SONORITY AND POPULARITY OF REGGAETON: FROM THE GHETTO TO THE MASS

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Abstract

Reggaeton, originally a niche genre emerging from reggae dancehall and popular among Puerto Rican youth in the 1990s, has evolved into the most widely distributed and consumed Latin music genre globally. This transformation parallels similar historical shifts in popular music, where niche styles transition to mainstream acceptance, often accompanied by aesthetic changes to reach broader audiences. This study examines reggaeton's presence on the Billboard Hot Latin Songs chart (2006-2023), analyzing 517 reggaeton tracks out of 1,442 using Tunebat's audio spectrum. The findings reveal sound characteristics linked to the genre's rise in popularity.

1. Introduction

Twenty years have passed since Daddy Yankee's "Gasolina" (2004) introduced reggaeton to the world, a milestone widely acknowledged in academic literature (Nwankwo, 2009; Rivera-Servera, 2009). The genre has since gained recognition in academia, intersecting studies of popular music, gender, and individual and collective identities.

A literature review reveals that most studies employ qualitative and descriptive methodologies, selecting observation units through qualitative procedures rather than systematic indicators or data structures. This approach often reflects a class bias, with authors evaluating the phenomenon based on their beliefs rather than empirical data. Despite reggaeton's controversial themes, such as sexuality and urban experiences, its evolution from underground music to a globally mainstream genre that significantly contributes to the music industry's revenue warrants examination (Salvado, 2020). The genre's journey from being persecuted and censored in the late 1990s to achieving widespread popularity and mainstream acceptance raises important questions (Pereira & Soares, 2019a).

This study posits that reggaeton's transition from niche to mass appeal involved concessions in aesthetics, sound and visual production, and lyrical content. This pattern is consistent with historical shifts in music genres, where the industry adapts avant-garde expressions to appeal to broader audiences (Quintero & Arango-Lopera, 2021; Peterson & Berger, 1990). Similar transitions include jazz to swing, rock to pop, and classic salsa to romantic salsa.

In this transition, original stylistic elements are preserved but diluted to gain wider acceptance. Comparing the early works of reggaeton pioneers like Cuentos de la Cripta, El General, Ivy Queen, and Tego Calderón with contemporary artists such as Karol G, Ozuna, and Bad Bunny reveals significant differences. These changes span visual aspects (Morales, 2020), lyrical content (Hagner, 2019), and sound (Marshall et al., 2010). Despite extensive research on lyrics and music videos, the sonic evolution of reggaeton remains underexplored.

Analyzing from an unbiased perspective, reggaeton has undergone notable changes. Production standards have improved, with better definition in low frequencies and greater vocal presence. The increase in bass and sub-bass frequencies demonstrates a more refined approach to production, mixing, and mastering processes. Similarly, the greater clarity in vocals reflects a better understanding of audio capture and processing equipment. These aspects highlight the transition from the home studios where reggaeton emerged in Puerto Rico and Panama, to better-equipped studios that not only

had superior equipment but also more experienced producers in the craft of music production. Likewise, harmonic arrangements have become more diverse, music videos more varied in narrative, and lyrics have shifted from street themes to topics like love, youth, and joy.

2. Literature Review

The earliest academic publications on reggaeton date back to 2007, with significant contributions from Carballo Villagra, Waldmann, and Benavides Murillo. Early research predominantly focused on gender issues, particularly examining the role of women in reggaeton videos and lyrics (Gallucci, 2008; Wood, 2009). This period saw a preference for semiotics and linguistics as methodological tools, with videos and lyrics as primary units of analysis (Benavides Murillo, 2007; García, 2010, 2013).

While gender-focused research remains prominent (Huahuachampi Huanca, 2019; Nadal Masegosa & Fernández-Martín, 2020; Velázquez Delgado, 2020), recent studies have expanded to include the music industry's intricacies (Marshall et al., 2010), women's involvement as artists (Araüna et al., 2020), and issues of collective and individual identities (Lavielle-Pullés, 2014; Guarderas Baldeón, 2019). However, much research has been influenced by biases, with some works critiquing reggaeton for its perceived negative impact on youth and traditions (Arias Salvado, 2019; Baker, 2009).

Despite these biases, scholars like Gallucci (2008) and Aldana Pando y Rodríguez (2008) approach reggaeton as a social phenomenon without moral judgment, emphasizing the need for an objective analysis. Camejo (2010) criticizes the excessive focus on text and stereotypes in reggaeton research. There has been a call for more empirical studies (Gutiérrez-Rivas, 2010; Marshall, 2008; Villagra, 2010).

