

## Musical genres exhibit distinct sociophonetic targets: An analysis of Quebec French

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**Abstract.** Genres such as indie (Beal, 2009) and hip-hop (Eberhardt & Freeman, 2015) feature dialectal traits in English, but whether genres form targets distinct from speech remains unclear. We examine genre effects on phonetic variation in Quebec French music by probing the role of genres (pop, country, alternative, and indie) on laxing and diphthongization, processes characteristic of Quebec French (Walker 1984). Stigma facing formal varieties of Quebec French has vanished within dialect (Kircher, 2012), yet remains for processes that vary regionally or socioeconomically (Côté 2012; Côté & Lancien 2019). Whereas laxing is categorical and non-stigmatized (Côté 2012; Paradis & Dolbec 1998), diphthongization is variable and stigmatized (Côté 2012). We use a novel corpus of ten Québécois singers who released multiple albums from 2011-2021 (29 albums; 326 songs). We find the emergence of genre-specific linguistic norms distinct from speech and argue that genres in music parallel sociolects.

**Keywords.** sociophonetics; language variation; Quebec French; Laurentian French; music; sociolects

**1. Introduction.** Whereas genres<sup>1</sup> such as indie (Beal, 2009), hip-hop (Eberhardt & Freeman 2015), country (Lyon 2019), and rock-n-roll (Coupland 2011) may feature dialectal traits in English, whether genres form targets that are distinct from speech remains unclear. In this study, genre effects on phonetic variation in Laurentian French music (also known as Quebec French or Canadian French) are examined by probing the role of genres on laxing and diphthongization, processes characteristic of Laurentian French (Walker 1984). In particular, we argue that genres can be treated as sociolects in that they are distinguishable based on phonetic realizations and demonstrate identification with particular groups (e.g. Durrell 2004).

We conduct the present study using a corpus of Québécois singers who represent four different genres (pop, country, indie, and alternative). Singers of Laurentian French may be particularly susceptible to dialectal shift in singing due to a gradual destigmatization of the dialect in Quebec since the 1960s (c.f. Lambert et al. 1960; Genesee & Holobow 1989; Kircher 2012). Additionally, these singers commonly release albums and play shows in France, where the music market is larger than that of Quebec (Grenier 1993), and are therefore subject to negative perceptions from speakers of Hexagonal French (Weinstein 1989; Lüdi 1991; Szlezák 2015).

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<sup>1</sup> The term ‘genre’ is used throughout this paper to refer to music style rather than to differentiate music from that of different speech contexts, such as interviews or commentaries.

The study targets two research questions; the first question tests whether genres are distinguishable based on phonological traits: (1) *Are genres distinguishable based on phonological variation in laxing and diphthongization?* We postulate that both laxing and diphthongization will be distinguishable according to genre because both processes are characteristic of Laurentian French and thereby subject to stigma abroad; given that genres index identities (Holt, 2007), genres such as country may index local, Quebec identities and allow for higher rates of realization for dialectal processes than genres such as pop.

We additionally probe whether sociolects in speech are observable in music to quantify the extent to which the two selected processes may carry similar associations in music, like in speech: (2) *Do laxing and diphthongization carry the same stigma sensitivities in music as they do in speech?* Laxing is generally non-stigmatized within dialect in speech (Lappin 1982; Reinke et al. 2006), so we do not anticipate laxing will carry a gender distinction in music. Diphthongization, however, is stigmatized in speech (Côté 2012), so we anticipate men will diphthongize to greater degrees than women since women are generally more sensitive to stigma than men (e.g. Labov 1972).

In this article, we first present a review of the existing literature regarding dialectal accommodation and association with genres. To situate the linguistic context of the Quebec music industry, we give an overview of the destigmatization of Laurentian French in Quebec as well as highlight stigma that is directed from France (Section 2). Section 3 details the creation of a novel corpus which is used to test the research questions presented previously. We then present laxing (Section 4) and diphthongization (Section 5) as two separate studies; each study first presents the target phonological process before detailing the coding and statistical analyses used. Additionally, each study's results and discussion are presented in their respective sections. Section 6 synthesizes the results and discussion for both laxing and diphthongization before the conclusion (Section 7), which summarizes the study's contribution to our understanding of linguistic norms as well as adds to our understanding of the role of genre in dialectal trait realization in music.

**2. Literature review.** In this section, we review previous studies regarding dialectal accommodation and genre association in music (Section 2.1). Section 2.2 details the stigmatization of Laurentian French and how dialectal traits of Québécois singers can be reflected in the present study.

