

Coronal Stop Deletion in a Rural South Texas Community

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8.1 Introduction

This chapter examines coronal stop deletion (CSD) in the speech of residents of North Town, a rural, majority Mexican American community south of San Antonio.* CSD has been studied since the earliest days of sociolinguistics (e.g., Wolfram 1969; Labov et al. 1968), including in varieties of Chicano English (e.g., Galindo 1987; Santa Ana 1991, 1992, 1996; Bayley 1994a, 1997; Coetzee 2004), and the main constraints on the variable are well documented (Labov 1989; Schreier 2005; Hazen 2011). Precisely because CSD has been so widely studied, examination of this variable enables us to compare constraint effects between well-documented varieties and varieties that have received less attention (cf. Wolfram, Childs, and Torbert 2000; Torbert 2001; Hazen 2011). Moreover, previous studies in Latino communities have focused on urban populations in New York, Austin, San Antonio, and Los Angeles. By contrast, this study examines this variable in the very different conditions of a rural community where Mexican Americans comprise more than 85 percent of the population, while Anglos comprise only 10 percent (for background on North Town, see Foley 1990, and Chapter 2, this volume). Although CSD has been very extensively studied, this classic variable continues to serve as a useful diagnostic for examining dialect differences, particularly in dialects where language contact is involved. This study provides a look into the situation of CSD in dialect contact in a rural majority minority community and compares the results for this well-studied variable with studies conducted among Mexican Americans in urban areas and with speakers of other contact varieties of English.

8.2 CSD: Previous Research

Numerous studies have shown that CSD is systematically constrained by a range of factors at different linguistic levels. For non-contact varieties of American English, these constraint effects are summarized by Labov (1989):

1. Stress (unstressed > stressed);
2. Cluster length (CCC > CC);
3. Features of the preceding segment (/s/ > stops > nasals > fricatives > liquids);
4. Grammatical status of –t,d (n’t morpheme > part of stem > derivational suffix > past tense or past participle);
5. Features of the following segment (obstruents > liquids > glides > vowels > pauses);
6. Agreement in voicing of the segments preceding and following the –t,d (homovoiced > heterovoiced).

Although the constraints summarized by Labov apply to many dialects, a number of studies of English-speaking communities have shown considerable divergence from the common patterns. Because the general patterning of CSD has been widely described elsewhere (see e.g., Labov 1989; Schreier 2005; Wolfram and Schilling-Estes 2016), this section will focus on studies that document differences, both between and within speech communities.

In an early work, Guy (1980) showed that some factors are subject to regional differentiation. For example, in a study of white New Yorkers and Philadelphians, he showed that New Yorkers exhibited the following constraint order for the following segment: consonant > pause > vowel. Philadelphians, in contrast, exhibited the following order: consonant > vowel > pause (27). Guy notes that “the effect of pause is arbitrarily defined for a given dialect – it must be learned by children acquiring the dialect” (28). Somewhat later, Guy and Boyd (1990), based on data from Philadelphia, showed that children and adolescents vary considerably in the way that they treat the past tense of ambiguous verbs such as *left* (for which past tense marking involves both a coronal stop morpheme and a change to the root morpheme); most studies have shown ambiguous (a.k.a. semi-weak) verbs to exhibit rates of deletion intermediate between monomorphemes and regular past tense forms. Overall, Guy and Boyd’s results showed that speakers 18 and younger tended to delete –t,d from ambiguous past tense forms at a very high rate, comparable to the rate of deletion from monomorphemes. Most speakers between 18 and 45 deleted –t,d from ambiguous verbs at a somewhat

lower rate, while speakers 45 and older were least likely to delete $-t,d$ from verbs of this category. Since there is no evidence of a change in progress, Guy and Boyd suggest that speakers continue to reanalyze their grammars well beyond the age at which acquisition is usually thought to be complete.

Bayley (1994a), a study of Chicano English in San Antonio, shows that most constraints on CSD follow the pattern outlined by Labov (1989), but also finds areas of divergence. Perhaps most interestingly, Bayley's overall results show that CSD is more likely to occur in ambiguous verbs than in monomorphemes. However, the results of separate analyses of data from speakers aged 15 to 20 years and speakers aged 26 to 44 show that only the younger speakers deviate from the typical pattern. The older speakers follow the canonical pattern of monomorpheme > ambiguous verb > past tense/past participle. Results such as this lend support to Guy and Boyd's (1990) conclusions.