Some researchers argue that the social issues attributed to reggaeton, such as misogyny and sexualization, are not exclusive to the genre but reflect broader societal issues (Aldana Pando & Rodríguez Suárez, 2008). The genre's evolution involves a "whitening" process, adapting its sound and themes to appeal to a broader audience (Armas Báez, 2010; Báez et al., 2022).

Reggaeton's relevance as a study object is highlighted by its ability to generate identification processes and its mix of communication flows within the Latin and global spheres (Carballo Villagra, 2010; Marshall, 2010; Lavielle-Pullés & Amor, 2013). The genre's marginality is seen not as a defect but as a hallmark that significantly impacts listeners.

The genre's commercial success is attributed to various factors: initial censorship increasing social interest, digital advancements changing production and dissemination modes, and the internet's popularization (Merlyn, 2020; Negrón-Muntaner & Rivera, 2009; Santamaría-López, 2022). Reggaeton artists often reflect the image of marginalized individuals achieving success, resonating with Latin communities (Imboden, 2016; Torres, 2011).

In summary, reggaeton studies explore both intrinsic elements (lyrics, videos, artist images) and extrinsic societal contexts (neighborhoods, dance rituals, identity formation). This work focuses on the intrinsic sound aspects of reggaeton songs, examining their popularity.

3. Materials and Methods: Exploratory Analysis

After completing the literature review on reggaeton, Table 1 outlines the research protocol. This includes delineating the research approach, implementation strategy, unit of analysis, study sample, variables involved, data collection procedure, and data analysis techniques.

Tab. 1: Research protocol to conduct exploratory analysis.

Criteria	Quantitative approach
Reasoning in research	Deductive
Research question	Are there common patterns in the changes in sound parameters among different artists or groups that have transitioned from the underground to the mainstream?
Research strategy	Case study (Yin, 2002).
Unit of Analysis	Reggaeton songs ranked on Billboards' Hot Latin Songs list since 2006.
Sample	We scraped the songs ranked since 2006 in Billboard's Hot Latin Songs to identify those of the Reggaeton genre. Then, we consulted these Reguetones on the Tunebat website.
Variables	Text strings, float and int numbers

Criteria	Quantitative approach
Data collection technique	We scraped the following information from Billboard's hot Latin songs and Tunebat: link, popularity, energy, danceability, happiness, acousticness, instrumentalness, liveness, speechines, loudness, release, explicit, album, label, title, artist, key, bpm, Camelot, month, day, year, weekday, and Date.
Data analysis technique	We use explanatory analysis techniques to summarise data, find hidden relationships, and make predictions (Myatt, 2007) through the Python programming language.

In the Hot Latin Songs (BHLS), a list compiled by Billboard, 1,442 songs were identified between 2006 and 2023. Of these, those classified within the reggaeton genre (517) were selected, accounting for 36% of the total. Once collected, each song was run through the algorithm of the Tunebat website (Spotify, 2024). This algorithm offers multiple functionalities and has found various applications in the literature (Barnes, 2023; Mansfield & Seligman, 2021; Mohunta, 2022; Zak, 2019).

Primarily, it identifies the sound properties of the songs: BPM (beats per minute), key, and popularity, as well as Energy, Danceability, Happiness, Acousticness, Instrumentalness, Liveness, Speechiness, and Loudness. The website announces that its database consists of over 70 million songs available online.

After obtaining the database with the reggaeton songs included in the Billboard list, correlations were established, and particularly, the presentation of popularity was examined, attempting to ascertain if any of the parameters measured by Tunebat could serve as a predictor of this. Based on the information published by Tunebat (Spotify, 2024), we relied on the following definitions to understand the measurement variables.

- Popularity: "Based on the number and recency of track plays".
- Acousticness: "How likely the track is acoustic".
- BPM: Song speed measured in beats per minute.

- Danceability: "How appropriate the track is for dancing based on overall regularity, beat strength, rhythm stability, and tempo".
- Energy: "How intense and active the track is, based on general entropy, onset rate, timbre, perceived loudness, and dynamic range".
- Happiness: "How cheerful and positive the track is".
- Instrumentalness: "How likely the track contains no spoken word vocals".
- Liveness: "How likely was the track recorded with a live audience".
- Loudness: "The average decibel amplitude across the track ranging from -60dB to 0dB".
- Speechiness: "How present spoken words are in the track".

Thus, while Billboard serves as a validated measure in the industry for recognising the popularity of artists and songs (George et al., 2017), Tunebat provides numerical readings of the sound parameters of the analysed material (Blásquez de la Torre, 2019).

