



## **A Prosodic Comparison of Accentuation, Intonation, and Rhythm between Quebec French Rap Production and Normative Quebec French Discourse**

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### **Abstract**

*This study compares the prosodic traits of selected Quebec rap song lyrics to those of normative spoken Quebec French. Data corresponding to the acoustic features—intensity, frequency, and duration of produced sounds—of selected excerpts collected using the phonetic analysis program Praat. Our results demonstrate convergence between the vocal production of selected Quebec rap lyrics and normative Quebec French speech as both forms of oral communication implicate similar basic intonation patterns, follow shared conventions regulating accentuation, and favor open syllables in accentuated and non-accentuated positions. Results also reveal major sources of divergence between these two modes of oral communication, specifically in the use of certain prosodic and rhythmic devices which contribute to the originality of the selected excerpts. This study emphasizes the importance of prosodic elements in oral communication as well as the existence of prosodic variation between modes of oral communication within a common linguistic region.*

Keywords: prosody, Quebec French, intonation, accentuation, rhythm

## Introduction

Speech is characterized by both linguistic elements (lexicon, syntax, grammar, etc.) and extralinguistic elements, also called prosodic traits. Prosody is defined as the ensemble of oral traits presented through verbal expression to convey emotions and intentions to the interlocutor, the listener (OQLF, 2020). To do so, a speaker modulates the pitch, the volume, and the quantity and duration of the flux of air produced when speaking. Borrowing from these sound modulations, the three principle extralinguistic traits are the following: intonation (the pitch), accentuation (the volume and duration of the sound), and rhythm (the speed and sound patterns made by vocalizations and pauses).

Prosody plays an important role in the comprehension of a verbal message, no matter the function of the speech act. Prosody is thus applied in every form of oral expression, including lyrics sung by vocal artists. The musical genre of rap is known for its prosodic traits and the ways in which they influence the musicality of a song. Typically, this musical genre is characterized by the rapidity and the spoken nature of the lyrics, each of these features serving as limits to the creation of such melodic variation as is produced in other musical genres. However, analysis of extralinguistic elements of rap songs reveals to what extent prosody in rap influences the sonority and thus the musicality of a song. This study aims to define each prosodic trait in normative speech, then to contextualize each element within the musical genre of rap through the prosodic analysis of selected lyrics from Quebec French rap songs. This analysis will allow for the signification of prosody to be discussed in the context of rap lyrics as well as more generalized oral expression.

## Prosody

The three principal prosodic traits are intonation, accentuation, and rhythm. Each of these elements combines certain acoustic features which together serve linguistic functions in developing meaning, removing ambiguity, and nuancing expression. Although these elements are extralinguistic, they also contribute to the linguistic precision of a spoken message, and they allow the listener to deconstruct, process, and understand the message being conveyed. When we consider oral expression specifically, we see that prosody replaces writing in the role of precision and allows the listener to achieve a higher level of comprehension compared to the processing of written expression thanks to the extralinguistic elements defined below.

### *Intonation: Definition and Characteristics in the French Language*

Intonation is defined as the melodic structuration created by the modulation of vocal pitch. Physiologically, the frequency of the sonar signal varies in relation to the tension of the vocal cords, and the speed of the air expelled from the lungs is dependent upon the movements of respiratory muscles. The acoustic

effect is the sound variation in relation to the fundamental frequency (Fo), which is the lowest and loudest pitch produced by an individual and is represented in Hz as the number of whole cycles of opening and closing of the glottis by the vocal cords—which creates in this way the melody of the sound (Léon & Bhatt, 2017, p. 89–90). The intonation pattern of speech serves three linguistic functions. First, in a semantic context, intonation can play a role in distinction as the sole indicator of the modality of the phrase, as is the case in a question marked by a melodic incline at the end of an otherwise declarative phrase. The intonation pattern can also have a redundant effect if the modality of the phrase is already indicated by a morphological or syntactic element in the phrase. The second function that intonation serves is the demarcation, or cutting of the speech into groups of sense, thus coinciding with accentuation and pausing, which serve the same purpose. The third function of intonation is the hierarchization of syntagms, or groups of meaning within a phrase, which is significant in modifying nuance (OQLF, 2020).

In spoken French, the intonation pattern ranges between four levels with respect to the fundamental frequency. In ascending order, these levels are the level of finality, the base level, the level of continuity, and the level of interrogation. The modality of the phrase determines the intonation pattern. An imperative phrase is marked by a melody descending from the highest level of pitch to the lowest. It is uniquely the intonation that indicates the imperative modality in this case, and it, therefore, plays the role of distinction. In a declarative phrase, each group of sense begins at the base level and the final syllable of the syntagma climbs to the level of continuity—indicating that the phrase is not yet finished—with the exception of the final group, the last syllable of which descends to the level of finality to mark the end of the phrase. In the case of a phrase encompassing an incision, the inserted segment of the phrase is produced at the level of finality.

