. 2013). Key recommendations include presenting naturalistic CS stimuli, accounting for bilingual speakers' heterogeneity, and controlling for linguistic attitudes (González-Vilbazo et al. 2013). Notably, Badiola et al. (2017) found that negative attitudes towards CS significantly influenced acceptability judgements, once such participants were excluded, clearer syntactic acceptability patterns emerged. This highlights the importance of considering linguistic attitudes in CS research. Likewise, Koronkiewicz (2022) utilized several of these recommendations, such as prefacing the AJT with a practice session to familiarize participants with the task.

The present study thus incorporates considerations such as dialectal background, context-driven CS stimuli, and linguistic attitudes towards CS in the experimental design.

3. The present study

In the current study, we hoped to uncover the interaction between HSSs' linguistic attitudes towards U.S. Spanish and Spanish-English CS, their self-reported exposure to PS in U.S. Spanish, their AoA, and PS acceptability judgements. We had three research questions:

1. How do linguistic attitudes (negative, positive, and neutral) towards U.S. Spanish and CS affect the acceptability of PS in U.S. Spanish by HSSs?
2. Does self-reported exposure to PS in U.S. Spanish play a role in PS acceptability?
3. Do specific varieties of U.S. Spanish or Spanish-speaking communities in the U.S. favor the acceptability of PS?

To answer these questions, we combined quantitative data from a modified written contextualized acceptability judgement task (WCAJT) with qualitative data from linguistic background and linguistic attitudes questionnaires.

3.1. Hypotheses

As with previous studies' results, we expected to find that linguistic attitudes towards CS, and prior exposure to the feature would affect participants' acceptability judgements of PS (Badiola et al. 2017, Koronkiewicz 2022, Pascual y Cabo & Soler

2015). Specifically, we hypothesized that attitudes towards CS would affect PS acceptability, in that negative attitudes would favor rejection of PS, and that positive attitudes would favor PS acceptability. Previous work on PS acceptability in HSSs removed participants with negative attitudes towards CS from analysis (Koronkiewicz 2022) as they have been shown to obscure syntactic pattern acceptability judgements among bilinguals (Badiola et al. 2017). However, we seek to use attitudes as a key variable that may meaningfully interact with other linguistic and extralinguistic variables that condition PS acceptability. Unlike previous studies, we also include the variable of attitudes towards U.S. Spanish, or Spanish spoken in the U.S. (commonly referred to as ‘Spanglish’). We expect that attitudes towards CS and U.S. Spanish would pattern similarly in their effect on PS acceptability given that PS may be a noticeable syntactic pattern of a minoritized variety and thus may be actively avoided by some participants with more negative attitudes towards either or both CS and U.S. Spanish.

In addition to previous research finding similar effects on other (morpho)syntactic and lexical features found in U.S. Spanish, which may include calque-like grammatical constructions or lexical sequences (Silva-Corvalán 1994), it follows that HSSs with negative attitudes towards mixing English and Spanish would likewise reject a syntactic borrowing from English (Badiola et al. 2017). Finally, while prior exposure to a non-standard grammatical feature has not been operationalized in many previous studies on PS in Spanish, previous research suggests that it plays an important role in experimental studies that use CS (Beatty-Martínez 2018). We hypothesized that exposure would be an important, although not deterministic, predictor of acceptability of PS in Spanish, since input to a variable structure, such as from other HSSs or bilingual speakers, is a likely source for its extended use (Balam et al. 2020, Beatty-Martínez 2018, Pascual y Cabo & Soler 2015). Finally, previous research has shown that community-specific CS patterns can play a significant role in bilinguals’ acceptability of variable structures, such as bilingual compound verbs (Balam et al. 2020). While Koronkiewicz (2022) analyzed only participants with Mexican varieties of Spanish to control for possible confounding varietal factors, research question 3 preliminarily analyzes the role of Spanish variety in PS acceptability in U.S. Spanish. As an exploratory question, we do not make specific predictions as to how speech community or Spanish variety affects PS acceptability, but we do anticipate participants with Mexican varieties to pattern similarly to those in Koronkiewicz (2022).

3.2. Methodology

3.2.1. *Participants*

The participants in the study were 41 students enrolled in SHL courses at a large university in the United States Midwest. At this university, there are three SHL courses, and participants were recruited from the first two in the sequence: Intermediate Spanish for Heritage Speakers and Advanced Grammar for Heritage Speakers of Spanish, which are equivalent to fourth- and fifth-semester Spanish for L2 speakers respectively. These courses’ objectives are for HSSs to value their bilingualism, gain proficiency in academic Spanish, and increase their critical language awareness (CLA). Participants were entered in a raffle to win one of three \$50 gift cards as well as offered course credit as determined by the SHL instructor.

The second author was one of the instructors of one of the Advanced classes; the first author recruited his participants, graded extra credit, and anonymized all data before analysis.

In addition to their enrollment in SHL courses, we also asked participants for their AoA of Spanish—at what age they started learning it. Consistent with Valdés's (1995) definition of a heritage learner, we set the Spanish AoA cut off as 5 years old; participants must have learned Spanish from family members during this period of early childhood. This resulted in three participants' data being discarded since they responded that they acquired Spanish after 5, making our final participant total 38, aged between 18 and 38 ($M = 19.39$). Following Koronkiewicz (2022) and Pascual y Cabo & Soler (2015), we divided participants by bilingual type, with simultaneous bilinguals ($n = 24$) being those who began learning English between ages 0 and 4 (AoA of English < 5) and sequential bilinguals being those who began learning English at or after the age of 5 ($n = 14$, AoA of English ≥ 5). Most of the participants reported speaking a variety of Mexican Spanish or a combination of Mexican Spanish and another variety ($n = 28$). The second, third, and fourth most common varieties represented in the data were Dominican ($n = 4$), Venezuelan ($n = 4$), and Salvadoran ($n = 2$), with Guatemalan, Uruguayan, and Honduran each having one participant reporting speaking these varieties. Their speech region was defined as a combination of their hometown and other regions they reported living in for more than a year. All participants' linguistic and extralinguistic bio-demographic information is summarized in Table 2, and additional linguistic background factors are broken down by bilingual type in Table 3.

Table 2. All participants' biodata

Variables			<i>n</i>	Variables			<i>n</i>
Gender	Woman	20	Speech Region	Midwest	21		
	Man	15		East Coast	4		
	Prefer not to disclose	2		Midwest + Out of country	6		
	Non-binary/third gender	1		Out of country	3		
				Midwest + East Coast	1		
				Midwest + South	1		
				South + Out of country	1		
				West	1		
L3	No	34	Major and minor	No Spanish major or minor	27		
	Yes	4		Spanish major or minor	11		

Table 3. Participants' linguistic background by bilingual type

Variable	Simultaneous Bilinguals		Sequential Bilinguals	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age of acquisition:				
English	1.7	2.1	5.2	2.2
Spanish	0.8	1.1	0.4	0.9
Average self-reported Spanish proficiency (out of 5) ¹ :	3.9	1.0	4.3	1.0
Years studying Spanish:	8.75	4.7	6.2	4.6

3.2.2. Materials and Procedure

Using Qualtrics (Qualtrics, LLC, Provo, UT, USA), participants gave informed consent, then completed the following four tasks: (i) a training task on how to judge the acceptability of code-switched sentences (Koronkiewicz 2022, González-Vilbazo et al. 2013), (ii) a written contextualized acceptability judgement task (WCAJT) with a self-paced break at the midway point, (iii) a 5-question input/exposure questionnaire about whether they had heard and/or been corrected for using PS or bilingual light verbs in Spanish in code-switched U.S. Spanish before, and (iv) a linguistic and personal background information questionnaire. We will first describe the WCAJT and highlight the differences between it, written contextualized tasks (WCTs), and AJTs.