More recently, Schreier (2005) has shown that there is considerable cross-dialectal variability in the effect of several major constraints. For example, Schreier compares the effect of morphemic status by following environment on CSD in eight varieties: Black Bahamian English (Childs, Reaser, and Wolfram 2003), Mesolectal Jamaican Creole English (Patrick 1991, 1999), African American English (Wolfram and Thomas 2002), Māori New Zealand English (Schreier 2003b), white American English from Hyde County North Carolina (Wolfram and Thomas 2002: 136), York English (Tagliamonte and Temple 2005), and, based on his own data, Pākehā (white) New Zealand English and St. Helenian English. Overall, the following segment constraint was fairly consistent among varieties, with pre-consonantal clusters much more likely to be reduced than pre-vocalic clusters. As in Guy (1980), varieties differed greatly in the likelihood of CSD in pre-pausal environments (Schreier 2005: 204). Notably, the morphological constraint exhibited considerable variation; while the majority of varieties exhibited higher rates of CSD from monomorphemes than from bimorphemes, two contact varieties, Jamaican Creole Mesolect and St. Helena English, exhibited higher rates of CSD from bimorphemes than from monomorphemes – a pattern mirrored by separate studies of Tristan da Cunha English (Schreier 2003a) and Chinese-English interlanguage (Bayley 1996). Schreier explains the divergence of these creole or creoloid varieties from the typical morphological patterning in a manner similar to Bayley (1996) and Wolfram and Hatfield (1985). Namely, the greater rate of deletion from bimorphemes is a result of the combination of grammatical unmarking (i.e., the $-t,d$ was never inserted on the underlying form to begin with) and the phonological process common to all English dialects.

Schreier (2006), a study of a single household on the isolated south Atlantic island of Tristan da Cunha (population 280), offers evidence that suggests that even individuals from the same background who interact with the same small number of interlocutors can diverge in the patterning of linguistic constraints. He reports on an adult brother and sister, “Sam” and “Heather,” born in 1935 and 1945 respectively, who live next to one another and interact on a daily basis. Despite their obvious close ties, however, Heather and Sam exhibit very different patterns of CSD. With respect to effect of grammatical class, Heather follows the common pattern of monomorpheme > bimorpheme. Sam, on the other hand, is more likely to reduce a cluster when the *-t,d* serves as a morpheme. In fact, he exhibits categorical CSD from bimorphemes, albeit with a small data set of 27 tokens (Schreier 2006: 40). Schreier notes Sam’s pattern was common among Tristan da Cunha speakers born between the 1920s and 1980 as well as in St. Helenian English, the nearest English dialect. Schreier suggests that Heather, who follows the common pattern of greater deletion from monomorphemes, is more innovative and exhibits a higher percentage of nonlocal features.

The most recent work on a contact variety of English is by Hansen Edwards (2016), who examined CSD in the speech of 36 bilingual or multilingual college students in Hong Kong. In contrast to many studies, she included *n’t* clusters, which many others exclude because of problems with orthogonality. Unlike the studies of contact varieties examined so far, Hansen Edwards’ results show that grammatical class is the first order linguistic constraint, with the order *n’t* > monomorpheme > irregular past > past. For the most part, her results are in line with the constraint order summarized by Labov (1989) and cited above. However, results for the following segment do diverge from the common pattern in that liquids favor deletion at a significantly greater rate than other consonants.

Two other recent studies, Tagliamonte and Temple’s (2005) study of CSD in York, England, and Hazen’s (2011) study of CSD in West Virginia, also show divergence from the common pattern. In Tagliamonte and Temple’s results, grammatical class failed to reach significance, suggesting that *-t,d* deletion is purely a phonological process in York English. In more recent work, however, Baranowski and Turpin’s (2015) study of English in Manchester, based on a much larger data set, did find that grammatical class was significant with the expected factor ordering. Hazen’s West Virginia speakers exhibited two patterns that differentiate them from the bulk of CSD research: *-t,d* was deleted following /*r/* at a fairly high rate of

Table 8.1 *Speaker demographic characteristics*

Ethnicity, gender	11–29	30–59	60+	Total
Latino male	3	3	3	9
Latino female	4	5	10	19
Anglo male	1	2	6	9
Anglo female	–	–	2	2
Total	8	10	21	39

44 percent, and the preceding phonological environment had a stronger effect than grammatical class.