The pattern of intonation of an interrogative phrase varies according to the fashion in which the interrogative modality is indicated. If the intonation alone marks the interrogative, the melody of the phrase climbs from the base level to the level of interrogation and thus plays a role in distinguishing the meaning. If the modality is indicated by the presence of an interrogation marker, such as “*est-ce que*” (is it that), the phrase will begin at the base level; the syllable formed by the word “*que*” (that) will be produced at the level of continuity, and the remainder of the phrase will be produced at the base level. Intonation plays a redundant role in this case in indicating the interrogative modality. If the modality is instead marked by the inversion of the sentence structure, the pitch will climb from the base level to the level of interrogation, and the accented syllable—the final syllable in French speech—will descend to the level of continuity. In this case, the intonation also plays the role of redundancy.

### ***Accentuation: Definition and Characteristics in the French Language***

Accentuation is defined as the way in which a spoken chain of language is segmented by the prominence of one syllable compared to those surrounding

it. This emphasis is created by varying three acoustic features: the duration, the volume, and the melodic variation of the speech produced. In order to vary these features, the modulation of the tension of the articulatory apparatus is important. This signifies that this prosodic element—accentuation—depends on the physiology of the speaker (Léon & Bhatt, 2017, p. 82). In terms of semantics, accentuation favors the comprehension of a message as a carrier of implicit or nuanced meaning. Additionally, accentuation serves an expressive function by emphasizing certain elements within the message.

In the French language, we find three types of accentuation. The first, the tonic accent, is inherent to the language and is a fixed rhythmic feature. In French, the tonic accent always falls on the final or accentuated syllable of each rhythmic group. The tonic accent increases the duration and the volume of the sound by which the syllable is produced. This type of accentuation influences the rules of “*enchaînement*,” or the chaining of pronunciation across syllables, and thus contributes to speech segmentation. Every unit within the same group of sense is chained to the others up to the final syllable of the group, after which the pronunciation chain is broken. Otherwise stated, accentuation regroups speech into units of meaning and plays a role in clarifying cases of ambiguity. The second type of accentuation is the secondary accent, which falls on the initial syllable of a group of sense. This accent is the result of physiological constraints on articulation, and the resulting length and volume of the accentuated syllable never surpass those of the tonic accent (Billières, 2013). Finally, the expressive accent, or the accent of insistence, is the discretionary act of emphasizing a target syllable to convey emotion or relative importance associated with the syllable selected.

### ***Rhythm: Definition and Characteristics in the French Language***

The rhythm of a phrase is the alternation between accentuated syllables, non-accentuated syllables, and pauses, and is also characterized by the speed of production of these elements. In French, the meter of speech is characterized according to two notions: accentual bipolarization and accentual projection. According to the first notion, a rhythmic group can receive an accentuation on the first or last syllable. The second notion dictates that “the potential final and initial accents are projected onto the surface structures in different ways so as to perform various functions” (Di Cristo, 2003). In the French language, the metric foot is a unit formed by a limited number of non-accentuated syllables, and one accentuated syllable is always found at the end of the unit. This orientation of the metric foot is classified as “head to right” and is a fixed feature of the French language.

The smallest rhythmic units are called “*rhythmemes*.” These units perform a demarcative function since they segment the flow of the speech. A rhythmic analysis is focused on syllable count, rhyme, and alliteration. The syllable count is the number of syllables in the metric foot and plays the role of segmentation. The interactions between these syllables can create rhyme—

the repetition of similar sounds in the accentuated position—or alliteration—the repetition of the same consonant in initial positions of multiple syllables within close proximity to each other (Nyéki, 1973, p. 129). The French lexicon favors the creation of rhymes through the linguistic processes of lexical creation, notably by derivation—the addition of affixes to a root word to form new words—and by flexion—the modification of the root word through the addition of inflections or linguistic gender assignments. These two creation processes can involve the addition of fixed elements to the end of the root term, thus creating a multitude of words with the same ending and facilitating the creation of rhyme. Although “alliteration seems to work against the French language, because it emphasizes the initial position, which is normally non-accentuated,” the process of derivation allows for the addition of fixed elements at the beginning of a root term through prefixation, which also facilitates the creation of alliteration (Nyéki, 1973, p. 130).