The WCAJT is a combination of an acceptability judgement task of the likes used in bilingual CS research (Badiola et al. 2017, Balam et al. 2020, Koronkiewicz 2022, Parafita Couto et al. 2015, Pascual y Cabo & Soler 2015) and WCTs used in L2 variationist literature (e.g., Gudmestad & Clay 2019, Gudmestad & Geeslin 2013, Geeslin et al. 2010, 2012, inter alia). In traditional AJTs, isolated sentences are presented to participants in a randomized order, interlaced with distractors and fillers, and participants rate the acceptability of such sentences usually with a 5- or 7-point Likert scale. Untimed AJTs and Grammaticality Judgement Tasks (GJTs), though they differ in the use of Likert scales and binary choices respectively, have been shown to access explicit knowledge (Ellis 2005). Research has shown that HSSs demonstrate less explicit knowledge than implicit knowledge (Bowles 2011). On the other hand, WCTs present participants with a continuous story that is divided by short segments; after each segment, manipulated stimuli are presented as dialogue that is relevant to the story, where participants usually choose between two options that have a variable feature as the dependent variable (Gudmestad 2014). The choices are essentially a morphosyntactic minimal pair. Given that the stimuli sentences are embedded within a story, WCTs assume that participants' focus is redirected from metalinguistic and explicit knowledge to the story itself and the naturalness of the two options

¹ For proficiency, given the length of the survey with four sections lasting between 30 and 60 minutes, administered during class, participants simply self-reported their comprehension, speaking, writing, and reading proficiency in Spanish on scales of 1-5: 1-beginning; 2-intermediate; 3-advanced; 4-near-native; 5-native. Given that self-reporting often coincides with proficiency as measured by a separate test, as was the case for Koronkiewicz (2022), self-reporting proficiency was preferred in order to reduce participant attrition.

(Gudmestad & Clay 2019). This is advantageous for studying HSS judgements since they have more implicit knowledge than their L2 counterparts, which may be more readily accessed in a contextualized task (Zyzik 2016, Bowles 2011). Nevertheless, given that WCTs are also untimed and present two minimally different sentences—perhaps making the research objective obvious—participants can contemplate both what sounds more natural to them in that context, as well as what they believe is prescriptively correct, therefore relying on explicit knowledge. Furthermore, considering stigma towards CS and language ideologies determining ‘correct’ Spanish, accessing HSSs’ more implicit bilingual knowledge may provide further insight into their underlying bilingual systems. Although AJTs and WCTs are both offline measures and thus have shortcomings in their ability to directly access implicit linguistic knowledge, we believe that they both offer benefits that, when combined, may be able to shed more light on HSSs’ acceptability of PS in U.S. Spanish that is perhaps less explicit. To this effect, we made several modifications to create the WCAJT.

The WCAJT used in this study is a modified version of Gudmestad and Clay’s (2019) WCT, which was designed to elicit acceptability judgements from L2 speakers on the variable use of double conjunctions in Spanish such as in *No tenemos dinero **ni** para unos castillos hinchables súper grandes **ni** para el maravilloso Mago Fabio Azul*, ‘We **neither** have money for the super big inflatable castles **nor** for the marvelous Magician Fabio Azul’ (Gudmestad & Clay 2019, emphasis our own). Unlike a WCT, the WCAJT does not ask participants to choose between sentences in a (morpho)syntactic minimal pair. Instead, participants rate the acceptability of a single sentence that follows a story-based context. We used a 7-point Likert scale, defined as: *1-completely unacceptable; 2-mostly unacceptable; 3-somewhat unacceptable; 4-unsure; 5-somewhat acceptable; 6-mostly acceptable; 7-completely acceptable*. If participants answered anything below 4, they were prompted with an optional question that asked, “What would you say instead? What doesn’t feel right about that sentence?” An example of one of the experimental items can be seen in Figure 1.

Figure 1. Example of WCAJT item.



The show continues and the magician is making colorful handkerchiefs appear from a big black hat, all the kids shout excitedly. The show is way better than they imagined. Carlos reacts excitedly:

¡Qué padre! ¡Quiero saber dónde está sacando esos pañuelos de que se ven tan chulos!

Completely unacceptable	Mostly unacceptable	Somewhat unacceptable	Unsure	Somewhat acceptable	Mostly acceptable	Completely acceptable
☐	☐	☐	☐	☐	☐	☐

The original WCT had 36 experimental items, and the continuous story involved two twins planning their 12th birthday party in Spain. We modified the story

from Gudmestad and Clay's (2019) original task to include intermittent pictures to accompany the story as well as to accommodate our adjusted experimental stimuli, which contained PS in U.S. Spanish and/or English ($n = 32$). Our distractor stimuli used bilingual light verbs, *hacer*, 'to do/make' and *agarrar* 'to grab/to get' as distractors ($n = 32$) (Balam et al. 2020, 2024), though we do not analyze them in the present study. In addition to extending the story to have 64 stimuli rather than 36, we also changed the family's heritage to be of Mexico and the location of the story to be in the U.S. This included changing some lexical items that are more associated with Peninsular Spanish versus Mexican Spanish. Additionally, in the original WCT, all contexts and stimuli were written in Spanish, whereas we used CS throughout story contexts and the stimuli to activate participants' bilingual processing (González-Vilbazo et al. 2013, Hayakawa & Marian 2019, Koronkiewicz 2022).

The experimental and distractor stimuli were counterbalanced and equally divided among the following conditions summarized in Table 4.

Table 4. Stimuli conditions

Experimental Conditions		Distractor Conditions	
CS Type	English Spanish English-to-Spanish Spanish-to-English	CS Type	English Spanish English-to-Spanish Spanish-to-English
Preposition	Con/with De/from Para/for En/in	Light verb	Agarrar/to get Hacer/to make or do
PS Type	Relative Clause Embedded Wh Question	Finiteness	Infinitival Non-finite

For English-to-Spanish and Spanish-to-English CS types, we code-switched at the complementizer or relativizer, i.e., at the CP level. In (1), an example of a Spanish→English CS relative clause (RC) is shown, with the complementizer in bold. In (2), an example of an embedded wh-question (EWHQ) is presented with its complementizer as the switch point.

- (1) Item 2: CS = Spanish→English; PS type = RC:
 Carlos, estás de acuerdo que este es el orden **that** we should be doing things in?
 'Carlos, do you agree that this is the order **that** we should be doing things in?'
- (2) Item 38: CS = English→Spanish; PS type = EWHQ:
 We should be thoughtful about **quién** hacemos las invitaciones para y considerer sus preferencias.
 'We should be thoughtful about **who** we make the invitations for and consider their preferences.'

Because we were most interested in the acceptability of the items which were either entirely in Spanish or which code-switched to Spanish (i.e., the English-to-

Spanish condition), the items in these two CS conditions ($n = 16$) never ended with the P as the final word, as shown in (2). This decision was made due to findings from reading-based psycholinguistic studies that show that final words, especially short, functional words like Ps, are prone to skipping as readers advance to the next line (Carrol & Conklin 2020).

We also balanced the stimuli by preposition in order to see if one was more acceptable than the others. This was done in response to Koronkiewicz' (2022) call for more prepositions to be tested in PS research on HSSs, especially those like *de*, 'of/from' which can be contracted with a D, such as in *del*, 'of/from the' (Law 2006). For all instances of *para*, 'for' in Spanish and English-to-Spanish ($n = 4$), only the benefactive case was used as in (3). Further, while *en* can be translated as either 'in,' 'on,' or 'about,' only uses of it that can be translated as 'in' were employed in the Spanish stimuli, as in (4). Similarly, while *de* can translate to 'of,' 'from,' or 'about,' only those uses which would be translated as 'from' were employed in the Spanish stimuli, as in (5).