2.1. DIALECTS AND GENRE ASSOCIATION. Previous research on dialectal traits in music has interpreted dialect in music as based on the physical location from which the singers come. To that end, previous research has shown that a minority dialect, such as British English, within the music industry may accommodate to a majority dialect, such as American English, within that industry (Trudgill 1997; Simpson 1999). For example, British singers frequently produce /t/ intervocally while singing as a tap rather than a glottal stop, such as the American variant [berə] instead of the British variant [beʔə] 'better' (Simpson 1999). We then postulate that Québécois singers may be influenced by Hexagonal French dialects, given that France represents the majority dialect and Quebec the minority dialect in the French music industry (Grenier 1993). While the majority dialect in a music industry can play a role in predicting dialectal traits in music, it may not always do so. For example, Beal (2009) demonstrates that The Arctic Monkeys, an indie band, sing with traits of Sheffield English rather than accommodating to American norms. Beal posits this is likely due to their indexation of a local identity associated with indie genres rather than a mainstream or international identity.

Similar to Beal (2009), other researchers have demonstrated that dialectal traits may serve as a marker of a singer's genre. This is shown by Eberhardt & Freeman (2015) in that hip-hop and rap artist Iggy Azalea, a white woman from Australia, is shown to perform while using traits of African American English. The authors argue Azalea does this to fit in with the norms and identities associated with hip-hop and rap genres. Further, Lyon (2019) analyses Taylor Swift over the course of her career as she switched genres from country to pop. While releasing songs and albums as a country singer, Swift produced traits associated with Southern American English speakers, despite hailing from Pennsylvania herself. Therefore, Lyon argues Swift sang using a Southern dialect to conform to norms of the country genre. Lastly, Coupland (2011) uses three case studies from three different genres of music to propose that the notion of 'space' in music may not reference a physical space or location, but rather is based on the music's genre. This may be, in part, because music is a performance whereby singers draw upon known aspects of culture, such as dialect (e.g. Gibson 2011).

While the case studies of Beal (2009), Eberhardt & Freeman (2015), Lyon (2019), and Coupland (2011) offer evidence that dialectal traits may be associated with music genre, a study that directly tests whether genres may function as sociolects is necessary to answer this larger question. We turn to Québécois singers who are of a Laurentian French dialect in order to test our hypotheses.

2.2. LAURENTIAN FRENCH STIGMA. While not directly assessed in this study, attitudes toward Laurentian French provide context for variability since singers must appeal to large audiences for economic success and career longevity (Zwaan & ter Bogt 2009). Stigma towards varieties of Laurentian French spoken in Québec as well as in regions throughout the west of Canada (see Côté, 2012) is well documented (Lambert et al. 1960; Bourhis et al. 1975; Genessee & Holobow 1989; Bouchard 2002; Oakes & Warren, 2007; Kircher, 2012). In Québec, phonological traits associated with the working class are stigmatized (Corbeil, 1976; Lappin, 1982; Côté, 2012). Formal varieties of Laurentian French, however, have undergone a gradual destigmatization, as seen by comparing the following three studies: Lambert et al. (1960), Genessee & Holobow (1989), and Kircher (2012).

Lambert and his colleagues (1960) tested attitudes toward Laurentian French in Montreal. Their results demonstrated that both anglophones and francophones preferred English to French while also highlighting that Hexagonal French is perhaps preferable to Laurentian French. In the 1980s, Genessee & Holobow (1989) replicated the study conducted by Lambert et al. (1960) to quantify the effects that the passage of *la Loi sur la langue officielle* 'The Official Language Act' (1974) and *la Charte de la langue française* 'The Charter of the French Language' (1977) had on attitudes towards French in Québec. While attitudes between French and English were not significantly different, thereby showing an improvement in attitudes towards French in comparison to the 1960s, a comparison of Laurentian French to Hexagonal French demonstrated that Laurentian French speakers are viewed as less intelligent than those of Hexagonal French.

Kircher (2012) directly addresses the differences in attitudes towards Laurentian French and Hexagonal French in Quebec. She found that participants viewed Laurentian French speakers as kinder and more likable in comparison to Hexagonal French speakers, demonstrating that attitudes towards Laurentian French in Quebec have continued to improve since Genessee & Holobow (1989). However, an asymmetry between Laurentian French and Hexagonal French remains for attitudes regarding intelligence and status: Laurentian French participants favored their own dialect while English and French bilingual participants favored Hexagonal French. From Kircher's (2012) results, we see that formal varieties of Laurentian French have largely

been destigmatized for native speakers of that dialect, while Hexagonal French is still preferable for some speakers in Montreal. We may then anticipate that some genres may appeal more to certain audiences over others, thus influencing the singers' realization of Laurentian French phonological traits as opposed to those of Hexagonal French.