### **Particularities of Quebec French Prosody**

Within the past three decades, one research vein has been focused on the description of Quebec French prosodic characteristics and the comparison of these characteristics with those observed within other French varieties. The dissertation presented by Prémont in 2015 provides an overview of the major findings reported within this research vein. Prémont highlights the contribution of Ménard (1998) in providing evidence that the geographic origin of a speaker can be deduced using prosodic cues alone, particularly those relating to intonation (Prémont, 2015, pp. 40–41). Ménard concludes that the fundamental frequency of speech production is generally lower in Quebec French when compared to other French varieties (in Prémont, 2015, p. 41). This conclusion supports the notion that discernable prosodic differences exist between different varieties of spoken French. The characterization of Quebec French intonation falling within a lower register is corroborated by the study of Bissonnette (2000), which presents a comparison of Quebec French with the predominant French varieties spoken in France (in Prémont, 2015, p. 41). This study not only supports Ménard’s findings of lower intonational frequencies among French speakers from Quebec but also provides evidence of distinct accentual and rhythmic tendencies observed from these same speakers, most notably, that vowel production is characterized by a generally increased syllabic duration when compared to the production of French speakers from France (Prémont, 2015, p. 41). Prémont cites another major study in support of the particularity of Quebec French intonational patterns conducted by Kaminskaïa (2005), who reports more abrupt transitions between intonational frequencies, and thus more modular schemas within the intonation patterns of Quebec French speakers (Prémont, 2015, p. 42). In her own study, Prémont produces findings supporting the distinct prosodic characteristics of spoken Quebec French at both levels of perception and production (p. 125). Her primary observation is that prosodic differences within the acoustic property of syllabic duration are significantly linked to perceptive differentiation between

the production of Quebec French and other varieties of spoken French (Prémont, 2015, p. 126). As Prémont highlights, while previous research has sufficiently provided evidence to support the notion that spoken French varieties differ in relation to their respective prosodic characteristics, many research questions still remain to be addressed within the study of Quebec French prosody.

## **Rap as Speech**

Oral expression can be produced in many unique types of communication situations. Just as poetry is a form of oral expression when read or interpreted out loud, so too are sung musical lyrics. Additionally, this genre of oral expression distinguishes itself from others in many ways, one of which is its nature of being derived from oral language and transmitted vocally while also being preserved both in oral (in the form of recordings) and written (in the form of written lyrics) forms. An analysis of the lyrics of rap songs is thus facilitated by the accessibility of the corpus—found in written form on websites publishing song lyrics as well as in recorded vocal form on websites belonging to the musical artists producing the songs, or on the websites which publish videos and audio clips from these artists.

Comparative research has been conducted within the fields of psychology and psycholinguistics between the prosodic characteristics of song and speech. This research reveals similarities between the two communicational modes particularly linked to rhythmic traits, which have been found to be statistically significant in the mediation of perception, both of music and speech. Hausen et al. (2013) have corroborated this finding through their cognitive neuroscientific research targeting differences in perceptive deficits of patients with amusia (a disorder of music perception) and aphasia (a disorder of speech perception). Their 2013 study involved testing the perceptive abilities of healthy participants in order to identify the potential existence of underlying connections in the processes of music and speech perception. Their results demonstrate a clear association between music perception and speech perception particularly pertaining to the perception of prosodic characteristics related to rhythm (pp. 11–13). While scientific findings have been made available by Hausen et al. and their contemporaries relating to the prosodic comparison of speech and music perception, the underlying prosodic differences between normative speech and musical expression in the function of musical genre have yet to be investigated. Thus, the present study focuses on the prosodic characterization of musical expression unique to the genre of rap produced in Quebec.

## **Methods**

This study focuses on the analysis of the lyrics of certain songs from the Quebec rap musical genre which were selected to facilitate the comparison of prosodic traits characterizing the local genre against those characterizing normal speech. The songs selected function as sources of examples rather than a corpus

representative of the entire genre. Future studies could target a larger corpus to conduct a more exhaustive analysis to represent the prosodic traits of this musical genre.

## Composition of the Corpus

The corpus consists of two principal elements: digital files containing the written lyrics to the selected songs and digital excerpts of audio files corresponding to the selected verses from each song. Two songs were chosen: “Lendemain,” a single released in May 2019 from Quebec rap artist Koriass, the stage name of Emmanuel Dubois, and “Sac de Sport,” a song released on the album *Surhomme* in October 2019 from Lary Kidd, the stage name of Laurent Fortier-Brassard, with featuring artist Loud. Due to the quantity of data extracted from these songs, ten lines from each song are included in the corpus. To maintain a unified sampling method, the same number of lines were selected from each song.

## Data Collection Methods

Each line chosen from both songs was analyzed following the same procedure. First, the written lyrics were extracted from the Bandcamp website corresponding to the song being analyzed, then saved in a unique word processing file.