- (3) Item 36: CS = Spanish; PS type = EWHQ; Preposition = para/for
Me pregunto quiénes serán estas invitaciones para cuando te veo trabajando tanto en hacerlas...
'I wonder who these invitations could be for when I see you working so hard on making them...'
- (4) Item 8: CS = English→Spanish; PS type = RC; Preposition = en/in
I think that the house is the best place que podemos tener la fiesta en porque hay sombra.
'I think that the house is the best place that we could have the party in because there's shade.'
- (5) Item 43: CS = Spanish; PS type = EWHQ; Preposition = de/from
¡Qué padre! ¡Quiero saber dónde está sacando esos pañuelos de que se ven tan chulos!
'That's awesome! I want to know where he's getting those handkerchiefs from that look so cool!'

All items and contexts in the WCAJT were checked for appropriate cultural references and naturalness multiple times by a language consultant who is a native speaker of U.S. Spanish, having grown up in the U.S. speaking Mexican Spanish. She is also an attested, native user of PS in U.S. Spanish.

After completing the WCAJT, participants were asked what they thought the survey was about, whether they had ever heard or read sentences in Spanish, U.S. Spanish, or Spanglish that had PS, whether they could remember ever being corrected for using PS in Spanish, and whether they had previously heard *agarrar* and *hacer* used as light verbs. Each question in this block was accompanied by two examples with the relevant linguistic feature highlighted, as in figure 2.

Figure 2. Input question with linguistic feature highlighted.

The following questions will ask you about your experience with U.S. Spanish or Spanish spoken in the U.S., sometimes called Spanglish.

Have you ever read or heard sentences like these in Spanish, U.S. Spanish, or Spanglish?

1. No importa el grupo que los invitados sean de porque si vienen más personas habrá más regalos.

2. Me pregunto quiénes serán estas invitaciones para cuando te veo trabajando tanto en hacerlas.

☐ Yes

☐ No

Finally, participants responded to a background questionnaire that asked about their gender; age; major and minor; native language; dialect of Spanish, parents' dialect(s) of Spanish; and whether they grew up speaking and/or hearing Spanish. Here, participants also gave their opinions on U.S. Spanish or Spanish spoken in the U.S, commonly referred to as 'Spanglish,' and what they perceived the relationship between U.S. Spanish and code-switching to be. They then indicated whether 'Spanglish' was a term they thought was positive, neutral, or negative, and/or a word that they associate with their identity. Next, they rated how much they like when they code-switch versus when others code-switch using a 5-point Likert scale defined as follows: *1-I hate it; 2-I dislike it; 3-I have no opinion; 4-I like it; 5-I love it*. We specifically included questions about participants' perceptions of 'Spanglish' as a pejorative term following discussions made by Otheguy & Stern (2011) and Zentella (2017). For the question, *In your opinion, how does code-switching relate to U.S. Spanish and vice versa?*, participants were offered several options and the chance to expand on any opinion not listed. These options included *Code-switching can happen in any language, not just U.S. Spanish; Code-switching doesn't always happen in U.S. Spanish, but it can; They do NOT mean the same thing; They mean the same thing*, and *other (explain)*. Next, participants reported other demographic data, such as speech region which was defined as place of birth and where participants grew up; whether they speak a third language; AoA of English and Spanish; how many years they have studied Spanish in school, self-rated Spanish proficiency; whether they are currently taking a Spanish course; and whether they had spent time abroad.

3.2.3. Qualitative Data Analysis

Two language attitudes questions were open-ended and thus needed to be coded by hand: *What is "good" Spanish to you?* and *What is your main goal in learning Spanish?* We approached this by conducting a thematic analysis of all the responses. Each author coded the emergent themes in the open-ended answers, then we compared the coding reliability, and we reached an agreement in the few cases of coding discrepancies. We also manually coded the corrections given in the optional "What

would you say instead” question if the participant rated any sentence below 4 on the Likert scale by types of corrections, be they linguistically- or context-focused. Among linguistically-focused responses, we coded them for whether they recasted the sentence to remove the PS, made explicit reference to the position of the preposition, and/or changed the CS in their recast. Modifications of English sentences were not considered in the present study.

3.2.4. Quantitative Data Analysis

For the WCAJT ratings, we converted them into Z-scores to facilitate comparisons between our study and Koronkiewicz (2022) for the two-way ANOVA on the effect of CS type and bilingual type on PS acceptability. We used raw acceptability scores for the rest of the inferential statistics (see below) unless otherwise noted, including a Generalized Estimating Equations (GEE) model using IBM SPSS Statistics (Version 29.0) to identify what independent variables had an effect on overall PS acceptability.

4. Results

We received 64 judgements per participant ($n = 38$), half of which were distractor stimuli. In the following sections, we will only present the results on the 1,216 experimental data points. The results section is organized as follows: First we will report the descriptive and inferential statistics for the linguistic factors tested in the WCAJT, then we will report the descriptive statistics of the attitudes data followed by their effect on PS acceptability.

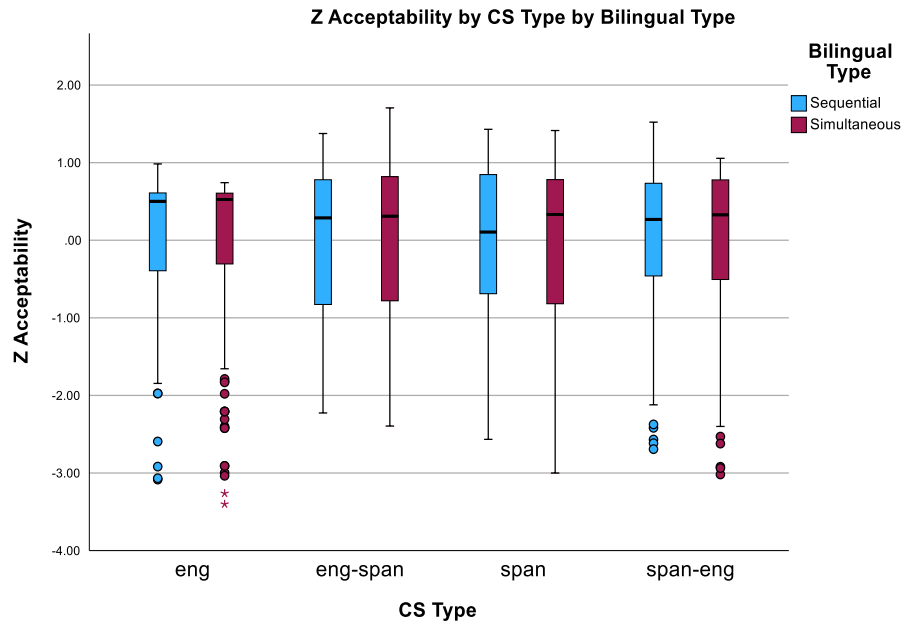
4.1. Linguistic factors affecting acceptability of PS in U.S. Spanish

The overall acceptability of PS in U.S. Spanish and English/Spanish CS across simultaneous and sequential bilinguals was high, as shown in Table 5, with averages across all groups and CS conditions being above *4-unsure* in the Likert scale. Nevertheless, PS acceptability was highest in English and Spanish-to-English CS. The two bilingual groups pattern largely the same across CS types. Indeed, a two-way ANOVA showed that neither bilingual type alone nor bilingual type and CS type together significantly affected PS acceptability ($p > 0.05$). However, there were significant differences across the CS types ($F_3 = 44.342, p < 0.001$). Namely, a post-hoc Tukey analysis revealed that both English and Spanish-to-English PS were individually rated significantly differently than the other three CS types when compared separately ($p < 0.001$). Further, while Spanish and English-to-Spanish CS types were not significantly different from each other ($p > 0.05$), they differed significantly from both English and Spanish-to-English CS types ($p < 0.01$).