4. Results

4.1. General Aspect of the Sample

From the 1,442 songs analyzed, those classified as reggaeton were identified. While the classification of musical genres is inherently subjective and often influenced by industry segmentation, Guerrero's (2012) framework was employed, dividing genre conventions into four categories: sonic, performative, marketing and branding, and values and ideology. According to Marshall (2008; 2010) and general consensus, the defining feature of reggaeton is the dembow rhythm. This rhythmic pattern serves as the primary criterion for genre classification.

However, certain songs, such as Daddy Yankee's "Gasolina" (2004), blur stylistic boundaries by incorporating elements from merengue, salsa, or bachata. The shared Latin tradition between the clave (salsa) and dembow (reggaeton) underscores this blend (Kattari, 2009). Despite sonic overlaps, performative conventions justify their classification as

reggaeton. Thus, the dembow beat was the decisive factor for inclusion in this study.

Genre classification issues also arose with other categories. Latin artists like Maná straddle rock and pop, highlighting the inherent challenges. Genres like ranchera, norteño, banda, and regional Mexican were individually considered to reflect Mexican music's significant presence. Merengue house, Latin pop, and dance-pop were separately analyzed due to their influence on reggaeton. Reggaeton comprised 36% of the total song list from 2006 to 2023, illustrating its substantial presence in the BHLS despite its recent emergence.
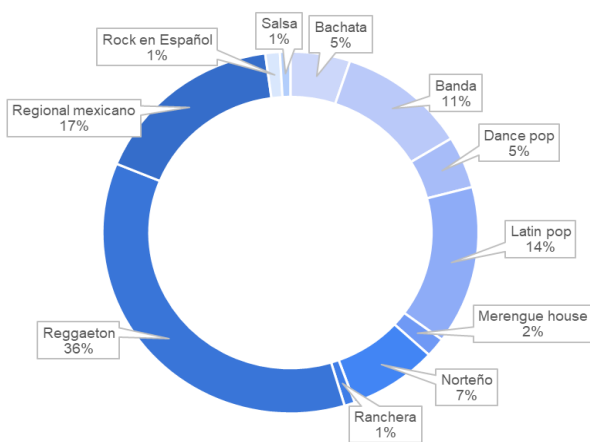

Fig. 1: Musical genres in BHLS.

In examining reggaeton's yearly distribution (Figure 2), a clearer picture of its popularity emerges. The number of reggaeton songs and their percentage peaked in 2020 but declined thereafter. Key periods include the initial decline post-"Gasolina" (2004) from 2006 to 2013, followed by a resurgence starting in 2014 with J Balvin's "Ay Vamos." This growth saw reggaeton rise from 4% in 2013 to 74% in 2020. J Balvin, along with Maluma and Karol G, played pivotal roles in this resurgence.
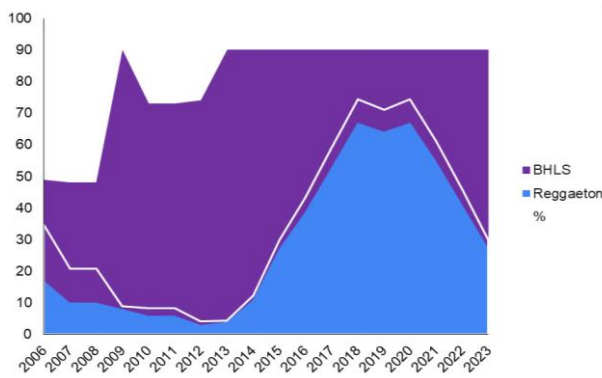

Fig. 2: Expansion of Reggaeton

The year 2020 marked a peak due to the global pandemic, suggesting reggaeton fulfilled listeners' needs during this time. Despite recent declines, these changes must be contextualized with sound parameters related to global reggaeton consumption, as inferred from the BHLS data.

4.2. Traces of Popularity

The number of songs in the BHLS offers only a partial perspective, necessitating supplementation with Tunebat's popularity metrics. The average popularity measures of reggaeton over the study period reveal key trends. Since 2006, there has been consistent growth, with a decline beginning in 2013 and hitting a low in 2015. Following this, a growth cycle commenced, peaking exponentially in 2022 at unprecedented levels. This data helps identify patterns that enhance or detract from reggaeton's popularity.
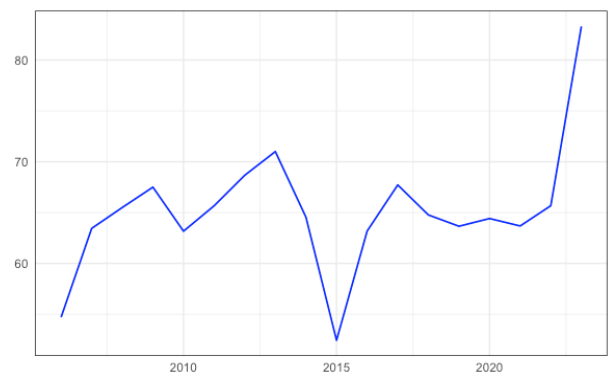