Quebec, however, is not the only market targeted by Québécois singers; they additionally advertise albums or play shows in France, where the music market is much larger than that of Quebec (Grenier 1993). Québécois singers are then potentially subject to dialectal stigma from France in addition to lingering stigmas in Quebec from bilingual speakers. In France, formal and informal varieties of Laurentian French are subject to negative perceptions (Weinstein 1989; Lüdi 1991; Slezák 2015). Thereby, genres which target more generic or international audiences may be subject to even greater stigma than those which primarily target the Quebec market.

Although this study cannot speak to the direct impacts of stigma on the realization of dialectal traits in music, it does help characterize why Québécois singers are subject to vary in their production of dialectal traits and will help inform variation shown in the results. In order to test for genre differences in Laurentian French music, we detail in the next section the creation of a corpus of Québécois singers that we will use in both studies.

**3. Corpus.** To probe both research questions regarding the influence of singer genre and gender on the production of dialectal traits in Laurentian French, we created a corpus of ten Québécois singers. To be included in the corpus, singers had to meet four criteria. (1) The singer must have been born in Québec and must have grown up there. (2) The singer must speak French as their first language and must speak a variety of Laurentian French, confirmed by radio and television interviews. (3) The singer must release their albums entirely in French or primarily in French. (4) The singer must have released at least two albums between 2011 and 2021 and cannot have released an album before 2011. These criteria were developed to ensure the comparability of singers for reasons of linguistic background and attempts to account for any lingering effects of the gradual destigmatization of Laurentian French. Additionally, the corpus was balanced for gender within genre. Four genres are included in the corpus: pop, country, indie, and alternative. In total, the corpus contains 326 songs, a total of 29 albums (see Table 1).

<b>Singer</b>	<b>Genre</b>	<b>Gender</b>	<b>Albums</b>	<b>Years</b>
Ingrid St. Pierre	Pop	Female	4	2011, 2012, 2015, 2019
Roxane Bruneau	Pop	Female	2	2017, 2020
Ludovick Bourgeois	Pop	Male	2	2017, 2020
Patrice Michaud	Pop	Male	4	2011, 2014, 2017, 2021
Sara Dufour	Country	Female	2	2016, 2019
Émile Bilodeau	Country	Male	3	2016, 2019, 2021
Maude Audet	Indie	Female	3	2015, 2017, 2020
Félix Dyotte	Indie	Male	3	2015, 2017, 2021
Klô Pelgag	Alternative	Female	3	2013, 2016, 2020
Philippe Brach	Alternative	Male	3	2014, 2015, 2017

Table 1. Singers included in the present study

**4. Study 1: Laxing.** We begin the first study by introducing the targeted phonological process: laxing (Section 4.1). In Section 4.2, we outline our coding methodology as well as describe our statistical analyses. We conclude this study on laxing by presenting the results (Section 4.3) and a brief discussion of their implications (Section 4.4).

4.1. PROCESS INTRODUCTION. Non-lengthened high vowel laxing in close final syllables (e.g. /vit/ [vit] *vite* ‘fast’)<sup>2</sup> is a categorical phonological process characteristic of Laurentian French speech (Dumas 1983; Poliquin 2006; Côté 2012). Previous work, however, has demonstrated that laxing in Laurentian French is variable in music (Owens & Lamontagne 2022). Laxing is generally non-stigmatized when speaking with other speakers of the dialect (Lappin 1982; Reinke et al. 2006), and a Laurentian French speaker who produces tense variants in contexts where laxing is anticipated may be subjected to negative judgments (Paradis & Dolbec, 1998).

4.2. METHODOLOGY. To identify the vowels in contexts that undergo laxing, the phonemic representations were automatically extracted from *Lexique 3.81* (New et al., 2004) and then verified manually for accuracy; borrowings and proper nouns were also excluded. Words which include the context for laxing but are pronounced with a schwa at the end of the word, such as /abit/ *habite* ‘live’ being realized as [abitə]~[abitə], are excluded to avoid the issue of syllabification, which arise in speech and thereby effect process application<sup>3</sup>. 2,030 high vowels were extracted and coded in total. Because laxing cannot be reliably categorized based solely on one or two acoustic indices (e.g. Arnaud et al. 2011; Sigouin 2013), tokens were coded perceptually. A separate analysis of a subset of 99 tokens demonstrates a high degree of reliability between the primary judge and two additional judges using Cohen’s Kappa (k=0.62 for Judge 1; k=0.75 for Judge 2).