Table 5. Means and Standard Deviations of Raw PS Acceptability (out of 7) by Bilingual and CS Type

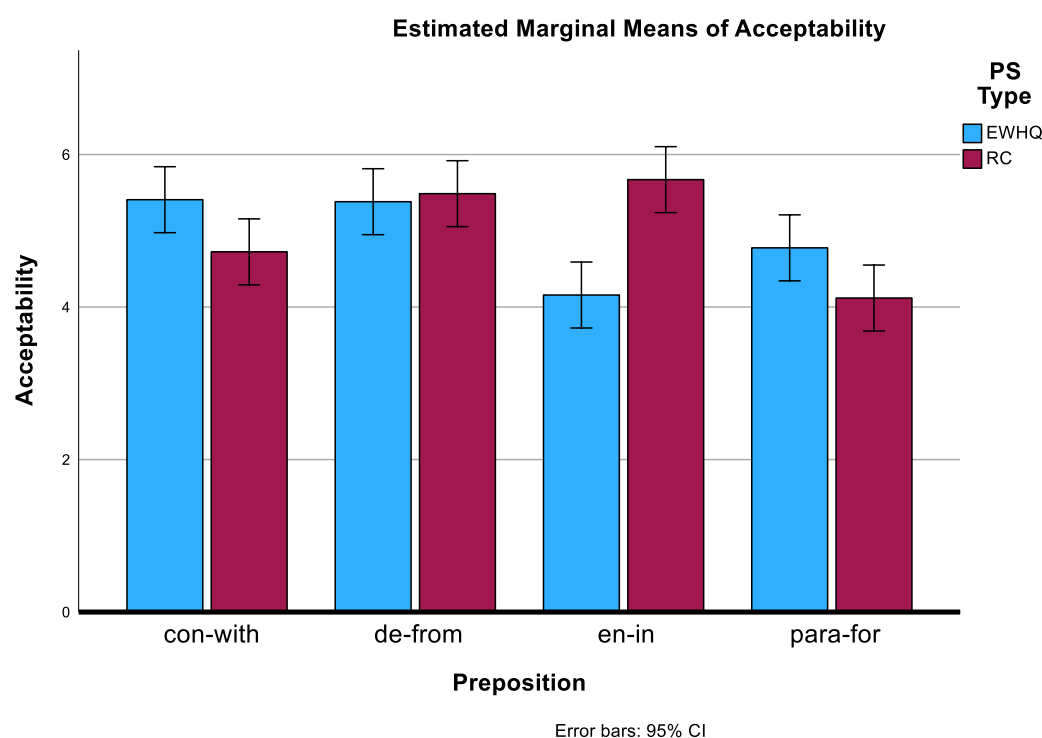
Variable	Simultaneous Bilinguals		Sequential Bilinguals	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
CS Type				
English	6.3	1.3	6.5	0.8
Spanish → English	5.8	1.6	5.6	1.6
Spanish	4.9	2.2	5.1	1.9
English → Spanish	5.0	1.9	5.0	1.9

In Figure 3, the participants' z-scored acceptability ratings are compared across the CS types.

Figure 3. Z-scored acceptability ratings by bilingual type and CS type.

Note: A manual analysis of participants' optional explanations of the unacceptability of the outliers shown here revealed that for the Spanish-to-English switches, items 44 and 45 did not seem like natural or useful code-switches ($n = 5$), while the English-only outliers primarily focused on other grammatical features such as word choice or tense of the auxiliary used in the sentence ($n = 2$) or removal of PS ($n = 2$).

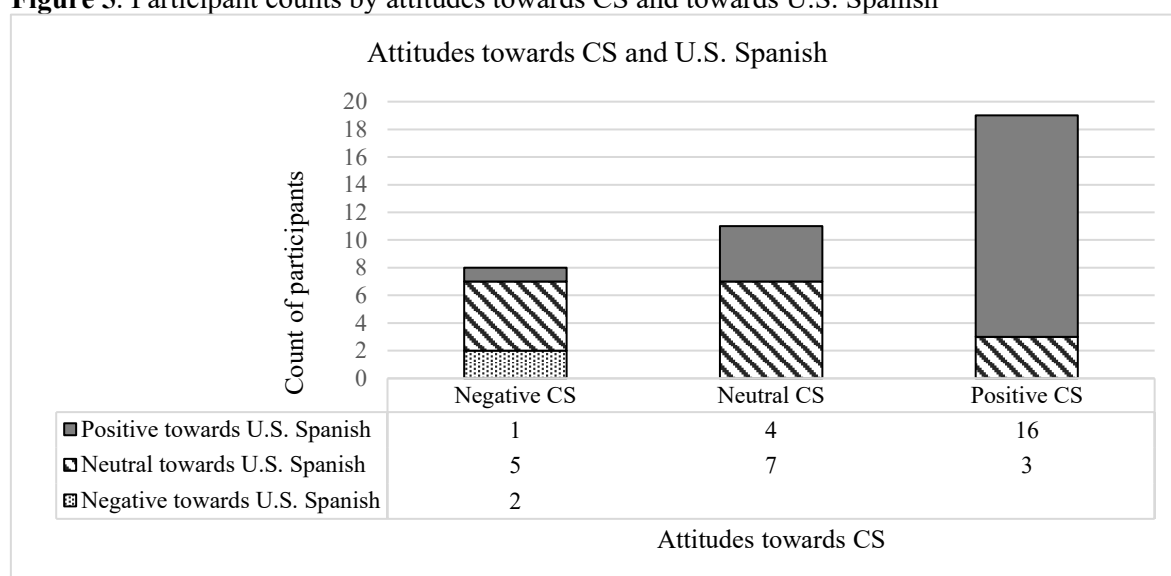
Given the overall high acceptability of PS in English and Spanish-to-English CS conditions across both groups, we now turn to just the Spanish and English-to-Spanish conditions since acceptability of PS in these conditions is our primary concern. In Figure 4 we present the estimated marginal means of raw acceptability for Spanish and English-to-Spanish CS conditions across preposition and PS type—embedded *wh*-questions (EWHQs) and relative clauses (RCs).

Figure 4. Estimated marginal means of raw acceptability by PS type and preposition

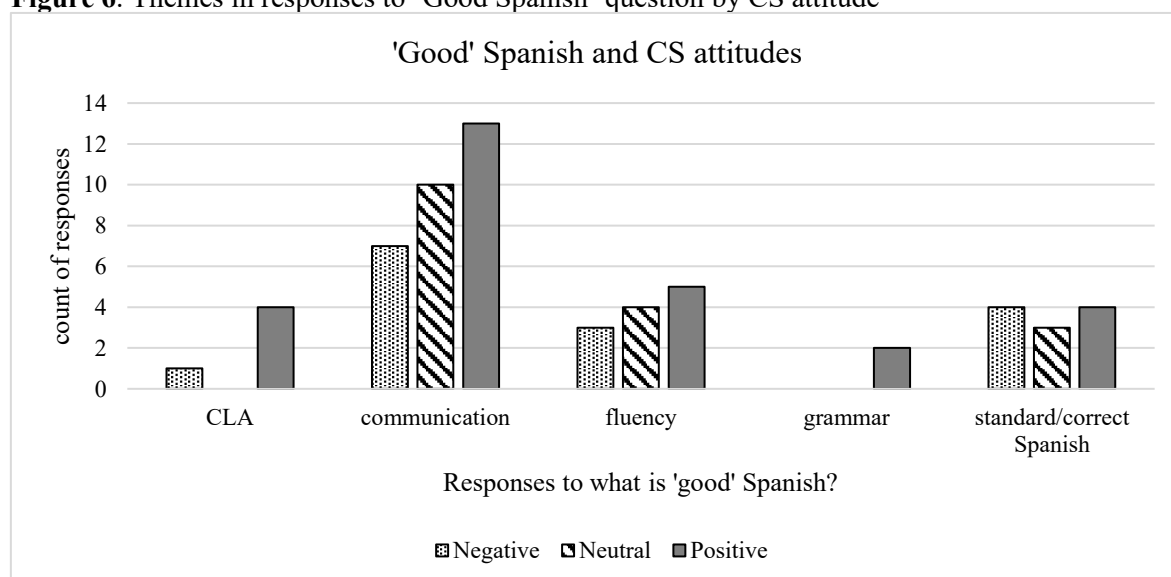
We used raw acceptability scores treated as ordinal data (1-7) instead of Z-scores for the rest of the analysis due to the great similarity between the two bilingual groups. A two-way ANOVA revealed that there was no significant difference between acceptability of EWHQs versus RCs ($F_1 = 0.197, p = .658$), but there were significant differences among prepositions ($F_3 = 6.881, p < 0.001$). Further, the two-way ANOVA showed that preposition and PS type combined had a greater main effect on acceptability than preposition alone ($F_{1,3} = 10.932, p < .001$). Accounting for PS type, pairwise comparisons showed that con/with was significantly more acceptable than para/for ($p = .005$), and de/from was significantly more acceptable than both en/in and para/for ($p < 0.05$).