As the studies summarized here suggest, even though many of the main constraints on CSD are similar across different varieties, there is also considerable divergence from region to region. In this study, we examine CSD in a rural south Texas community in order to address the following questions:

1. To what extent do Latino and Anglo North Town speakers form a single speech community with respect to CSD?
2. Do rural Latino speakers in North Town follow the same constraints on CSD as Chicanos in urban areas such as Los Angeles and San Antonio?
3. If rural Latinos differ from their urban counterparts with respect to the constraints on CSD, how do they differ?
4. To what extent, if any, is Spanish substrate influence evident in the constraints on CSD among North Town Latinos?
5. In what ways do the constraints on CSD in the speech of North Town residents resemble or differ from the constraints observed in other English varieties?

8.3 Methods

Data were extracted from sociolinguistic interviews conducted in 2005 and 2007 with 28 Latinos and 11 Anglos ranging in age from 10 to 84. Table 8.1 summarizes the speakers' demographic characteristics.

8.3.1 Data Collection

Data were collected 2005 and 2007 through sociolinguistic interviews by a research team led by Erik Thomas, as described in Chapter 2. Belinda Treviño Schouten, a North Town native, helped to arrange the interviews.

8.3.2 *Data Reduction and Coding*

Data were transcribed orthographically by researchers at North Carolina State University and later subjected to coding for a range of variables of interest. For the present study, we coded the following factors:

- Dependent variable: –t,d present, glottal stop, –t,d absent.
- Grammatical class: monomorpheme, ambiguous verb, past tense, past participle, participial adjective.
- Preceding segment: /s/, nasal, stop, non-/s/ fricative, /l/, /r/.
- Following segment: obstruent, /l/, /r/, glide, vowel, pause, /h/.
- Stress: unstressed, stressed.
- Cluster length: CC, CCC
- Voicing agreement of preceding and following segments: homovoiced, heterovoiced.
- Age: Coded by actual age and by decade.
- Ethnicity: Latino, Anglo.
- Gender: Female, Male.

Data were coded auditorily by the second author and Brandon Loudermik and, in cases of ambiguity, tokens were examined acoustically with Praat (Boersma 2001). The first author performed a reliability check on approximately 10 percent of the data, resulting in an inter-rater reliability rate of 94.8. Tokens where raters diverged were later examined with Praat.

8.3.3 *Analysis*

Data were analyzed with Rbrul (Johnson 2009), a current instantiation of the variable rule program commonly used in studies of sociolinguistic variation. We undertook several analyses. First, all of the data was analyzed in a single run. Then data from Latino and Anglo speakers were examined separately to determine if and to what extent the two communities differed from each other. Moreover, although we coded broadly, in the results reported below we combined factors that did not differ significantly from one another in their effect, provided that there was a good linguistic or demographic reason for doing so. In particular, for the following segment constraint, we combined all obstruents with /l/ as one factor and glides with /h/ as another.

We originally treated age as a continuous variable. However, our analysis showed that there was not a linear pattern. Rather, the youngest and oldest speakers were more like one another with respect to CSD than they were

like speakers in the middle group. To capture this difference, we divided age into three factors: 11–29 years, 30–59 years, and 60+ years. Finally, we combined the few tokens where speakers produced final /t/ or /d/ as a glottal stop with the much larger number of tokens where /t/ or /d/ was fully realized.

8.4 Results

As in other studies of Mexican American English (Bayley 1994a; Santa Ana 1996), these results show a high rate of CSD in North Town (52.4 percent). However, multivariate analysis of more than 3,400 tokens with Rbrul reveals a number of differences between constraint effects on CSD in the English varieties spoken in North Town and other studies of North American English, including varieties spoken in Latino communities.

8.4.1 Linguistic Constraints

Table 8.2 shows the results for the linguistic constraints that reached significance at the 0.05 level. These results indicate several notable similarities and differences between CSD in North Town and CSD in other areas. As with most contact varieties of English, the phonological environment – in particular following segments – had a greater effect on CSD than grammatical or social constraints (which are discussed below). The voicing and stress factor groups also behave as expected, with homovoicing favoring deletion to a greater extent than heterovoicing and unstressed syllables favoring deletion to a greater extent than stressed syllables.