The second step involved the analysis of audio files using the program Praat—a free-to-use program that allows the user to conduct a phonetic analysis of sound files. First, data corresponding to the intonation of the rappers’ voice were collected and used to generate graphs presenting the sound frequency of the voice, measured in Hertz (Hz), with respect to time.

Using the same method, data relative to the accentuation, specifically concerning the volume of the rapper’s voice, were collected and graphs were generated to present the volume, measured in decibels (dB), in relation to time.

Next, data sets relative to accentuation and rhythm—specifically the duration of syllables and pauses made by the rapper within each line of the song—were collected and used to establish the syllabic meter (pattern of accentuated and non-accentuated syllables and pauses). These data were collected using graphs generated with Praat as well as by manual extraction. The data were then presented in tables corresponding to the string of syllables and pauses extracted from each song verse in relation to the length of each syllable or pause, measured in seconds, in relation to the syllable itself and its phonetic representation.

The final step of the data collection was the modeling of syntactic trees corresponding to each line of lyrics. These models were generated to facilitate the theoretical identification of rhythmic groups, or groups of meaning, to be used as reference points during the analysis phase. This step was critical for the analysis of prosodic traits since the syntactic structure is known to hold a strong influence over the prosodic tendencies of normal speech.

## Results

In this section, the results of the prosodic analysis will be presented as examples that allow for the comparison of the prosodic characteristics of the rap genre to those of normal speech. It must be acknowledged that these examples are anecdotal; they do not represent the ensemble of the Quebec rap genre, only the songs from which the lyrics were extracted and possibly the tendencies of the artists who sang them. However, their presence does allow for the analysis of the general prosodic nature of the genre compared to that of regular speech.

## Intonation

In terms of intonation, the two Quebec rap songs are found to be distinctive due to their intonation patterns—that is to say, the changes in frequency compared to the fundamental frequency value across a range of four frequency levels ( $n_1$ ,  $n_2$ ,  $n_3$ ,  $n_4$ ). In the two songs, certain patterns were discovered which match certain intonation patterns of regular French-language speech. Furthermore, unique patterns were also discovered in each song in relation to the style of each rapper.

In our discussion of intonation patterns, we will refer to the basic intonation patterns of the French language, originally modeled by Delattre (Billières, 2013). In the two Quebec rap songs, five of these intonation patterns are found. We start with the two models of minor continuation patterns—the frequency of intonation increases by one level—and major—the intonation increases by two levels. These two intonation models indicate the end of a syntactic group of meaning in a non-accentuated position—that is to say, a syntactic group which exists within a surrounding phrase and which is followed by one or more other syntactic groups. Two other Delatirian intonation patterns present in the rap songs are the low parenthesis and high parenthesis (also referred to as the “echo”). These two patterns serve the purpose of indicating a parenthetical clause or a short proposition inserted inside of a surrounding phrase. The last Delatirian intonation pattern found within the two songs is the model of finality (Billières, 2013). This pattern is a curve that descends at the accentuated, or final, syllable thus marking the absolute final position of the syllable at the end of the phrase. These five basic intonation patterns are illustrated in Figure 1. Regarding the production of these patterns, they are all transposed in a distinctive manner in relation to the style of each of the rap artists.



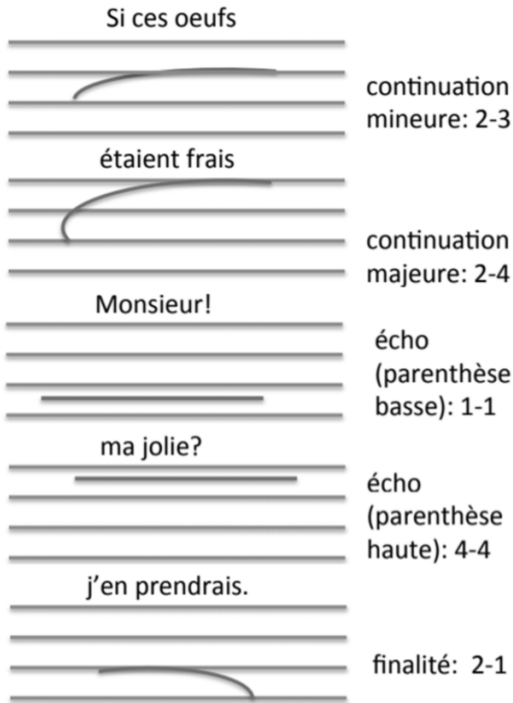


Figure 1 Five Delatirian Intonation Patterns Identified in the Corpus (Billières, 2013)

Concentrating specifically on the artist Koriass's individual style, the intonation pattern of each phrase tends to begin with a parenthesis, followed by a suite of continuation curves, and end with a finality curve. For example, we examine the verse, "*j'suis un king, c'est normal que j'aïlle mes royautés*" (see Appendix for Excerpt 1 translation), which is composed of four rhythmic groups each consisting three syllables [Koriass, 0'19–0'22]. The first group is produced following a high parenthetic intonation scheme at n3; the second group follows a minor continuation curve, moving from n1 towards n2; and the final two groups follow an elongated finality curve between n2 and n1. In this way, the intonation scheme of the song lyrics resembles that of normative speech where continuity is indicated by ascending sound frequency and finality is marked by descending sound frequency.