4.2. Attitudes and extralinguistic variables

Figure 5 illustrates that the participants shared similar language attitudes towards both CS and U.S. Spanish. Those with negative attitudes towards CS were also the only ones with negative attitudes towards U.S. Spanish ($n = 2$), while neutral attitudes towards CS also mostly aligned with a neutral position towards U.S. Spanish ($n = 7$). For positive attitudes towards CS, most participants ($n = 16$) similarly shared positive attitudes towards U.S. Spanish.

Figure 5. Participant counts by attitudes towards CS and towards U.S. Spanish

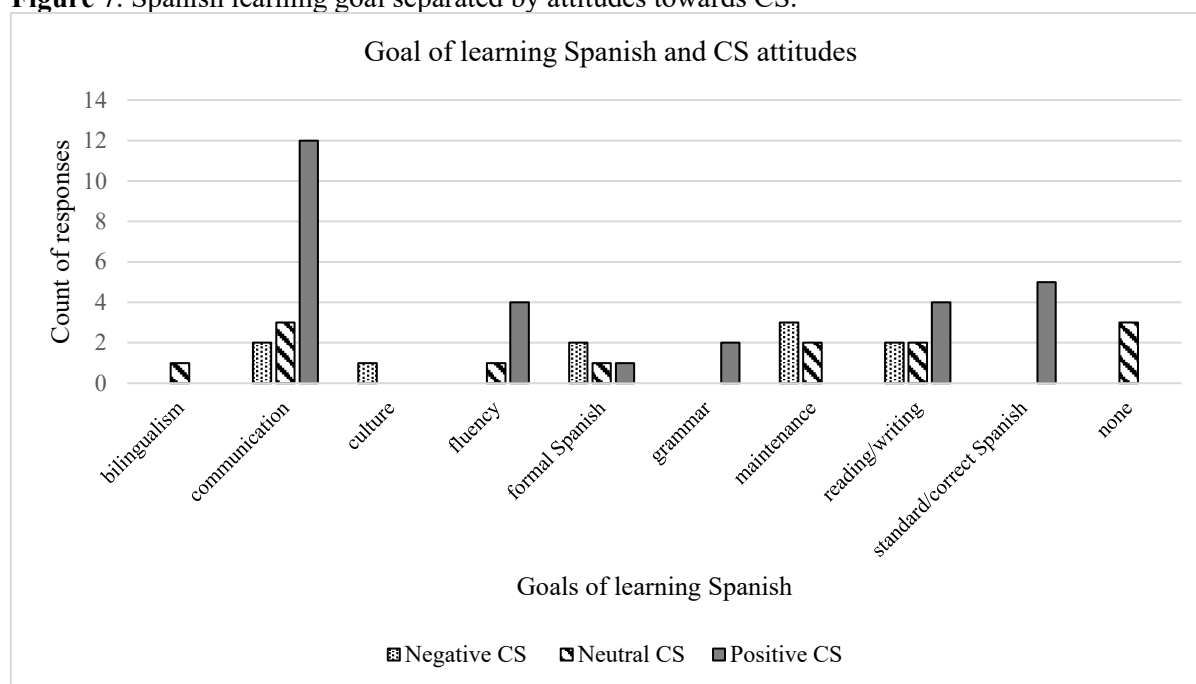
The open-ended question targeting participants' language ideologies (*what is 'good' Spanish?*; Leeman 2012) revealed that communicative skills ($n = 20$) and fluency ($n = 12$) were the most important qualities mentioned by all three CS attitude groups, followed by descriptions of 'correct' Spanish ($n = 11$) and several mentions of objectives related to Critical Language Awareness (CLA; $n = 5$). Figure 6 below shows this distribution of responses.

Figure 6. Themes in responses to 'Good Spanish' question by CS attitude

The open-ended question on participants' goals of learning Spanish resulted in a range of responses, with the majority focusing again on communicative skills ($n = 12$), followed by learning 'correct' Spanish ($n = 5$). Figure 7 below illustrates how participants responded to this question based on their attitudes towards CS. Due to this wide range of answers, numerous zero-cells resulted in preliminary cross-

tabulations, so we did not include it in the inferential statistics model explained below.

Figure 7. Spanish learning goal separated by attitudes towards CS.



For participants' understanding of the relationship between U.S. Spanish and code-switching, most responded that they perceive these as separate constructs when asked to select all options that matched their opinion. Most participants chose the option *Code-switching can happen in any language, not just U.S. Spanish* ($n = 36$); several also included *Code-switching doesn't always happen in U.S. Spanish, but it can* ($n = 14$). A subset of the participants indicated the difference between the two ideas by selecting the option, *They do NOT mean the same thing* ($n = 6$). Of the 38 participants, only one selected the option: *They mean the same thing* ($n = 1$). These results show that participants overwhelmingly distinguish between code-switching as a feature of bilingualism and the role that it plays in U.S. Spanish, with only one participant not patterning like the others. Participants were offered the opportunity to answer with an additional, open-ended *Other* opinion, but none selected this option.

As for prior self-reported exposure to PS in Spanish, nine reported that they had never heard it before, while the remaining 29 reported that they had. Additionally, participants were asked whether they had ever been corrected on stranded prepositions before. Of the 38 participants, 21 reported having been previously corrected on PS in Spanish, with 17 either reporting that they had not been corrected on it ($n = 2$) or could not recall ($n = 15$). To facilitate the inclusion of this variable in the GEE, we combined *no* and *cannot recall* responses into one category.

To identify significant interactions between the linguistic factors that we previously established condition PS acceptability in Spanish and English-to-Spanish CS (see §4.1) and the extralinguistic factors, we ran a Generalized Estimating Equations (GEE) model with participant ID as the subject variable and raw acceptability scores as an ordinal logistic dependent variable. An analysis of cross-tabulations with all independent variables showed that many had zero cells. These had

to be removed from the GEE model because they would result in knock-out categories and incorrectly identify significant interactions due to a lack of data. We examine these variables—namely, speech region and dialect—in the following section separately.