These results also indicate, however, that the CSD of North Town patterns differently than that of other areas. Notably, whereas following /l/ and /r/ typically pattern together, in North Town following /l/ favored deletion to a greater degree than following /r/ (75.2 percent deleted pre-/l/, 62.9 percent deleted pre-/r/). Indeed, in this analysis it made more sense to combine following /l/ with following *obstruents* than following /r/, which we argue is linguistically motivated by a resyllabification-based account; whereas /tr/ and /dr/ are acceptable onsets, */tl/, */dl/ are not, so it is possible to avoid deletion by resyllabifying a phrase like *hard right* as *har.dright* but a resyllabification like **har.dlife* for *hard life* is impossible. Alternatively, the high rate of deletion before /l/ might also be an effect of language contact. Following liquids have been shown to strongly favor deletion in Jamaican Creole (Patrick 1991), Chinese learner English

Table 8.2 *Coronal stop deletion for all speakers: Linguistic constraints (application value = 0)*

Factor group	Factor	Logodds	N	%	Weight
Following segment	obstruent/l	0.641	1146	69.9	0.655
	/r/	0.282	35	62.9	0.570
	pause	0.086	472	57.4	0.521
	glide/h	-0.109	445	51.7	0.473
	vowel	-0.900	1325	35.5	0.289
Preceding segment	/s/	0.602	861	64.7	0.646
	nasal	0.504	1303	59.2	0.623
	stop	0.199	272	40.8	0.550
	fricative	0.089	252	42.9	0.522
	/l/	-0.380	378	40.5	0.406
	/r/	-1.014	357	26.3	0.266
Grammatical class	monomorpheme	0.280	2505	57.4	0.570
	ambiguous verb	0.228	149	43.0	0.557
	past participle	0.028	147	41.5	0.507
	participial	-0.192	77	40.3	0.452
	adjective				
Voice	past	-0.343	545	36.9	0.415
	homovoicing	0.125	1853	51.8	0.531
	heterovoicing	-0.125	1570	53.2	0.469
Stress	unstressed	0.185	274	64.2	0.546
	stressed	-0.185	3149	51.4	0.454
Total	Input		3423	52.4	0.536

Notes: exclusions: n't, superlatives; replacive verbs are combined with monomorphemes

(Hansen Edwards 2011), and Hong Kong English (Hansen Edwards 2016). Moreover, Bayley's (1996) results of Chinese L2 speakers of English show no significant difference in the effects of following obstruents or liquids. It should be noted, however, that a split between following /l/ and /r/ is not a property of only contact varieties, as Hazen (2011) found an even larger split than found here. Finally, vowels are the most disfavoring following environment for deletion, as is expected, but CSD before vowels is still relatively frequent in North Town (35.5 percent), a pattern found in contact varieties in the United States.

The ordering of factors for preceding segment largely mimics the expected order for non-contact varieties of American English (Labov 1989), with the exception that preceding nasals (factor weight 0.623) favor deletion to a greater extent than stops (0.550). It is notable, however, that CSD occurs after /r/ at all, with 26.3 percent of post-/r/ tokens deleted; this result stands in contrast to other dialects, including Mexican American English in San Antonio (Bayley 1994a), but mirrors the Appalachian

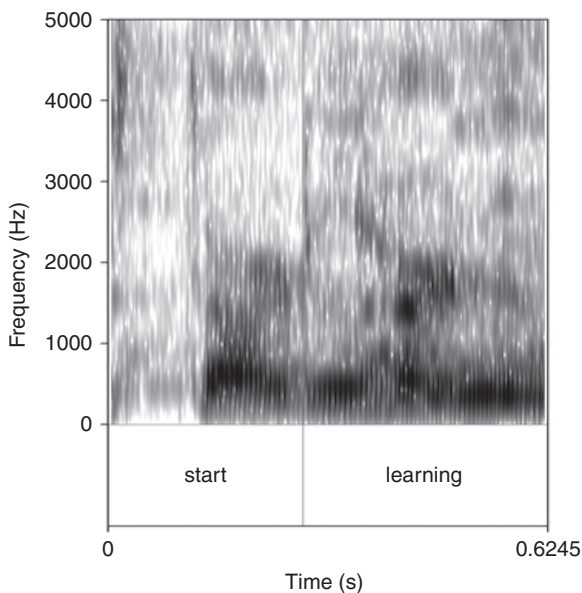


Figure 8.1a CSD following /r/ (retained).

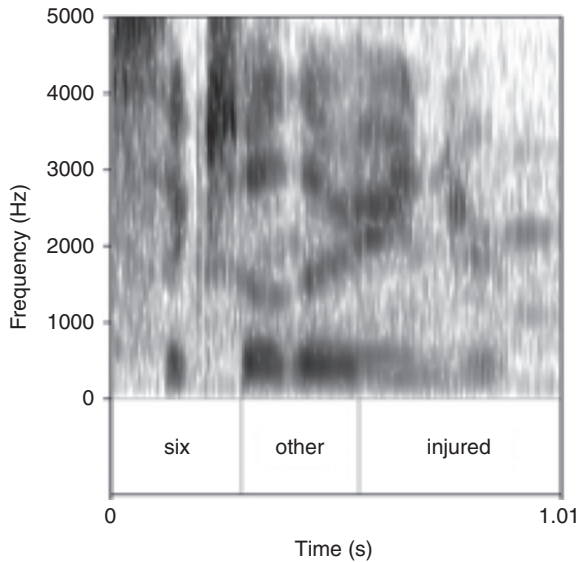


Figure 8.1b CSD following /r/ (deleted).