We also notice the reproduction of these basic intonation patterns in the production of Lary Kidd. In a similar fashion, this artist presents a propensity to end his phrases with a finality curve. However, his style is set apart by his tendency to alternate between suites of parenthetic intonation schemes and finality curves within a single phrase culminated by a more marked finality curve. We cite the following verse: "*okay, parlons de la marque de linge, trente minutes*

*c'est trente mille dollars*" (see Appendix for Excerpt 2 translation) [Lary Kidd, 0'51–0'55]. This line begins by a succession of two major continuity curves, each ascending from n1 to n3, first between the two syllables, /o.ke/, and again across the three-syllable suite, /paʁ.lɔ̃.də/. The line continues with a finality curve across the suite, /la.maʁk.də.lɛ:ʒ/, and ends with the succession of a parenthetical group followed by a finality curve corresponding to the rhythmic groups, /tʁɑ̃.mi.ny/ and /sɛ.tʁɑ̃t.mil.də.laʁ/ [Lary Kidd, 0'51–0'55]. These two final groups represent a parenthetical clause inserted at the end of the preceding proposition. These intonation patterns reflect the unique style of this artist. We consider the possibility that this specific construction serves to demarcate and segment the phrase, functions which are primordial to comprehensibility and which are also fulfilled in normative speech by prosodic elements.

An element unique to the style of Koriass is the use of tremolo—the rapid alternation between two neighboring sounds. We cite an example of this intonation pattern in the following verse: “*mes amis j’peux les compter sur les doigts d’une main*” [Koriass, 0'11–0'14]. The first ten syllables are produced at frequencies alternating between n2 and n3, thus creating a tremolo throughout the suite, /me.za.mi.zpø.le.kɔ̃.te.syʁ.le.dwa/. The remaining two syllables are produced following a finality curve to end the line [Koriass, 0'11–0'14]. In this case, we posit that the tremolo is used not only as a tonal feature but also as a rhythmic parameter contributing to the overall musicality of the verse.

The originality of the artist Lary Kidd also stems from elements of intonation. Although we find examples of tremolo in his vocal production as well, another process appears more characteristic of his style: a certain melodic symmetry created between monotone groups. We cite a verse composed of five rhythmic groups, each comprising four syllables: “*sweet latina qui est by my side, oh lalala, so quand je danse, j’suis out of line*” [Lary Kidd, 0'40–0'44]. The suite, /o.la.la.la/, is found in the center of this verse and divides the overall phrase into two proportionate groups, each produced at a stable or monotone frequency. Within both groups, though each is devoid of melody, we discover an alternation between relatively short and long syllabic durations which produces a prosodic pattern having an effect similar to that of a melody, only based on measurements of time rather than frequency.

## Accentuation

In this section, although our analysis also focused on sonar volume, our discussion is primarily concentrated on syllabic length as an effort to respect the length restrictions of this project.

## Tonic Accent

The two artists set themselves apart in terms of accentuation. In spoken French language, the tonic accent, also known as the primary or final accent, is

always found in the final accentuated position of a phrase. Our analysis reveals that one of the rappers, Lary Kidd, preserves the tonic accent according to the conventions of French normative language. However, the other artist, Koriass, does not systematically conform to these conventions.

We cite two cases in which Koriass does not produce the tonic accent. The first case appears to be motivated by rhythmic preservation. In rap music especially, pauses are employed to construct rhythms and often replace phonation. This means that it is the combination of the syllable in the final position along with a potential pause to follow which together occupy the place typically filled by the accentuated syllable. For example, for the syllable in the final position of the verse, “*j’m’en viens pogner le paper comme Louis puis Véronique, hé,*” which is the /e/ sound, the duration of the syllable does not exceed that of all other syllables in the suite [Koriass, 0’24–0’27]. However, the addition of the pause which precedes the final syllable elongates the total duration, thus satisfying the conventions of the final position accentuation. From a musical perspective, this phenomenon allows for the creation of unique patterns formed between instrumental and vocal rhythms.