Fig. 3: Weighted Popularity 2006-2023 in BHLS

From 2008 to 2015, two significant developments occurred: despite global interest in reggaeton, the classic sound became exhausted. Artists like Wisin & Yandel explored EDM with more aggressive sounds and faster tempos, diverging from traditional dembow. This shift is evident in songs like "Te siento" (2009) and "Tu olor" (2010). Shakira's incorporation of reggaeton elements in "Hips Don't Lie" (2005) also signaled a turning point.

The second key development was the rise of Colombian reggaeton, particularly from Medellin, which adopted a pop-centric approach, distancing itself from the tough, lower-class aesthetic. This shift contributed to the genre's global resurgence, as seen in the increasing popularity metrics. J Balvin's music videos, featuring Latin American cities, further legitimized reggaeton's expansion beyond its Puerto Rican roots. This rise in popularity contrasts with the declining number of

reggaeton songs in the BHLS, suggesting a possible saturation point.
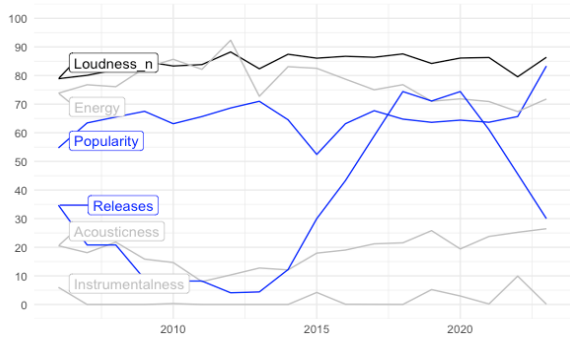

Fig. 4: Popularity and Releases Over Time.

The diachronic analysis highlights essential trends, but understanding the relationships between Tunebat's metrics requires further investigation. The correlation method reveals significant relationships between reggaeton song features. Loudness, standardized to a scale from 0 to 100, correlates most strongly with Popularity (0.35), followed by Danceability (0.17) and Energy (0.16). This indicates that more popular songs are louder, more danceable, and more energetic. Conversely, Popularity negatively correlates with Acousticness (-0.07) and Instrumentalness (-0.51), suggesting that less popular songs are more acoustic and instrumental. Loudness_n also positively correlates with Energy (0.73).

Fig. 5: Heatmap of correlations between variables.

The correlation network visualizes these relationships, showing that factors like Liveness, Speechiness, and BPM contribute minimally to

reggaeton's behavior in the BHLS. Thus, the focus of this initial analysis is on Popularity, Loudness, Danceability, Energy, Acousticness, and Instrumentalness.
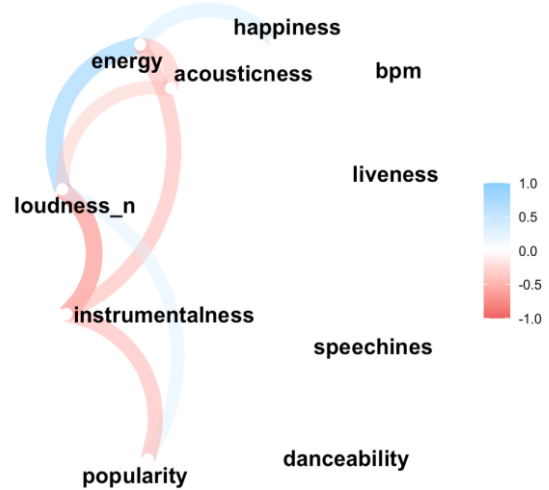

Fig. 6: Correlation network.