Table 8.3 *Coronal stop deletion (all speakers): Social constraints (application value = Ø)*

Factor group	Factor	Logodds	N	%	Weight
Ethnicity	Anglo	0.291	548	64.2	0.572
	Latino	-0.291	2875	50.2	0.428
Age	60+	0.250	1868	56.9	0.562
	11-29	0.155	670	56.4	0.539
	30-59	-0.405	885	40.0	0.400
Total	Input		3423	52.4	0.536

Notes: exclusions: and, n't, superlatives; replacive verbs are combined with monomorphemes.

speakers studied by Hazen (2011) where CSD also occurs following /r/. The presence of CSD after /r/ may reflect the influence of the Spanish substrate, where /r/ is [+consonantal -vocalic]. Figures 8.1a and 8.1b show two tokens of /r/ followed by /t/ or /d/. In 8.1a, *start learning*, the cluster is unreduced. In 8.1b, *six other injurØ*, final /d/ is absent.

As mentioned above, grammatical class exerts a weaker effect on CSD in North Town than the surrounding phonological environment. In contrast to Anglo varieties (cf. Guy 1980, 1991), past participles, regular past tense forms, and participial adjectives differ in their effects; regular past tense forms and participial adjectives disfavor deletion while past participles undergo CSD at nearly the same rate as ambiguous verb forms like *lost*. In addition, the effect of ambiguous verbs (factor weight 0.557) is almost equal to that of monomorphemes (0.570). As is discussed below, the difference in effects between ambiguous verbs and monomorphemes is an important locus of difference between Latino and Anglo speech in North Town.

Finally, CSD occurs at a relatively high rate overall in North Town, with over half of tokens deleted.

8.4.2 Social Constraints

As noted in the section on coding, in addition to testing for a range of possible linguistic constraints, we also tested for the effects of several social factors: age (coded as a three-way factor), gender, and ethnicity. As Table 8.3 shows, ethnicity and age were both significant, with ethnicity the stronger constraint.

Perhaps the most surprising finding among the social factors is the greater rate of CSD among Anglos than among Latinos, as studies of CSD tend to indicate greater rates of deletion for minority groups. There are several possible accounts of this reversal of the expected pattern. One possible account is that this apparent ethnicity difference is actually a difference in age and gender owing to the unequal age/gender distribution among Latino and Anglo speakers in this sample (Table 8.1); the 30–59 age group, which had the lowest rate of CSD, was more heavily represented among Latino speakers (8/28 Latino speakers, or 28.6 percent) than Anglo speakers (2/11 Anglo speakers, or 18.2 percent), and women, who typically have lower CSD rates than men, were more heavily represented among Latino speakers (19/28, 67.9 percent) than Anglo speakers (2/11, 18.2 percent). This account is inadequate, however, given that the model returned ethnicity as a stronger constraint than both age and gender; moreover, women actually had a slightly *greater* rate of CSD than men (53.6 percent vs. 51.0 percent). Language use patterns suggest a more compelling account of the greater rate of CSD among Anglos than among Latinos. For many of the Latino speakers, Spanish is the language of the home, while English is associated with schooling and more formal situations. That difference may help to explain the lower rate of CSD in the speech of North Town Latinos.

The other significant result shown in Table 8.3 concerns age. As we noted in the section on coding above, speakers 60 and older and speakers under 30 exhibit similar rates of CSD, while speakers aged 30–59 reduce clusters at a much lower rate. Although it is difficult to account for the relationship between age and likelihood of deletion, we can suggest one possibility. Speakers in the 30–59 age group were generally still in the workforce and hence more subject to normative pressures, while many of the younger speakers were still in school and many older speakers were retired.

8.4.3 *The Effect of Ethnicity*

In addition to the overall analysis, we also performed separate analyses by ethnicity to determine to what extent the patterns exhibited by North Town Latinos and Anglos were similar or divergent. Tables 8.4 and 8.5 show the results of these analyses.