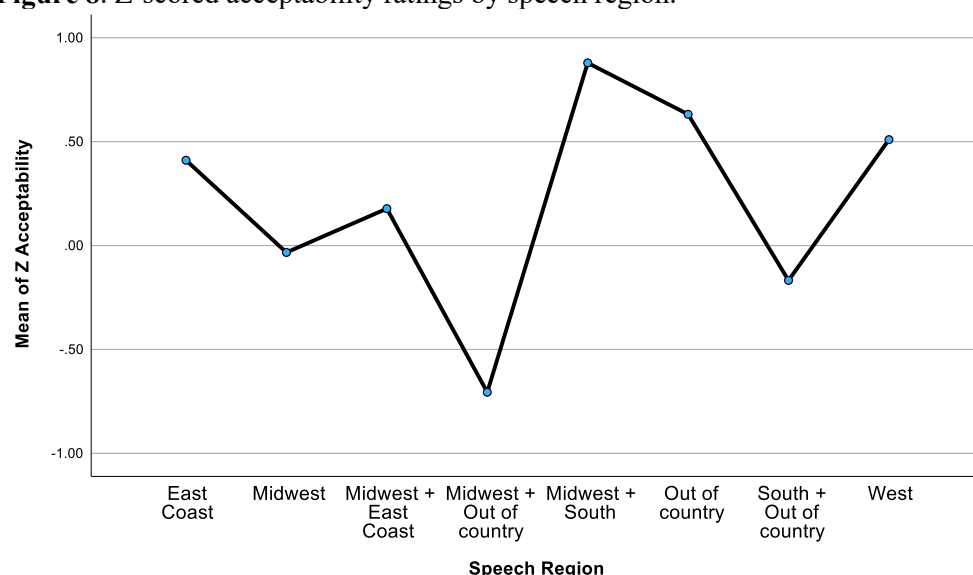
We examined the main effects of whether participants reported being corrected about PS in Spanish, exposure to PS in Spanish, language ideologies towards ‘good’ Spanish, whether they majored or minored in Spanish, whether they learned a third language, bilingual type, CS type, PS type, and preposition. We treated our continuous variables of Likert (1-5) responses on the attitudes towards U.S. Spanish commonly referred to as ‘Spanglish’ question, the aggregate score of the Likert (1-5) responses to the CS attitudes questions about their own use of CS and that of others, their reported years of Spanish study, and their average reported proficiency as covariates.

The GEE model revealed that preposition (con/with, de/from, en/in, para/from) was still the most significant factor in conditioning PS acceptability in Spanish and English-to-Spanish CS (see §4.1 above; $\chi^2 (3, N = 608) = 24.632, p < .001$). Additionally, reported exposure to PS was significant in the GEE model, although to a lesser extent ($\chi^2 (1, N = 608) = 4.363, p = .037$). Specifically, having no reported exposure to PS in U.S. Spanish significantly favored lower acceptability ratings ($\beta = -.993, p = 0.37$). No other variable was significant in the GEE model.

4.2.1. Speech region and dialect

Because we wanted to know the differences in mean acceptability ratings across groups of participants by speech region, we used Z-scored acceptability ratings to plot these differences, as seen in Figure 8 (for descriptive statistics on speech region and dialect, see §3.2.1.).

Figure 8. Z-scored acceptability ratings by speech region.

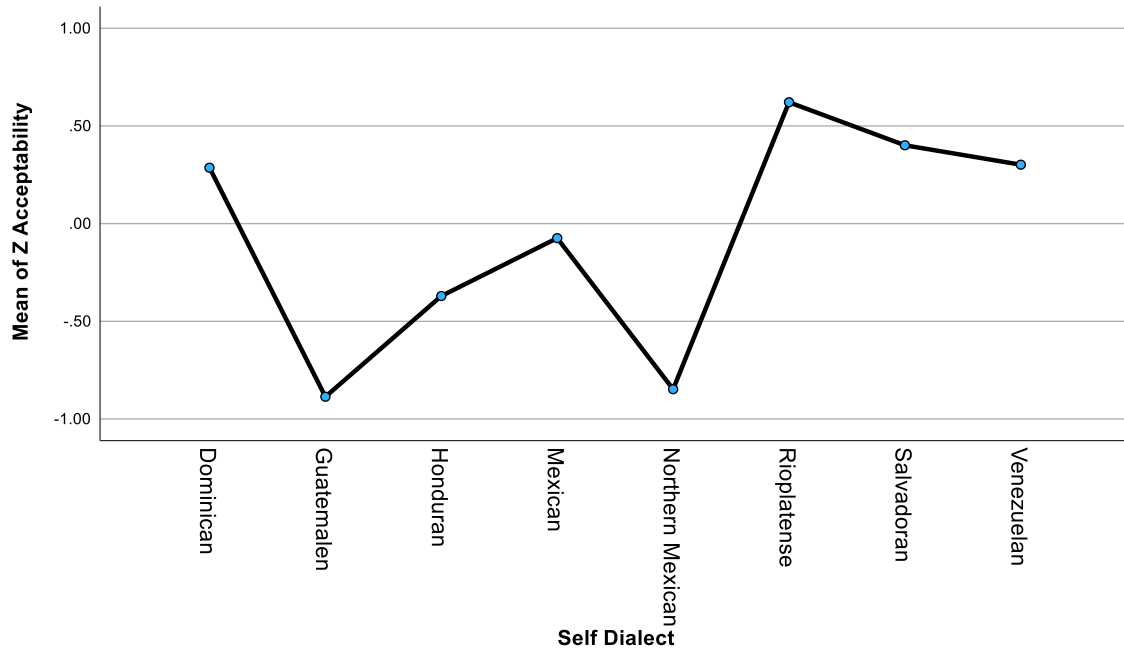


A one-way ANOVA revealed these mean differences across groups were statistically significant ($F_7 = 17.052, p < .001$). In a Tukey post-hoc analysis, it was found that participants from the East Coast rated PS in Spanish and English-to-Spanish CS significantly higher than those who grew up in the Midwest ($p < .007$) or those who split their time between the Midwest and abroad ($p < .001$). Participants who grew up exclusively in the Midwest rated PS in Spanish and English-to-Spanish CS

significantly higher than those who split their time in the Midwest and abroad ($p < .001$), and they rated PS significantly lower than those who split their time in the Midwest and the South ($p = .002$) and those that grew up outside of the U.S. ($p < .001$).

Furthermore, a one-way ANOVA also found significant differences in means for participant dialect, although to a lesser degree than speech region ($F_7 = 8.511, p < .001$). These differences can be seen in Figure 9.

Figure 9. Z-scored acceptability ratings by dialect of respondent.



A Tukey post-hoc analysis revealed that Dominicans rated PS acceptability in Spanish and English-to-Spanish CS significantly higher than Guatemalans ($p < .001$) and Northern Mexicans ($p < .001$), while Guatemalans rated PS significantly lower than Mexicans ($p < .016$), River Plate (*rioplatense*) Spanish speakers ($p < .001$), Salvadorans ($p < .001$), and Venezuelans ($p < .001$).

5. Discussion

In this study, we sought to examine how and whether HSSs' linguistic attitudes to U.S. Spanish, self-reported exposure to PS in U.S. Spanish, CS, and AoA of Spanish affected acceptability of PS in U.S. Spanish. We found that PS in all CS types was on average acceptable, although it was less acceptable in Spanish and English-to-Spanish CS, as previously found by Koronkiewicz (2022). As a syntactic feature that has not been shown to vary among monolingual, standardized varieties of Spanish, we can conclude that this general trend of acceptance supports optional residuality with prepositional movement in Spanish (Sorace 2000). Additionally, this lends support to the Counter-Interface Hypothesis and prior research that similarly shows variable (morpho)syntactic perception and production in bilingual Spanish, which can include

calque-like grammatical structures (Cuza 2009, Depiante & Thompson 2013, Guijarro-Fuentes & Marinis 2009, Koronkiewicz 2022). In our discussion, we will first return to our hypotheses, then we will highlight methodological contributions and future considerations.

5.1. Hypotheses and research questions

We hypothesized that HSSs with more positive attitudes towards U.S. Spanish and CS would accept PS in U.S. Spanish at higher rates (Badiola et al. 2017). This hypothesis was not supported by our results. Attitudes—as measured by participants’ Likert (1-5) responses towards CS and U.S. Spanish (commonly referred to as ‘Spanglish’) as well as their definition of “good” Spanish—were not significant predictors of PS acceptability. Nevertheless, our findings are consistent with previous research showing that (negative) attitudes may skew acceptability of CS type (Badiola et al. 2017), and that (negative) attitudes are not predictive of CS acceptability judgements (Parafita Couto et al. 2015).