In this network of nodes, the aspect of correlations is visualised differently. It can be observed that factors such as Liveness, Speechiness, and BPM barely contribute to reggaeton behaviour in BHLS. Therefore, this initial part of the analysis will focus on Popularity, Loudness, Danceability, Energy, Acousticness, and Instrumentalness.
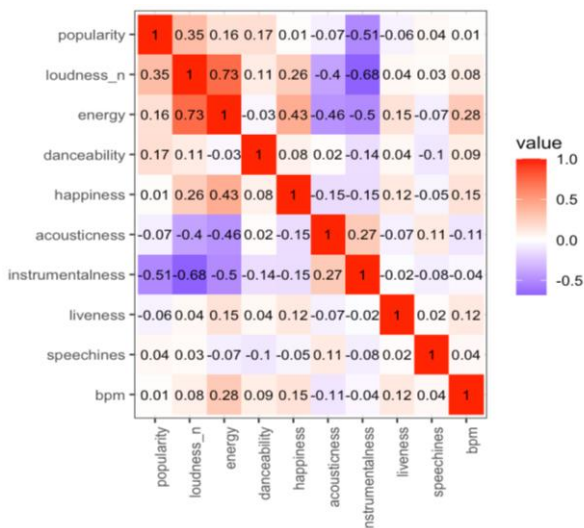
Tab. 2: Factors Associated with Higher or Lower Popularity

+Popularity	-Popularity
Loudness(⬛)Popularity	**+Acousticness = -Popularity**
Yes: literature and everyday intuition are correct: reggaeton is a club genre that is listened to at high volumes, so songs that reach higher levels in this measure are more likely to achieve more significant popularity. The sound pressure is part of the spirit of the genre, wholly geared towards the dance floor. This is nothing more than the correspondence between sound engineering, tasked with devising procedures to achieve higher levels of	The development of reggaeton coincided with the rise of electronic technologies for music production, which was characterised by simplifying how this process was carried out. The digital era allowed the use of samplers (taking audio samples from other recordings to transform them) and sequencers (forming rhythmic, harmonic,

+Popularity	-Popularity
sound, and the aesthetic of the genre, conceived from the open expression of sexuality and the defense of traditional values of masculinity, understood as the imposition of one's impulses and supremacy over others.	and melodic patterns that are then repeated as loops during the track), facilitating the creation and distribution of music. With the rise of home computers and software dissemination via the internet, many people could create and distribute music. All this means that the production model can do without real musicians playing acoustic instruments in favour of a production process focused on the figure of the producer and the singers.
Energy(∝)Popularity Starting from the premise that sound is energy, the fact that high levels of energy in songs are associated with better ratings in popularity confirms that the genre is characterised by forcefully expressing its reading of the world. The natural setting of reggaeton songs is the Latin-style party experienced as a high-energy display. The energy invites movement, particularly body movement with sexual connotations, so the songs invite dancing and participation on the dance floor to unleash the individuals' energy. By doing so, the songs connect with the audience, providing a platform for emotional release through marked movement on the dance floor.	**+Instrumentalness = - Popularity** Likewise, instrumentation is not the genre's central characteristic. Structures tend to be simple (verses and choruses are predominant over musical devices such as bridges, fugues, or endings with variations). Since the genre's centrality lies in the voice and rhythm, other musical resources lose prominence. This, in turn, means that instrumental arrangements consist of basic arrangements of a few instruments with low melodic, rhythmic, and harmonic developments. Thus, acoustic instruments and instrumental variety diminish the popularity of reggaeton songs.

Therefore, while high values in Loudness and Energy favour the genre's popularity, a high presence of Instrumental and Acousticness reduces it. These initial results do not deviate from what the literature has documented or what is in the popular imagination about reggaeton.
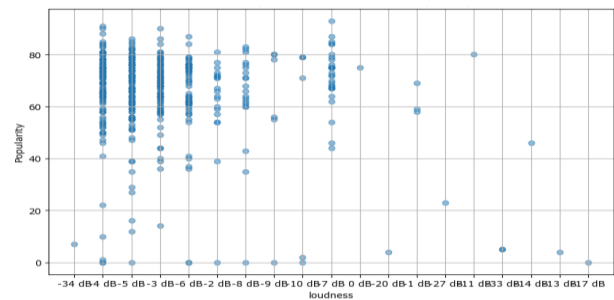"Turn up the volume."

Fig. 7: Relationship between Popularity and Loudness.

It is important to note that 0 decibels represents noise or distortion, so the closer the measurement is to this threshold, the closer it is to noise. Analyzing the distribution of Popularity with Loudness reveals that from 40 popularity points onward, songs concentrate between -7 and -4 dB, a relatively high value.

This relationship, already discussed in Table 2, shows the strongest correlation in the entire matrix: Loudness(∝)Popularity, with a value of 0.73. This highlights the genre's discotheque nature.

During the pandemic, as spirits waned, people sought the energy found in the volume of reggaeton songs. Exposure to high volumes in spaces like nightclubs, filled with people engaging in "perreo" (a dance style associated with reggaeton), fosters a sense of collective involvement and a temporary dissolution of individuality, which can be reactivated even in solitary dance.