The results presented in Tables 8.4 and 8.5 show that Latinos and Anglos differ considerably in their patterns of CSD. The most prominent differences are in the effects of the preceding and following segments, as illustrated in Figures 8.2 and 8.3.

Table 8.4 *Coronal stop deletion: Latino speakers (application value = Ø)*

Factor group	Factor	Logodds	N	%	Weight
Following segment	obstruent/l	0.593	963	66.1	0.644
	pause	0.258	387	56.1	0.564
	glide/h	-0.006	372	51.1	0.498
	/r/	-0.056	26	53.8	0.486
Preceding segment	vowel	-0.789	1127	34.2	0.312
	/s/	0.802	738	65.9	0.690
	nasal	0.470	1089	55.5	0.615
	stop	0.169	232	39.2	0.542
	fricative	0.087	197	41.1	0.522
	/l/	-0.417	303	36.3	0.397
Age	/r/	-1.111	316	22.5	0.248
	60+	0.259	1472	54.3	0.564
	11-29	0.182	620	56.1	0.545
	30-59	-0.441	783	37.7	0.391
Stress	unstressed	0.267	184	62.5	0.566
	stressed	-0.267	2691	49.3	0.434
Grammatical class	ambiguous verb	0.265	134	41.8	0.566
	Monomorpheme	0.225	2134	54.9	0.556
	past participle	0.001	128	39.1	0.500
	past	-0.223	425	34.8	0.444
	participial	-0.266	54	33.3	0.434
Voice	adjective				
	homovoicing	0.106	1524	48.6	0.527
Total	heterovoicing	-0.106	1351	52.0	0.473
	Input		2875	50.2	0.467

Notes: exclusions: n't, superlatives; replace verbs are combined with monomorphemes

The most striking difference concerns the preceding segment constraint. Overall, Latinos reflect the pattern observed in other English dialects, while Anglos diverge considerably. Noticeably, preceding /s/ most favors deletion among Latinos (factor weight 0.690) and most *disfavors* deletion among Anglos (0.314), who nevertheless reduce 57.7 percent of /st/ clusters. While preceding liquids disfavor deletion among both Latinos and Anglos, Anglos treat preceding /l/ (factor weight 0.411) and /r/ (0.422) virtually identically, but among Latinos /r/ has a greater disfavoring effect than /l/ (0.248 vs. 0.397). Both Latinos and Anglos pattern differently than Latinos in San Antonio, for whom there is no deletion after /r/.

North Town Latinos and Anglos also differ with respect to the effect of the following segment. Anglos follow a more typical pattern, with following /r/ favoring deletion to an extent similar to following

Table 8.5 *Coronal stop deletion: Anglo speakers (application value = Ø)*

Factor group	Factor	Logodds	N	%	Weight
Following segment	obstruent/l	1.686	183	89.6	0.844
	/r/	1.345	9	88.9	0.793
	pause	-0.692	85	63.5	0.334
	glide/h	-0.700	73	54.8	0.332
Preceding segment	vowel	-1.639	198	43.4	0.163
	nasal	0.840	214	78.5	0.699
	stop	0.562	40	50.0	0.637
	fricative	0.048	55	49.1	0.512
Grammatical class	/r/	-0.313	41	56.1	0.422
	/l/	-0.358	75	57.3	0.411
	/s/	-0.780	123	57.7	0.314
	monomorpheme	0.879	371	72.0	0.707
	ambiguous verb	0.371	15	53.3	0.592
	past participle	0.338	19	57.9	0.584
	participial adjective	-0.611	23	56.5	0.352
	past	-0.978	120	44.2	0.273
Voice	homovoicing	0.285	329	66.9	0.571
	heterovoicing	-0.285	219	60.3	0.429
Total	Input		548	64.2	0.634

Notes: exclusions: n't, superlatives; replace verbs are combined with monomorphemes

obstruents and /l/, and with pauses disfavoring deletion; among Latinos, following /r/ disfavors deletion and pauses slightly *favor* deletion. Overall, the following segment appears to be a much stronger constraint for Anglos than Latinos, although it is a first-order constraint for both groups.