A mixed-effects logistic regression is used to predict tenseness based on genre, gender, and year of album release, in addition to the interaction between genre and year of album release and the interaction between gender and year of album release. Genre is included as a factor to test the first research question, which seeks to determine if genres are distinguishable based on laxing rates. By including genre’s interaction with year of album release, we may find distinctions that arise from trajectory. Gender is included as a main factor to test the second research question, which targets whether effects of other sociolects in speech are observable in music. Gender’s interaction with year of album release allows for a more robust understanding of differences that may emerge or converge over time. Speaker and word are included as random intercepts to account for individual differences as well as for differences in lexical item frequency in the corpus.

4.3. RESULTS. As depicted in Figure 1, pop, country, and indie singers all appear to increase their rate of laxing across time, while alternative singers decrease over time. Additionally, pop singers seem to lax less frequently than singers of other genres. However, the results of the mixed-effects logistic regression (Table 2) confirm only that country singers increase their rates of laxing across time ( $\beta=0.3185$ ;  $p=0.0345$ ). Marginal differences are seen for indie singers; they lax less frequently than singers of other genres ( $\beta=-2.2279$ ;  $p=0.0526$ ) and increase their rate of

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<sup>2</sup> Laxing in lengthening contexts is disputed in the existing literature (see e.g. Sigouin & Arnaud, 2015; Burness et al., 2022). High vowels in these contexts are therefore, not included in this study and are excluded from analysis.

<sup>3</sup> High vowels followed by a semi-vowel were also excluded to ensure the reliability of perceptual coding, following the methodology described later in this section.

laxing across time ( $\beta=0.2708$ ;  $p=0.0621$ ). These results demonstrate that laxing rates may be predictable based on the genre of the singer and that the target for laxing rates may evolve according to each genre.

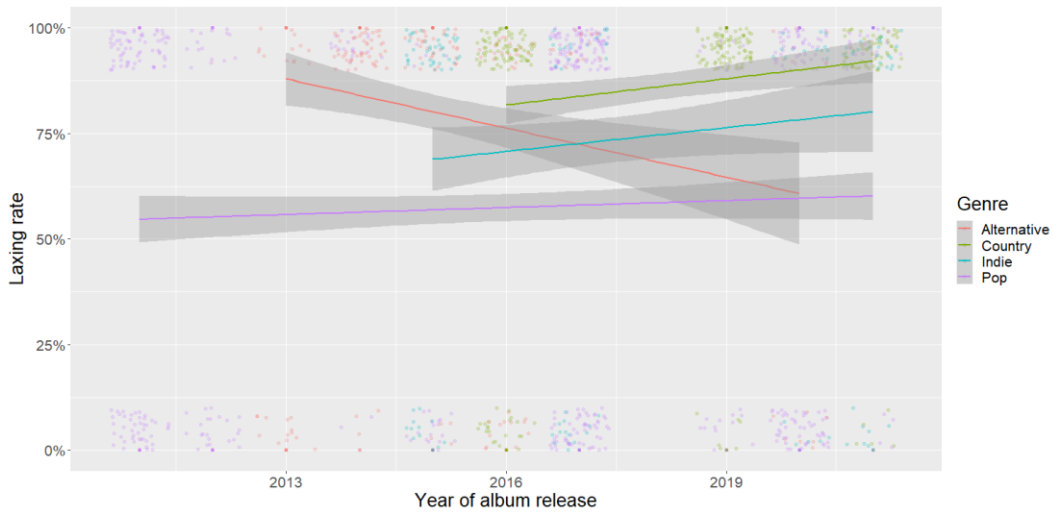


Figure 1. Laxing rate by genre across time

Figure 2 illustrates the results according to gender across time. Men appear to lax more frequently than women; whereas men appear to lax less frequently across time, women appear to be laxing more often across time. The regression output (Table 2), however, demonstrates there is only a marginal statistical difference between the two genders; men lax more often than women ( $\beta=1.2225$ ;  $p=0.0800$ ). Therefore, laxing rates are not highly predictable based on the gender of the singer.