Conversely, the negative relationship with Instrumentalness (-0.68) is significant. This aligns with the consensus in the literature and popular perception: reggaeton, with its limited and uncomplicated instrumental resources, tends to have lower popularity when these elements are more prominent (Figure 8).
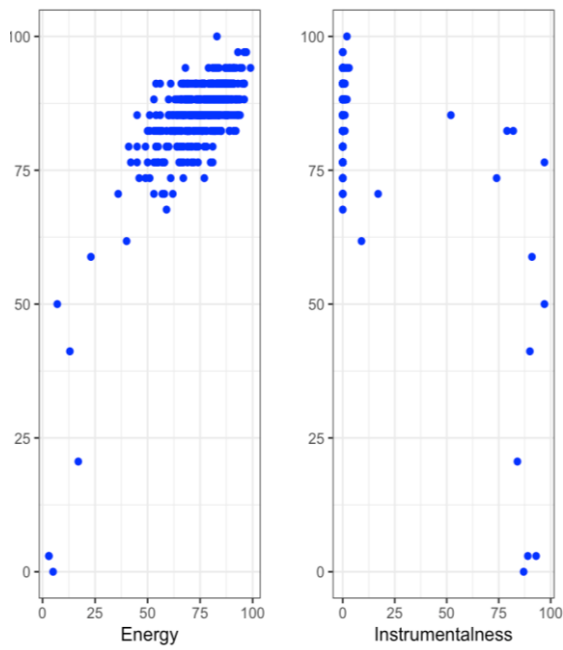
Fig. 8: Energy and Instrumentalness (X axes) with Loudness_n (Y axis).

As can be seen, the increase in volume also drives the increase in energy, while loudness is not so friendly with Instrumentalness.

4.3. "Ven báilalo"

It is heard at high volume and is made for dancing. The distribution between Danceability and Popularity shows a concentration starting from 60 and 60 points of Danceability (Fig. 9). These data confirm that if the criterion for defining the reggaeton genre is the existence of the dembow beat, that beat has a correlate on the dance floor, a distinctive form of dancing called "perreo." Indeed, perreo is the way the dancing body responds to dembow.
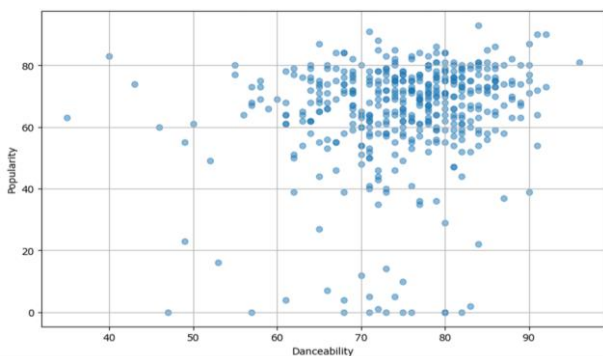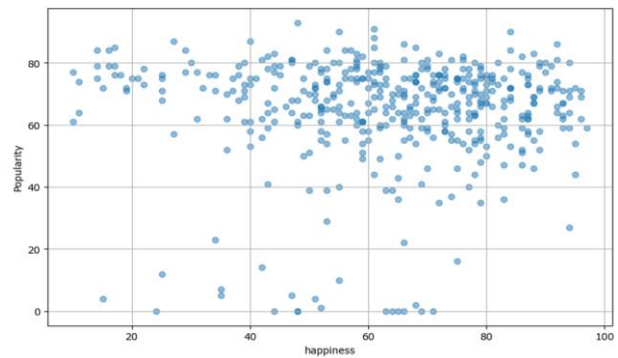

Fig. 9: Relationship between popularity and danceability.

Although the correlation between Popularity and Danceability is weak (0.17), the distribution reveals a concentration starting from the mid-

values of both variables (from 60 points onwards). This means that, although there is a slight tendency for more danceable songs to be somewhat more popular, danceability is not a strong predictor of a song's popularity. However, its presence, which is not a predictor of popularity, is a signature hallmark of the genre's style.

4.4. Happiness

Fig. 10: Relationship between Popularity and Happiness.

Happiness behaviour is dispersed across almost the entire value scale, although a slight concentration starts at 50 points. It cannot be claimed that reggaeton is happy music, even though it is aimed at the dance floor since many of its lyrics deal with situations such as love, grief, infidelity, envy, and challenging enemies (encapsulated in the term "fronteo"). Despite this, a diachronic reading reveals an interesting nuance.
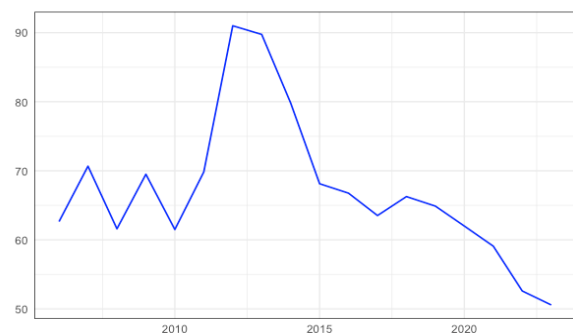
Fig. 11: Happiness Over Time.