The other case conditioning the non-conservation of the tonic accent in final position is the alternation between languages, or code-switching. While English favors accentuation at the beginning of individual words, French instead favors accentuation at the end of the word. We find many examples where the switching between French and English offsets the rhythm created by the duration of successive syllables. For example, in the verse, “*Get rich pour que toute la famille soit okay,*” the syllable in second to last position, the /o/, is the longest even compared to the syllable in the final position [Koriass, 0’16–0’19]. This divergence from the standard French accentuation pattern of stressing the syllable in the final sentence position seems to result from the occurrence of the English adjective, “okay.” English accentuation patterns would require this element to be pronounced with the accent placed on the first syllable, the ‘o’ rather than on the second, the ‘kay’. In this example, the rhythmic offset at the penultimate position, the second to last syllable of the phrase, seems to be a direct result of the alternation between French and English language elements within the verse.

We cite an example of a more marked offset in accentuation – the rhythmic schema is inverted throughout a longer segment of the verse. Within the verse, “*yo / j’run le game / check moi / courir / dans mes / runnings,*” the accentuation pattern becomes inverted between the two constituent propositions [Koriass, 0’21–0’24]. Therefore, although the syllables in final position of each rhythmic group in the first proposition, /joʊ/ and /geɪm/, are accentuated in accordance with French conventions, it is the syllables in initial position of the rhythmic groups which are accentuated within the second proposition, /ʃɛk/, /ku/, /dɑ̃/ and /ɪn/, in accordance with English language accentuation conventions. This phenomenon holds a considerable influence over the resulting prosodic effect since the duration of the syllable in final absolute position, /nɪŋ/, remains shorter than that which

precedes [Koriass, 0'21–0'24]. We thus note that this effect largely distinguishes the oral production of these song lyrics compared to that of normative French speech.

### ***Secondary Accent***

The presence of a secondary accent can modify whether the final accent will be conserved in a short proposition at the head of a phrase. We find evidence of this phenomenon in the verses of both artists. In “Lendemain,” one verse begins, “*je m'en viens,*” in which we observe a longer syllabic duration on the first syllable, /ʒmã/, relative to the second syllable, /vjẽ/, even though the second syllable is found in final position of the rhythmic group [Koriass, 0'24]. In “Sac de sport,” a verse begins with the short proposition, “*j'la prends,*” in which we observe the same phenomenon [Lary Kidd, 0'44]. Within this context, even while the initial accent exceeds the duration of the final accent, the conservation of the final accent in final absolute position of the larger encompassing verse still resembles accentuation models of normative discourse.

Concerning the interaction between French and English languages in the lyrics, we observe another interesting phenomenon as we find points of convergence between the systems of accentuation belonging to both languages. Although, in certain cases, the English accentuation model concerning the accentuation of leading syllables risks destabilizing French tonic accentuation, this first syllable English accentuation model aligns with that of the French initial, or primary, accent. For example, we cite the nominal group, “sweet Latina,” found in the initial position of a verse by Lary Kidd, in which the length of the initial syllable surpasses that of the others [Lary Kidd, 0'40–0'41]. This occurrence simultaneously satisfies the conventions of French and English language accentuation.

### ***Expressive Accent***

Our analysis unveils the presence of the expressive accent and the fashion in which it modifies the accentual pattern of its surroundings. In most cases, we find that the effect of the expressive accent is the destabilization of the tonic accent. We cite two examples in this section. First, we note that the expressive accent in the proposition, “*je l'appelle*” “low res,” is placed on the adjectival group which appears between quotation marks in the written lyrics to convey the same emphasis [Lary Kidd, 0'48–0'49]. The duration of the syllables /loo/ and /læz/ are quasi-identical. The redistribution of the accent across the entire two-part term perturbs the tonic accent and further reinforces the emphatic accentuation. We cite the second example of an expressive accent placed on the parenthetical, “motherfucker,” in a larger encompassing verse by the same artist [Lary Kidd, 0'57–0'58]. Although we would expect to find the tonic accentuation of the final syllable in accordance with French accentuation conventions, we

note instead the presence of an expressive accent placed on the first syllable in agreement with English primary accent conventions. Since this parenthetical clause is housed within a larger phrase, the preservation of the English primary accent thus functions to also create a conventionally French accent of insistence.

## Rhythm

Given the widespread and frequent occurrence of multiple rhythmic devices throughout the selected lyrics, we consider that the prosodic rhythm contributes to the zone of divergence existing between the two analyzed Quebec rap songs and normative Quebec French speech traits.