Figure 2. Laxing rate by gender across time

	<b>Estimate</b>	<b>Standard Error</b>	<b>z-value</b>	<b>p-value</b>	
Intercept	1.9009	0.8399	2.263	0.0236	*
Country	-1.0783	1.1839	-0.911	0.3624	
Indie	-2.2279	1.1496	-1.938	0.0526	.
Pop	-0.6752	0.9193	-0.734	0.4627	
Males	1.2225	0.6984	1.751	0.0800	.
Year	-0.0886	0.1123	-0.789	0.4300	
Country across time	0.3185	0.1507	2.114	0.0345	*
Indie across time	0.2708	0.1452	1.865	0.0621	.
Pop across time	-0.0649	0.1223	-0.531	0.5958	
Males across time	0.0005	0.0751	0.007	0.9944	

Table 2. Laxing model output

4.4. DISCUSSION. This study aimed to evaluate genre and gender differences based on the laxing rate of ten Québécois singers. Our results demonstrate that genre distinctions are found for laxing, but only across time. Specifically, country singers increase their rate of laxing throughout their careers. We propose this reflects that country singers are generally more likely than singers of pop, indie, and alternative to index rural or working-class identities since country is similar to soul and blues in that it is more closely tied to a specific culture and locale (Coupland 2011). While indie singers may target a different locale than country singers, they also index local identities as shown by Beal’s (2009) study of The Arctic Monkeys. Interpreting “locale” to reference speakers of Laurentian French in general may account for their increase in laxing rate across time. Additionally, indie singers generally lax less often than singers of other genres, therefore this increase may be an attempt to begin sounding more like the local variety.

Our results demonstrate that gender distinctions are relatively absent for laxing rate: men marginally lax more than women. Given that laxing is a categorical process that is not generally stigmatized in Quebec (Lappin 1982; Reinke et al. 2006), it is not entirely surprising that gender distinctions are minimal in this study. The marginal distinction in gender may still be attributable to stigma because Laurentian French is still perceived negatively by speakers of Hexagonal French (Weinstein 1989; Lüdi 1991; Slezák 2015) who would be a part of the overall music market that Québécois singers target (Grenier 1993). Men plausibly lax more frequently than women because they are generally less sensitive to negative linguistic perceptions than women (e.g. Labov 1972).

Overall, our results for laxing demonstrate that genres are associated with realization rates of dialectal traits. Additionally, laxing appears to carry a similar association in music as it does in speech. To further explore how genres may distinguish themselves, we turn to the process of diphthongization in the following section.

**5. Study 2: Diphthongization.** In this second study, we first introduce the targeted phonological process: diphthongization (Section 5.1). In Section 5.2, we outline our coding methodology as well as describe our statistical analyses. We conclude this study on diphthongization by presenting the results (Section 4.3) and a brief discussion of their implications (Section 4.4).

5.1. PROCESS INTRODUCTION. Vowels in Laurentian French may be lengthened and thereby diphthongized in word final position depending on the vowel quality as well as the syllable environment (e.g. /fɛ:t/ [fɛjt] *fête* ‘party’; Walker 1984; Côté 2012). Table 3 depicts the contexts in which vowels in Laurentian French may diphthongize. The process of diphthongization is variable (Côté & Lancien 2019) and stigmatized in that it is associated with rural and working-class individuals (Lappin 1982; Côté 2012).

Phoneme	Open final syllable	Final closed syllable not closed by /v z ʒ ʁ/	Final syllable closed by /v z ʒ/	Final syllable closed by /ʁ/
/œ/, /ɔ̃/, /ɛ̃/	✓	✓	✓	✓
/e/, /ø/, /o/, /ɑ/, /ɛ:/, /ɑ̃/	X	✓	✓	✓
/ɛ/, /œ/, /ɔ/	X	X	✓	✓
/i/, /y/, /u/	X	X	X	✓
/a/, /ə/	X	X	X	X

Table 3. Contexts in which diphthongization is possible (✓) or not (X) following Walker (1984)

5.2. METHODOLOGY. The second study analyses word final diphthongization. To identify vowels which are in a context to diphthongize, the phonemic representations were extracted automatically from *Lexique 3.81* (New et al. 2004) and verified manually for accuracy; borrowings and proper nouns were excluded. 10,939 vowels that are eligible for diphthongization, according to the contexts outlined in Table 3, were manually segmented in *Praat*. Vowels in which the formants were obscured by background music were not segmented and are therefore not included in the token count. F1 and F2 of each token were measured at 25% and 75% of the phoneme’s duration; the Cartesian Distance of each vowel was calculated using these formant values. F1 and F2 were also measured at 50% duration for each vowel to verify the quality and accuracy of measurements.