From 2011 to 2015, Happiness was above its historical averages. This is influenced by the EDM trend already mentioned, driven by artists like Wisin & Yandel, in addition to songs like "Danza Kuduro" by Don Omar & Lucenzo, released in 2011, and the international hits of Pitbull. The nightclub is one of the natural settings for reggaeton; hence, the influence of electronic music

on its production schemes and its characteristic sound has been present since its beginnings. It is just that this wave added to the rise in the Popularity of EDM during the 2010s. Some characteristics of its influence on reggaeton include synthesisers with more pronounced oscillators, more aggressive waveform shapes, and a faster BPM.

Before mentioning other aspects not central in the correlation matrix, it is worth observing the behaviour of the variables discussed up to this point. The overall view on the behaviour of the variables that reported higher levels of correlation (both positive and negative) yields exciting results when analysed over time (Fig. 12).
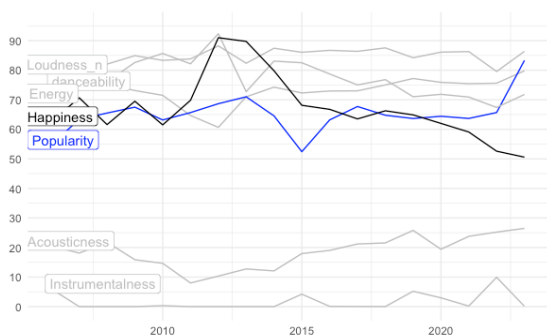

Fig. 12: Main Variables Over the Years.

Looking in detail, the period 2011-2015 showed significant movements in Happiness and Energy, which speaks to that moment already mentioned: the search for a sound that would keep the genre's roots alive yet allow for an increase in popularity. After 2021, Danceability, Energy, and Loudness show notable increases. It is time to move on to other aspects not visible in the correlation matrix, such as BPM (Fig. 13) and the emotional aspect that these songs carry (Figure 14).

4.5. Popularity and BPM

This is another data point that takes us to the dance floor. The BPM of reggaeton songs is around 88 beats per minute and seldom exceeds 120. However, the range in which the songs move is broad, as some drop to 60 BPM (in the case of those more influenced by the sound of trap, with Bad Bunny being the leading representative) to the 130 BPM of "Pepas" (2021), a song by Farruko.
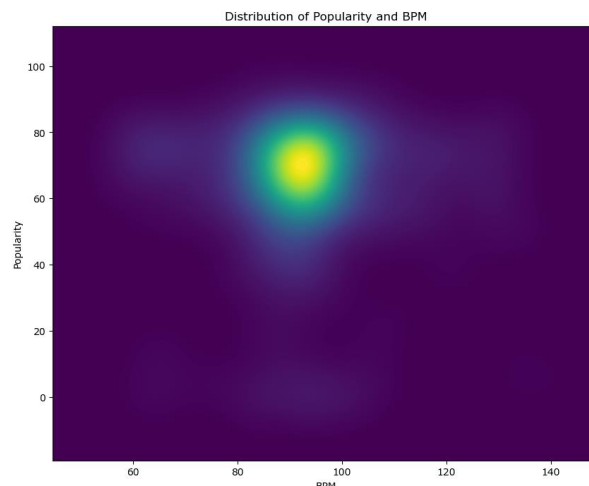

Fig. 13: Heat Map of Popularity and BPM.

Despite this variability in BPM, the centrality is near the mentioned 88 beats per minute. These are cadenced songs of tendentially medium speed, considering that the pop measure is 120 BPM (Palit & Aysia, 2015).

The cadence in the rhythm invites closeness; hence, the heat map centres around the 90 BPM measure, the ideal speed for perreo, as a more significant fluctuation over time would make the generation of rhythmic movements when dancing in pairs more complex and would invite more jumps on the dance floor.