## Syllable Count

The syllabic distribution of each of the two songs is distinct. In “Lendemain” by Koriass, we find a difference in the variety of syllable types in the function of the syllable’s position. Not only is the variety of unique syllable types found in accentuated positions greater than that of those found in non-accentuated positions but also the distinct syllable types are unique to the precise position and are longer and more complexly accentuated compared to non-accentuated positions. The composition of the accentuated syllables ranges from one to four composing elements, or phonemes, compared to the non-accentuated syllables which are limited to a maximum of three composing elements. These characteristics of greater variety and complexity corresponding to accentuated syllables also apply to the song “Sac de sport” by Lary Kidd. However, the two songs differ in terms of the aperture, or the open or closed nature determined by whether the syllable ends with a vowel (open) or a consonant (closed) of the accentuated syllables. We find that open syllables are favored in non-accentuated positions at nearly identical frequencies by both artists—at a rate of 84% of occurrences in “Lendemain” and 85% in “Sac de sport”. However, while Koriass also favors open syllables in accentuated position, at a rate of 55%, Lary Kidd instead favors closed syllables in accentuated position, at a rate of 60%. Despite this difference, these tendencies represent a commonality between the song verses and normative French speech since the open syllable is also favored in the spoken French language.

## Rhyme

The global rhyme patterns of each artist are unique. In “Lendemain” by Koriass, the ten analyzed verses are divided into couplets, except for the seventh and eighth lines which only feature internal rhymes. Additionally, none of these couplets share the same rhyme. However, within each verse, we find internal rhymes created by the syllabic structure. For example, in the verse, “*yo, je run le game, check moi courir dans mes runnings,*” we identify the model open syllable-closed syllable repeated three times within the syllabic pairs: /lə.ɡeɪm/,

/ku.ʁiʁ/ and /ʁo.niʁ/ [Koriass, 0'21–0'24]. Although identical phonemes are not implicated, similarities created through syllabic structure create a rhyme-like sonar effect.

In “Sac de sport” by Lary Kidd, all ten verses share certain rhymes. Amongst 23 rhyming propositions, there are five unique rhymes identified. We cite an excerpt from the lyrics:

*Oh boy, man I'm so fresh, oh boy man, il faut qu'j'flex*  
*Cocaine in my dope flesh, pull up, pull up dans la grosse Benz*  
*Fausse Rolex qui est au coat check, so I can go all night like*  
*no stress [0'29–0'41].*

In these three verses, we discover seven repetitions of the suite of vowels [o] and [ɛ] which are further repeated in three later verses. In addition to the globally interwoven rhymes, we also find internal rhymes repeated multiple times within single verses. The verse, “sweet **latina** qui est **by my side**, oh **lalala**, so quand je **danse**, j'suis outta **line**,” contains eleven syllables for which the principal vowel sound is identical [Lary Kidd, 0'40–0'44]. In this case where the rapper alternates between languages, acoustic analysis privileges the identification of these rhymes in a manner less restrained compared to visual analysis of the written lyrics given the differences in the graphic representations of the same and similar sounds in both languages.

### *Alliteration and Assonance*

Our analysis indicates that both artists employ the stylistic devices of alliteration and assonance. In “Lendemain,” the tenth verse contains alliteration and assonance. We note the repetition of the phonemen, [d], six times in the verse, “**do** or **die**, **du bout des doigts**, je touche le **bout des rêves**” [Koriass, 0'35–0'37]. Although alliteration only affects the starting phoneme of a given syllable, assonance can appear in any position. We cite within the same verse the presence of assonance associated with the [u] sound: “**do** or **die**, **du bout des doigts**, je **touche le bout des rêves**” [Koriass, 0'35–0'37]. When appearing simultaneously, these stylistic devices have a more profound impact on the rhythmic ensemble compared to the lone apparition of only one or the other.

Analysis of the song “Sac de sport” reveals the triple alliteration of the phonemes [k], [ʃ] and [ʒ] throughout the first verse, “I mean ballin’ **comme quand Shaq jouait**, so donne un bec sur **chaque joue**” [Lary Kidd, 0'25–0'29]. This combination of multiple unique alliterative instances creates a distinct and complex rhythmic effect which is not found in the other artist’s verses. Additionally, we identify a similar depth of complexity pertaining to the assonance found in the verses of Lary Kidd. The rhyme previously cited throughout the second, third, and fourth verses of “Sac de sport” is largely established through the repetition of the vowel [o], though this assonance goes beyond the syllables in penultimate

position. We indicate below the occurrences of this vowel sound in these verses:

*Oh boy, man I'm so fresh, oh boy man, il faut qu'j'flex*  
*Cocaine in my dope flesh, pull up, pull up dans la grosse Benz*  
*Fausse Rolex qui est au coat check, so I can go all night like no*  
*stress [0'29–0'41].*

This vowel repeated fourteen times creates a secondary rhythm offset from the global rhyme of these three verses. Due to the widespread and profound occurrence of these stylistic devices throughout the analyzed lyrics, we consider that these rhythmic devices contribute largely in distinguishing these two Quebec rap songs from normative French speech.