The analysis by ethnicity also reveals differences in the effect of grammatical class, as shown in Figure 8.4. In Latino speech, both monomorphemes (factor weight 0.556) and ambiguous verbs (0.566) favor deletion at nearly the same rate. For Anglos, as with speakers of most dialects where grammatical class has been shown to have a significant effect on CSD, -t,d is much more likely to be deleted from monomorphemes (0.707) than from ambiguous verbs (0.592). (Anglo speakers produced only 15 tokens of ambiguous verbs, so this result should be treated with caution.) The wide separation between past participles, participial adjectives, and past tense observed among Anglo speakers is absent among Latino speakers. In short, Anglos' CSD indicates greater

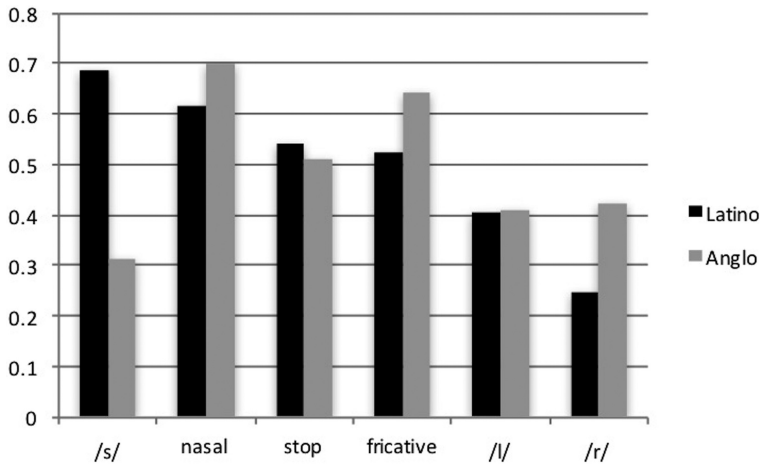


Figure 8.2 Preceding segment by ethnicity (factor weights).

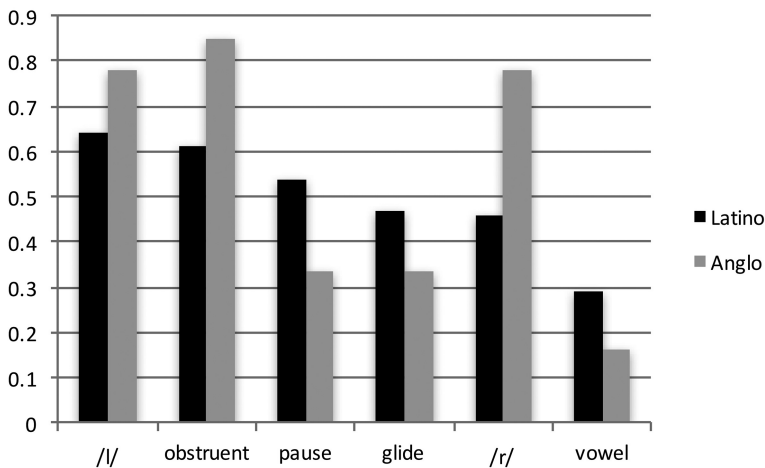


Figure 8.3 Following segment by ethnicity (factor weights).

differentiation among grammatical classes than Latinos' CSD and it is unclear whether Latinos have a separate morphological category for ambiguous verbs.

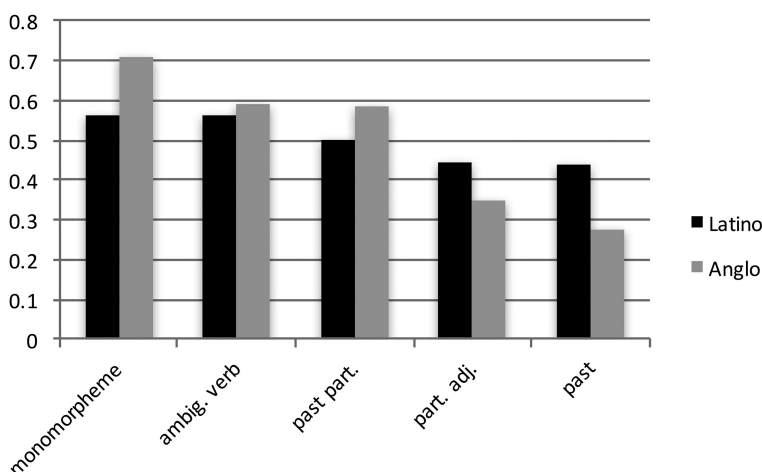


Figure 8.4 Grammatical class by ethnicity (factor weights).

For both Anglos and Latinos, the results for past participles, participial adjectives, and regular past tense forms diverge from results reported in other studies. For speakers of both ethnicities, CSD is more likely in past participles, for which the *-ed* morpheme is a redundant cue to tense and aspect due to the presence of the auxiliary *have*, than in regular past tense forms; typically, past participles and regular past tense do not pattern separately (Guy 1980, 1991). This result raises the question of whether functional constraints play a greater role in contact situations than non-contact situations.