We also hypothesized that previous exposure to PS in U.S. Spanish may play an important, but not deterministic, role in the acceptability of PS (Pascual y Cabo & Soler 2015). Results support this hypothesis. Reported exposure to PS was the second most significant predictor of PS acceptability in the GEE model, falling behind the most significant predictor: preposition (con/with, en/in, de/from, para/for).

Finally, we asked an exploratory research question based on a recommendation from Koronkiewicz (personal communication 2024) and feedback from an anonymous reviewer: *Do specific varieties of U.S. Spanish or Spanish-speaking communities in the U.S. favor the acceptability of PS?* We found that there were many significant differences across the various dialects and speech regions represented in the present data, but our data is heavily skewed towards both Midwesterners and Mexican dialects. We present these significant differences not as conclusive evidence about PS acceptability happening more in one area or speech variety but rather as a point of departure for future research to explore this potential connection further. As shown in Balam et al. (2020), participants’ dialect and/or region of exposure to Spanish likely do interact with PS acceptability, especially if certain regions and dialects are found to show greater PS use overall or have other widespread bilingual innovations, such as those found in Northern Belizean Spanish. In order to capture the nuance that speech region and dialect may play in PS acceptability, future studies should recruit participants from a variety of regions and balance representation in the dataset. Further, our operationalization of speech region is likely not granular enough to capture other meaningful interactions that may be present in our data. Finally, Beatty et al. (2018), Balam et al. (2020), and Parafita Couto et al. (2015) highlight the importance of comparing experimental data with corpus data in order to better identify how participant behavior (perception and production) may align with general patterns that exist at the dialectal and regional level. We leave these questions to future research.

5.2. Attitudes and exposure

We were interested in both language attitudes towards CS (Badiola et al. 2017; Koronkiewicz 2022, Parafita Couto et al. 2015) as well as towards U.S. Spanish since

language ideologies have been an important feature in research on Spanish as a Heritage Language (Leeman 2012, Otheguy & Stern 2011, Valdés 2003). While we predicted that attitudes would play a role in HSSs' PS acceptability, no significant effect was found for either category of attitudes. This is consistent with Parafita Couto et al. (2015) who similarly demonstrated that attitudes do not predict perception, though they do play a role in production. Our study focused on perception data and did not include a production component, so future research on PS in U.S. Spanish would profit from including both attitudes and production data to understand if bilinguals' attitudes align with their behavior even if not their perception (Parafita Couto et al. 2015).

Even so, reported prior exposure to PS played a significant role in participants' acceptability judgements. Participants who stated they had previously encountered stranded prepositions in Spanish were significantly more likely to accept PS, while those who reported no prior exposure were even more likely to reject PS. As prior exposure was questioned by Pascual y Cabo & Soler (2015) to be a possible ingredient for the extension of a non-standard structure in bilingual Spanish, these results provide evidence that exposure as an extralinguistic variable should be considered more frequently in studies of this type. Additionally, these findings support the results in Balam et al. (2020), who illustrated how prior input and exposure to a bilingual structure (BCVs) condition the processing of these structures, especially when analyzing participants' specific Spanish dialects. Indeed, online measures have confirmed that (repeated) exposure in experimental conditions also facilitate processing of bilingual features, and therefore the access that bilinguals may have to syntactic structures in either of their languages (Beatty-Martínez et al. 2018, Phillips 2018).

5.3. Contributions to previous Spanish PS studies

5.3.1. *The role of bilingual type*

Both Pascual y Cabo and Soler (2015) and Koronkiewicz (2022) used English AoA as an explanatory variable in the acceptability of PS in U.S. Spanish. We used the same cut-off of 5-years-old to distinguish between simultaneous and sequential bilingual HSSs. Consistent with Koronkiewicz (2022), we found that bilingual type on its own does not play a significant role in PS acceptability; however, unlike Koronkiewicz (2022), we did not find a significant interaction for CS type and bilingual type together. Nevertheless, we replicated the same general finding that PS is significantly more acceptable in English and Spanish-to-English CS than it is in Spanish and English-to-Spanish CS, although all means of PS acceptability across all CS types including Spanish and English-to-Spanish were still higher than *4-unsure*.

This finding seems to indicate that PS in U.S. Spanish may be extending—HSSs realize that there is something less acceptable about using PS in Spanish and English-to-Spanish CS than in English and Spanish-to-English CS, but most participants do not outright reject it. Only 28% of participants ($n = 11$) made explicit corrections that removed PS in the optional “What would you say instead? What doesn't feel right about that sentence?” question, resulting in a total of 54 PS-related corrections out of the 1,216 PS judgements ($\approx 4\%$). Notably, however, bilingual type was not able to identify the PS rejectors based solely on their AoA of English. When bilingual type was combined with CS type, though, a more significant main effect was

found than when CS type was considered alone. We believe that this highlights the need for variables such as preposition and prior exposure to be included alongside AoA in future studies on PS or other bilingual structures in U.S. Spanish, so that they are better able to explain differences in acceptability.

As pointed out by an anonymous reviewer, it is also possible that L2 interference or English dominance may be playing a role in the high PS acceptability ratings. In line with Koronkiewicz (2022) and Pascual y Cabo and Soler (2015), we acknowledge the potential role of transfer, but we highlight that its effects do not appear to be uniform across simultaneous and sequential bilinguals. Although Koronkiewicz (2022) and Pascual y Cabo and Soler (2015) take this to mean there are AoA-driven differences in bilinguals' grammars, our results do not significantly support an AoA effect. Nevertheless, they align with prior findings that PS appears to be gaining acceptability among HSSs in the U.S.

5.3.2. PS Type and Preposition-specific acceptability

Responding to Koronkiewicz's (2022) call for more prepositions to be tested besides *con*—especially *de* (Law 2006)—our study contributes to the existing literature by looking at four prepositions instead of one: *con* ('with'), *de* ('from'), *en* ('in'), and *para* ('for'). We found that, although PS type by itself was not significant, preposition and PS type together significantly affected acceptability ratings for Spanish and English-to-Spanish CS conditions: *con* was significantly more acceptable than *para*, and *de* was significantly more acceptable than both *en* and *para*. This finding was unexpected given Law's (2006) hypothesis that PS is prohibited in Romance languages due to the indivisibility of the P from its DP which manifests in contractions such as *del* 'of.the' and *al*, 'to.the'. Koronkiewicz (2022) specifically opined on whether acceptability of either *de* or *a* would be different from other Ps that cannot contract with Ds such as *con*. Our findings showed that *de* was actually the most acceptable preposition to be stranded ($M = 5.43$), with *con* trailing shortly behind ($M = 5.07$). Therefore, consistent with Koronkiewicz (2022) and Pascual y Cabo & Soler (2015), our findings indicate that D+P incorporation is not a strict part of HSSs' linguistic system. Further, while previous results from AJTs suggest that sequential and simultaneous bilinguals have different levels of access to PS based on their AoA, our findings did not replicate these findings. This may be caused by the nature of the instrument we used, which we discuss in §5.3.3.

5.3.3. Methodological contributions and considerations

We believe that our WCAJT presents a meaningful departure from previous work in both generativist—which may employ AJTs—and variationist research—which may use WCTs—and that this departure may explain some of the differences in findings with previous studies such as high acceptability of PS across all CS types including Spanish and English-to-Spanish CS. In combining these instruments, we hoped to access perhaps a more implicit knowledge of PS in U.S. Spanish based on the assumption that embedding the sentences in a continuous story would reduce the focus on language and explicit knowledge monitoring of 'correct' language. We also assumed that removing the WCT practice of having a binary choice between two minimally different sentences that either contained the dependent variable or did not would obscure the object of inquiry from the participants. In theory, this would consequently result in less explicit judgements on specific features that the participants

may implicitly or explicitly believe are stigmatized and need correction (Ellis 2005). In fact, when asked what they thought the study was about, participants believed it was about the rules of CS and when CS sounds bad in U.S. Spanish ($n = 17$), about CS in general ($n = 13$), or U.S. Spanish in general ($n = 5$), with no participant referring to prepositions. Nevertheless, in their responses to the above-mentioned optional question which appeared any time a number lower than *4-unsure* was chosen, of the 54 responses that pertained to PS, eight made explicit reference to the placement of the preposition and 46 simply recasted the sentence to pied-pipe the P.