A mixed-effects linear regression is used to predict tenseness based on the same factors used in the laxing model: genre, gender, year of album release, interaction between genre and year of album release, and interaction between gender and year of album release. As in the laxing model, the inclusion of genre as a factor tests the first research question which seeks to determine if genres are distinguishable based on degree of diphthongization. By including genre’s interaction with year of album release, we may find distinctions that arise as a result of trajectory. Gender is included as a main factor to test the second research question which targets whether effects of other sociolects in speech are observable in music. Gender’s interaction with year of album release allows for a more robust understanding of differences that may emerge or converge over time. Speaker and word are included as random intercepts to account for individual differences as well as for differences in lexical item frequency in the corpus.

5.3. RESULTS. Figure 3 depicts alternative and indie singers all appear to increase their degree of diphthongization across time, while country singers decrease across time. Additionally, country singers seem to diphthongize to greater degrees than singers of other genres. The results of the mixed-effects linear regression (Table 4) confirm that country singers decrease their degree of diphthongization across time ( $\beta=-9.028e^{-02}$ ;  $p=0.0025$ ), yet they still diphthongize to greater degrees than singers associated with other genres ( $\beta=7.444e^{-01}$ ;  $p=0.0039$ ). Additionally, alternative singers are diphthongizing to greater degrees across time, as reflected in the factor *Year* ( $\beta=5.994e^{-02}$ ;  $p=0.0038$ ). Marginal differences are found for pop singers; they diphthongize

to a lesser degree across time ( $\beta=-4.586e^{-02}$ ;  $p=0.0525$ ). These results highlight that diphthongization is predictable based on the genre of the singer and that these targets are evolving.

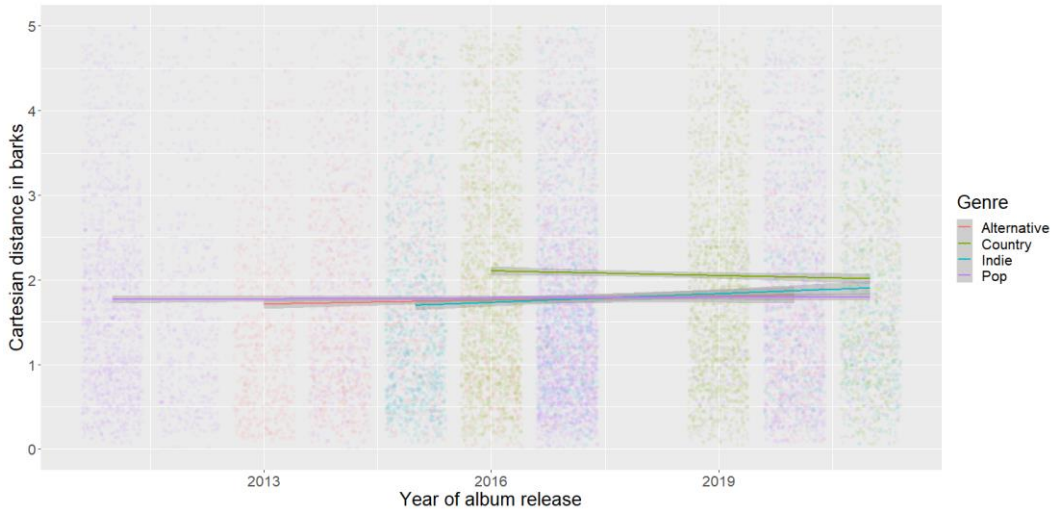


Figure 3. Degree of diphthongization by genre across time

Figure 4 illustrates the results according to gender across time. Men appear to diphthongize to a greater degree than women, although women are increasing the extent to which they diphthongize over time. The regression output (Table 4) confirms the gender distinction depicted in Figure 4; men diphthongize to a greater extent than women ( $\beta=3.119e^{-01}$ ;  $p=0.0345$ ); however, the difference between the two genders in terms of diphthongization diminishes across time ( $\beta=-3.363e^{-02}$ ;  $p=0.0346$ ). These results thereby show that gender influences the extent to which a singer diphthongizes in their songs.