## Conclusion

Through prosodic analysis, we have demonstrated many diverse and underlying similarities and differences between two types of oral expression—normative French language speech and song lyrics sung by Quebec rap artists. We have illustrated the similar intonation patterns existing between these two forms of oral expression as well as the unique devices of tremolo and tonal symmetry which contribute to the originality of Quebec rap verses. Additionally, we have discussed accentuation trends and the way in which code-switching between French and English perturbs, satisfies, and amplifies the prosodic effects of tonic, initial, and expressive accents. At the end of our analysis, we have underlined the distinctive rhythmic traits of the two selected excerpts from Quebec rap songs as well as the way in which these features distinguish the lyrics from normative French speech. In its ensemble, our study identifies and emphasizes not only the originality of the Quebec rap musical genre created through prosody but also the importance of prosody in oral expression, no matter the mode of communication.

The prosody of speech represents an underlying mechanism of oral expression and serves to add precision to the spoken message, transmitted through sonar frequencies perceived within cerebral neural networks. Through our findings and those from previous research in psychology, psycholinguistics, and other domains interested in the perception and production of prosody in speech and music, we conclude that the investigation of prosody, while already having been extensively pursued in relation to general connections between speech and music, remains largely unexplored in relation to musical genre. Due to the significance of our findings, we consider this study domain to be a worthwhile terrain for continued research.

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## Appendix

### Excerpt 1, from “Lendemain” by artist Koriass

*Yeah, mes amis j'peux les compter sur les doigts d'une main  
 Pis ceux qui ont pas d'vision, j'peux les voir de loin  
 Get Rich pour que toute la famille soit okay (Okay!)  
 J'suis un king, c'est normal que j'aille mes royautés  
 Yo, j'run le game, check moi courir dans mes runnings  
 J'm'en viens pogner le paper comme Louis pis Véronique, hé  
 Pendant que tu cours sur place, fais le running man  
 Moi pis ma copine on get money comme les Morissette  
 Tellement d'routes que j'ai parcourues dans mes souliers Nike  
 Do ou die, du bout des doigts, j'touche le bout des rêves*  
 (Retrieved from Genius Media Group Inc., *Lendemain – Koriass.*)

### Excerpt 1, proposed translation

Yeah, my friends I can count on my fingers  
 And those who lack vision, I can see from afar  
 Get rich so the whole family can be okay (Okay!)  
 I am a king, it's normal that I be paid my dues  
 Yo, I run the game, see me running in my joggers  
 I come back holding the paper like Louis and Véronique, hey  
 While you run in place, I do the running man  
 Me and my girlfriend we get money like the Morissettes  
 So many roads I have traveled in my Nike sneakers  
 Do or die, with my fingertips, I touch the edge of dreams

### Excerpt 2, from “Sac de sport” by artist Lary Kidd

*I mean ballin' comme quand Shaq jouait, so donne un bec sur chaque joue  
 Oh boy, man I'm so fresh, oh boy, man, il faut qu'j'flex  
 Cocaine in my dope flesh, pull up, pull up dans la grosse Benz  
 Fausse Rolex qui est au coat check so I can go all night like no stress  
 Sweet Latina qui est by my side, oh lalala, so quand je danse, j'suis out of line  
 Je la prends par la main pis on va faire l'amour dans une autre pièce  
 Oh yes, ta ugly girl, je l'appelle «Low res», j'te souhaite un faux test de grossesse  
 (Anyway)  
 Ok parlons de la marque de linge, trente minutes, c'est trente mille dollars  
 Tous les dirty looks de tous ces mannequins mais si elle m'touche, motherfucker,  
 je la crisse dehors  
 Man, I beast*

(Retrieved from Genius Media Group Inc, *Sac de sport – Lary Kidd.*)

**Excerpt 2, proposed translation**

I mean ballin' like when Shaq was playing, so give a peck on each cheek  
Oh boy, man I'm so fresh, oh boy, man, I have to flex  
Cocaine in my dope flesh, pull up, pull up in the big Benz  
Fake Rolex which is in the coat check so I can go all night like no stress  
Sweet Latina who is by my side, oh lalala, so when I dance, I'm out of line  
I take her by the hand then we will make love in another room  
Oh yes, your ugly girl, I call her "Low res", I wish you a false pregnancy test  
(Anyway)  
Ok let's talk about the linen brand, thirty minutes, that's thirty thousand dollars  
All the dirty looks from all these models but if she touches me, motherfucker, I'll  
kick her out  
Man, I beast