In short, North Town Latinos and Anglos do not form a single speech community with respect to CSD. In addition to the substantially higher baseline deletion rate for Anglos, the two groups behave differently with respect to the most influential internal constraints governing CSD.

8.5 CSD in North Town and Other Latino Communities

As noted in our review of previous studies, CSD has been examined in a number of Mexican American communities, including the major urban areas of Los Angeles (Santa Ana 1991, 1992, 1996) and San Antonio (Bayley 1994a, 1997). Table 8.6 shows the results, expressed as Varbrul weights, from the North Town Latino speakers examined in the previous section and from Los Angeles and San Antonio.

Table 8.6 Coronal stop deletion in three Mexican American communities: Varbrul weights.

Factor Group	Factor	North Town	San Antonio	Los Angeles
Following segment	/l/ ¹	na	0.638	0.62
	non-liquid cons.	0.644	0.728	0.60
	pause	0.564	0.463	0.32
	glide ²	0.498	0.479	0.57
	/r/	0.486	0.467	na
Preceding segment	vowel	0.312	0.267	0.32
	/s/	0.690	0.726	0.55
	nasal	0.615	0.434	0.55
	stop	0.542	0.440	0.40
	fricative	0.522	0.249	0.30
	/l/	0.397	0.145	0.30
	/r/	0.248	na	0.30
Age	old	0.564	na	na
	middle	0.391	0.417	na
	young	0.545	0.479	na
Stress	unstressed	0.566	0.539	0.53
	stressed	0.434	0.495	0.49
Grammatical class	<i>n't</i>	na	na	0.60
	monomorpheme	0.556	0.531	0.54
	ambiguous verb	0.566	0.617	na
	derived (-est &-ed adj.)	na	na	0.42
	past participle	0.500	0.355	0.27
	past tense	0.444		0.27
	participial adj.	0.434		See derived
Voicing agreement	homovoicing	0.527	0.521	0.55
	heterovoicing	0.473	0.479	0.45
Cluster length	CCC	ns	0.480	na
	CC	ns	0.502	na
Total	Input	0.467	0.469	61%

¹ Combined with obstruents.² Includes /h/ in both the North Town and San Antonio results.

Sources: San Antonio, Bayley (1994a), table 2; Los Angeles, Santa Ana (1996), table 2.

Note: Santa Ana does not give an input value, but he does indicate the percentage of deletion. That is indicated here. Bayley (1994a) combined past participles, regular past tense, and participial adjectives. Young speakers in San Antonio were 15–20. Older speakers were 26–44.

Overall, the North Town results and the San Antonio and Los Angeles results are broadly similar. For example, in all three studies, as in other English dialects, following consonants favor –t,d deletion and following vowels favor retention. In addition, in all three studies, monomorphemes favor deletion while regular past tense forms favor retention. The results in Table 8.6 do, however, show a number of differences that go beyond the

differences in the way the authors coded the data or in the differences in the demographic characteristics of the populations sampled; the San Antonio study, for example, included a much higher percentage of younger speakers than the North Town study. Among North Town Latinos, following pauses favored deletion, which differentiates them from Mexican Americans in San Antonio and Los Angeles, as well as North Town Anglos. San Antonio Mexican Americans favored retention for all preceding segments except /s/, whereas North Town Latinos had strong deletion effects for preceding /s/ and nasals. In addition, North Town Latinos' lack of differentiation between monomorphemes and ambiguous verbs contrasts with San Antonio speakers, who favored deletion in ambiguous verbs to a *greater* extent than monomorphemes.

8.6 Conclusion

Coronal stop deletion in North Town exhibits noteworthy differences from both Anglo and Latino varieties found elsewhere, as well as differences from other contact and second language varieties. Some effects akin to those found in contact varieties show a possible influence of the Spanish substrate, such as the relatively high rate of deletion after /r/ (which is even greater among Anglo speakers) and the fact that the grammatical constraint is weaker than several phonological constraints. Although it appears that Latinos and Anglos do not form a single speech community, some contact-like features are found not only in Latinos' CSD but also in Anglos' CSD – the latter of which is surprising given the relatively protracted segregation between Latinos and Anglos in North Town. It is possible that despite this segregation, the majority Latino composition of the community is responsible for North Town Anglos' CSD developing in some ways that bear greater resemblance to urban Latinos' speech than to other Anglos. That possibility, however, is a topic for further investigation.

Note

* We thank Brandon Loudermilk, who coded the data from the 2005 interviews.