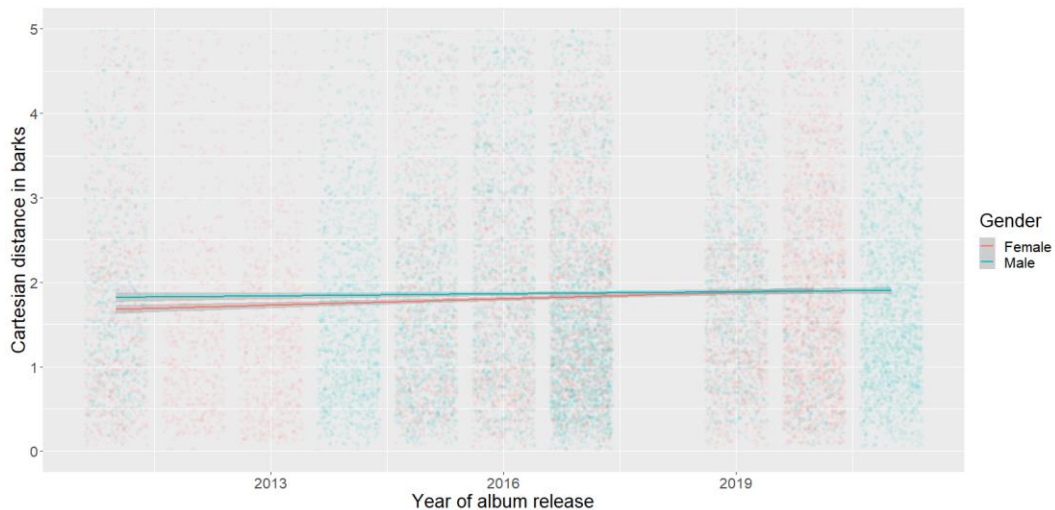


Figure 4. Degree of diphthongization by gender across time

	Estimate	Standard Error	df	t-value	p-value	
Intercept	1.887e <sup>+00</sup>	1.565e <sup>-01</sup>	1.337e <sup>+01</sup>	12.060	1.45e <sup>-08</sup>	***
Country	7.444e <sup>-01</sup>	2.317e <sup>-01</sup>	2.272e <sup>+01</sup>	3.213	0.0039	**
Indie	-2.753e <sup>-01</sup>	2.234e <sup>-01</sup>	1.989e <sup>+01</sup>	-1.232	0.2322	
Pop	1.492e <sup>-01</sup>	1.732e <sup>-01</sup>	1.246e <sup>+01</sup>	0.861	0.4054	
Males	3.119e <sup>-01</sup>	1.336e <sup>-01</sup>	1.448e <sup>+01</sup>	2.334	0.0345	*
Year	5.994e <sup>-02</sup>	2.073e <sup>-02</sup>	1.030e <sup>+04</sup>	2.891	0.0038	**
Country across time	-9.028e <sup>-02</sup>	2.990e <sup>-02</sup>	8.168e <sup>+03</sup>	-3.019	0.0025	**
Indie across time	4.322e <sup>-02</sup>	2.923e <sup>-02</sup>	9.110e <sup>+03</sup>	1.479	0.1392	
Pop across time	-4.586e <sup>-02</sup>	2.364e <sup>-02</sup>	3.997e <sup>+03</sup>	-1.940	0.0525	.
Males across time	-3.363e <sup>-02</sup>	1.590e <sup>-02</sup>	9.815e <sup>+02</sup>	-2.115	0.0346	*

Table 4. Diphthongization model output

5.4. DISCUSSION. This study aimed to evaluate genre and gender differences based on the degree of diphthongization of ten Québécois singers. Our results demonstrate that genre distinctions are found for diphthongization both generally and across time. In particular, country singers diphthongize to a greater extent than singers of other genres. As with laxing, we propose this reflects that country singers are generally more likely to index rural or working-class identities, which are associated with more salient diphthongization (Lappin 1982). However, our results show country singers decrease their degree of diphthongization over time. We postulate, however, that this decrease does not pose a problem for their association with a rural or working-class identity. The two country singers in the corpus, Émile Bilodeau and Sara Dufour, produce other stigmatized dialectal markers that singers of other genres do not. For example, they sometimes pronounce a word such as *histoire* /istwæʁ/ ‘story’ as [istwæʁ], with [ɑ], which is a phoneme that was lost in Hexagonal French but retained in Laurentian French (e.g. Walker 1984), or even as [istwœʁ], with [e] which is even further associated with rurality and working-class folk (Lappin 1982).

Additionally, alternative singers increase their degree of diphthongization across time while pop singers marginally decrease. As a genre, alternative is often a marker of counterculture and tends to express a distaste for mainstream pop culture (Bennett, 2000). We thereby see this notion reflected in our diphthongization results in that alternative and pop appear to be diverging from one another. We postulate that diphthongization may thereby serve as a phonological trait which distinguishes these two genres.