While our methodological adjustments of the WCT and AJT offer the possibility to color in perception data in new ways (e.g., instead of outright rejection of X feature, we now know a little more about why X feature is rejected), it still does not consistently result in production data. Whether the WCAJT accomplishes the above stated goals can only be confirmed with comparisons of other validated tests known to access implicit knowledge, like a timed grammaticality judgement task or an oral narrative task (Ellis 2005). Consequently, future research should use more sensitive, online methods (such as eye-tracking or event-related potentials; ERPs) to tease apart whether the general acceptability of PS across all CS types is due to both types of bilinguals having more free access to English's optional stranding of prepositions (Montrul & Ionin 2010, Koronkiewicz 2022, Sorace 2000), or if there is a processing difference between simultaneous and sequential bilinguals when presented with more authentic, naturalistic contexts. Nevertheless, we believe that both generativist and variationist researchers should consider the methodological issues for each instrument that we have discussed here, especially when working with a population such as HSSs who tend to have less explicit knowledge and more implicit knowledge (Bowles 2011). Similarly, Parafita Couto et al. (2015) calls for using methods that minimize sensitivity to conscious reactions. While their argument primarily pertains to online processing studies, the more naturalistic context of the WCAJT may serve a closer proxy to processing using an offline method. This aligns with recommendations for employing CS in experimental research on bilinguals (Beatty-Martínez et al. 2018, González-Vilbazo et al. 2013).

Furthermore, future research could examine code-switching within the same CP at the word level, rather than across entire clauses, as done in Parafita Couto et al. (2015). This approach aligns with Myers-Scotton's (2002) Matrix Language Frame (MLF) model, which predicts that bilingual Spanish-English speakers would permit PS within code-switched clauses only when English serves as the matrix language (ML), as in 'I wonder who this *regalo* is *para*' ('I wonder who this gift is for'), but not when Spanish is the ML, as in '*Necesito* the knife *con que cortaste* the cake' ('I need the knife you cut the cake with'). However, given prior findings that CP-level switches are most natural among Spanish-English bilinguals, we designed our stimuli accordingly (Badiola et al. 2017, Koronkiewicz 2022, Sande 2015).

An additional methodological consideration is the impact that (negative) attitudes may have on CS acceptability tasks, such as the current study and previous work on PS acceptability. Removing participants with negative attitudes towards CS was important to the methodological aims of previous studies that sought to understand what structures in CS are acceptable to bilingual speakers (Badiola et al. 2017, and to some extent, Koronkiewicz 2022). Badiola et al. (2017) tested acceptable CS structures that used *pro-drop* constructions, while Koronkiewicz (2022) confirmed their findings with another structure: preposition stranding. In these studies, negative

attitudes presented a confounding factor towards CS in general, as such participants largely did not accept CS, therefore obscuring what structures were possible among bilingual speakers who *do* code-switch. In light of this, we ran inferential statistics comparing bilingual type, CS type, preposition, PS type, and the effect of CS attitudes on CS acceptability. When comparing mean squared errors (MSEs) and *F*-values across models that either included all CS attitudes or excluded participants with negative attitudes, we found only marginal differences in model performance, perhaps due to the relatively low number of participants who had negative attitudes towards CS and U.S. Spanish. Additionally, significance values remained unchanged, except for the mean differences between CS type and CS attitudes, which was significant only when participants with negative attitudes toward CS were included. Since our study followed the CS structure used in prior research on Spanish-English bilinguals—where code-switching occurred at the CP level—and was primarily focused on PS acceptability rather than CS acceptability, we used CS as an experimental method, manipulating only the preposition. This suggests that negative attitudes towards CS should not be categorically excluded from studies employing CS as a methodological tool, especially given the findings by Parafita Couto et al. (2015) that attitudes are not always predictive of perception.

5.3.4. Critical Language Awareness (CLA)

Recall that at the time of data collection our participants were taking SHL courses that have overtly stated objectives pertaining to critical language awareness (CLA) development. Given CLA's focus on accepting linguistic features of minoritized varieties and highlighting the social impact of linguistic choices (Leeman 2018), we believe that this may have also affected our participants' responses, especially considering some of our participants made references to the objectives of CLA in their responses to what they consider "good" Spanish. In future research on PS acceptability by HSSs, accounting for CLA—perhaps through validated tests of CLA assessment (e.g., Beaudrie et al. 2021)—may be a fruitful endeavor for explaining the acceptability of syntactic features of a minoritized language variety such as U.S. Spanish.

6. Conclusion

U.S. Spanish—a stigmatized, minoritized variety (Besset & Carvalho 2022)—exhibits morphosyntactic and syntactic features and lexical items unique to this variety of Spanish (Otheguy & Stern 2011). In our study, we have attempted to examine the systematicity of one such syntactic feature: preposition stranding (PS). We found that while the language of the preposition that is stranded significantly affects the acceptability of the PS (Koronkiewicz 2022), certain prepositions are significantly more likely to be accepted than others when stranded, e.g., *de*, 'from' and *con*, 'with'. Furthermore, we found that neither attitudes towards CS and U.S. Spanish nor whether participants reported having been corrected about the feature played significant roles in acceptability. We additionally propose that the participants' education in CLA is a promising area for future research on Spanish as a Heritage Language and acceptability of non-standard features in this bilingual variety of Spanish given that it may have had an effect on our participants' attitudes. Nevertheless, we found that self-

reported prior exposure to PS in U.S. Spanish significantly affected acceptability. Namely, those who reported having never heard PS in U.S. Spanish rated PS acceptability significantly lower than those who reported having heard it before. Taken together, these findings highlight the need for more linguistic and extralinguistic features to be considered in future CS and acceptability research among HSSs.

We also believe that the written contextualized acceptability judgement task (WCAJT) may access more implicit knowledge than traditional acceptability judgement tasks (AJTs) since we presented our participants with sentences embedded in a continuous story, ideally reducing focus on explicit, metalinguistic knowledge. Furthermore, the WCAJT also refrains from presenting participants with pairs of sentences that differ minimally in the (morpho)syntactic feature under investigation, unlike written contextualized tasks (WCTs). Together, we believe these methodological adjustments could equip future researchers with tools to better access implicit rather than explicit knowledge of a feature. This is important in studying a population who is known to have more implicit knowledge in Spanish than explicit knowledge (Bowles 2011, Beatty-Martínez et al. 2018, González-Vilbazo 2013). Additionally, tasks that are believed to measure explicit knowledge (Ellis 2005) may not be appropriate for the acceptability of a feature typical of a stigmatized and minoritized variety since speakers' explicit knowledge about prescriptive rules may color their acceptability judgements. Future research may shed light on the WCAJT as an experimental task by comparing it with other measures to evaluate the influence of task effects on acceptability judgements.

Given the research focus on PS acceptability among HSSs in the past decade (Depiante & Thompson 2013, Pascual y Cabo & Soler 2015, Koronkiewicz 2022), we believe the higher overall acceptability of PS among both sequential and simultaneous bilinguals and the lack of statistically significant difference between them in our study may be evidence that PS is in the process of becoming an acceptable feature of U.S. Spanish regardless of bilingual type, especially when presented in naturalistic contexts. As studies investigate increasingly younger speakers, it may be the case that PS acceptability in U.S. Spanish continues to increase in studies to come. Finally, as Spanish as a Heritage Language education becomes ever more pertinent in the U.S., it is important that we accurately describe U.S. Spanish and its motivations for change from standardized, monolingual varieties of Spanish.

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