Our results highlight that diphthongization is predictable according to the gender of the singer: men generally diphthongize to greater degrees than women; however, this distinction is disappearing over time. Overall, men are generally less sensitive to negative linguistic perceptions than women (e.g. Labov 1972), therefore it is anticipated that men would diphthongize to a greater extent than women since diphthongization is a stigmatized process, even within dialect (Côté 2012). Women, however, are diphthongizing to greater degrees across time, and the distinction between genders is disappearing. We posit that this may be influenced

by increasingly positive attitudes towards Laurentian French since the 1960s in Quebec (c.f. Lambert et al. 1960; Genessee & Holobow 1989; Kircher 2012).

Overall, our diphthongization results demonstrate that genres are associated with realization rates of dialectal traits. Additionally, diphthongization carries a similar association in music as it does in speech. In the next section, we discuss results for both phonological processes and argue that genres in music function similarly to sociolects in speech.

**6. General discussion.** In this section, we analyze results for both laxing and diphthongization. We first interpret the results based on our first research question regarding differences according to genre. In the case of country singers, we see that they distinguish themselves from other genres by producing, and thereby associating, with increasing rates of dialectal phonological traits; country singers increase laxing rates across time and diphthongize to greater degrees than other singers, although they diphthongize to a lesser degree across time. As discussed in sections 4.4 and 5.4, country singers are generally more likely to index rural or working-class identities, which are associated with more salient diphthongization (Lappin 1982). Even though country singers diphthongize to lesser degrees across time, we propose this does not affect the identities they index since they produce additional, and more stigmatized, dialectal features.

Indie singers, on the other hand, only show marginal distinction from other genres; although they lax less often than other genres, they are increasing their rate of laxing across time. Given that indie shows a tendency to be associated with local identities rather than international or mass-market identities (Beal 2009), we interpret indie's increase in laxing rate as an indication that they are associating themselves with the local market (i.e. Quebec). We interpret indie's lack of distinction for diphthongization as a reflection of the fact that diphthongization is stigmatized (Côté 2012) and thereby associated with a subset of the local market rather than the local market as a whole.

Pop and alternative genres are best interpreted in relation to one another since alternative music is associated with counterculture and often rejects mainstream pop culture, which the pop genre embodies (Bennett 2000). We posit that alternative and pop are not distinguishable based on laxing since laxing is generally non-stigmatized (Lappin 1982; Reinke et al. 2006), and most genres already have high rates of laxing. In the diphthongization study, however, we see that alternative and pop are diverging in their degrees of diphthongization; pop singers are diphthongizing to lesser degrees, while alternative singers are diphthongizing to greater degrees. We posit that this reflects pop singers are more likely subject to stigmas from France than singers of other genres, such as alternative. This is perhaps because pop singers are more likely to market their music abroad than other singers (Grenier 1993).

Our second research question tested whether sociolects in speech are observable in music to quantify the extent to which the two selected processes may carry similar associations in music as they do in speech. We propose that both laxing and diphthongization have similar attitude associations in music because gender differences are marginal in laxing, which is generally non-stigmatized locally (Lappin 1982; Reinke et al. 2006), and are present in diphthongization, which is stigmatized locally (Côté 2012). Thereby, singers may use these dialectal traits to help index identities or avoid associations in their music, as shown in this analysis.

**7. Conclusion.** This article aims to build upon existing work regarding dialectal traits and genre association in music as well as to add to our existing knowledge of linguistic norms by analyzing genres as sociolects. In our corpus, comprised of ten Québécois singers, we find that genres are distinguishable according to laxing and diphthongization. Additionally, gender differences are

marginal in the laxing study but are present in the diphthongization study, indicating that these processes carry similar associations in music as they do in speech. We highlight that genre targets in Laurentian French may embody distinct cultures and identities and that these targets are evolving.

Although this study has offered a first-look at genre analysis using a larger corpus, it is limited in that there are currently only ten singers, and in most instances only two singers per genre. A future study should look to expand to include more singers per genre. Additionally, a larger timeframe for the study should be included to better track how these genres evolve, potentially in relation to events which may have affected Quebec identities, whether locally or internationally. Lastly, additional processes characteristic of Laurentian French should be added to further characterize differences based on genre. Nevertheless, this study (a) demonstrates genres in music are interpretable as sociolects and (b) reinforces linguistic norms are impacted by speaker perceptions.

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