4.6. Russell's Circumplex

After observing this data and reviewing what some people (who do not dance it on the floor) say about reggaeton, plus what is recorded in the specialised literature, it is worth examining what these songs mobilise in people. The so-called Russell's circumplex (Golondrino et al., 2022; Luján Villar & Luján, 2020). This researcher, an expert in music therapy, conducted many empirical studies that allowed him to see the emotional mobilisations of music in people. Russell took two axes for his analysis: on the vertical axis, based on speed, he found that music produces activation (when it comes to fast pieces) and deactivation (when it comes to slow songs). He drew the dividing line at 120 BPM. On the horizontal axis, Russell investigated the role of harmonies: major keys produce a sense of balance of calm, thereby assigning them a value of pleasure; minor keys generate a feeling of restlessness, uncertainty, and incompleteness and place them on the side of displeasure.

Thus, the following quadrants are obtained: activation/pleasure, activation/displeasure, deactivation/pleasure, and deactivation/displeasure. Russell also included a series of emotions associated with these quadrants. In the first (activation/pleasure), he identified emotions such as joy, happiness, and fun; in the second (activation/displeasure), he detected emotions like anger, fear, and stress; in the third (deactivation/pleasure), he observed satisfaction, serenity, and relaxation; in the fourth (deactivation/displeasure), he found boredom, expressionlessness, tragedy. After taking the BPM and Key values provided by Tunebat, we placed the samples on the plane. The results are shown in Fig. 14.
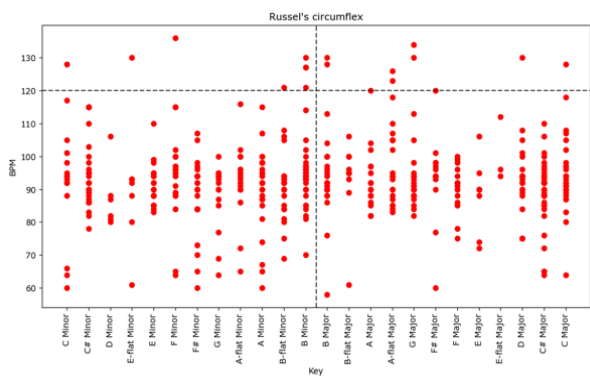

Fig. 14: Russell's Circumplex for Reggaeton Songs.

When the songs are plotted on the circumplex, it is striking how many data points are in the lower part of the figure on the deactivation axis. "Deactivation" cannot be understood without context; perreo is a dance that requires slowness, speaking to the sexual approximation between two bodies. However, as shown, its speed unfolds below 100 BPM. The similar distribution between values associated with pleasure and displeasure is also noteworthy. These songs do not concentrate in a single place; here, multiple interpretations are possible that must later be contrasted with the evidence.

To start, there are at least three issues: the same contradiction between the objectification of women, misogyny, and the immense popularity of reggaeton among young women is reflected here. If, on the one hand, it is a widespread consensus that these songs maintain a less deferential treatment of women, many have expressed the liberating power that came in their youth from being able to hit the dance floor without the need to be mediated by a man. On many occasions, it has

been pointed out that the lyrics are not the centre of attention for women who listen to reggaeton (Díaz, 2020). However, even in that case, the figure of Ivy would be there to say, "That does not mean I am going to bed with you" (Torres-Toukoumidis et al., 2023).

While the songs in the deactivation/displeasure quadrant might evoke negative emotions, they also fulfil an essential role: discussing what is uncomfortable. As mentioned before, the exhaustion of Latin pop and the disappearance of salsa brava in the music scene left a void filled by reggaeton. While pop only wants to touch on issues tangentially, the dissolution of rock (in Spanish), and the romanticisation of salsa in the late '80s left listeners without a source of expression for rebellion and dissatisfaction. In addition, the arrival of the 21st century required a more accessible expression of sexuality. The large number of songs located on this deactivation/displeasure axis speaks precisely to that: songs in minor keys and slow speeds tend to be darker, proposing a more uncertain sonority that does not have a feeling of definite resolution. A reggaeton song, at 88 BPM with minor harmony, is, as a model, a song that will allow emotions to arise and be embraced while dancing slowly, cadenciously but meaningfully, to the music.

Given that these issues go beyond the data we have, we move on to mention the lines of discussion.

5. Discussion

The analysed data open up many areas for discussion. We will focus this part on three aspects: the loudness war, turning points in popularity, and the pandemic.

5.1. Is the Loudness War Still Necessary?

Despite the previously mentioned relationship between Popularity and Loudness, the emergence of streaming platforms marks another turning point in the digital incursion into producing and distributing music. In the era of analogue production and radio broadcasting of music, high volume in phonograms allowed for a better presence in the mediums through which it circulated. With the advent of radios that automatically detected the available frequencies in the spectrum, a higher volume allowed for easier

identification of the radio frequencies where information was being transmitted. In turn, broadcasters were interested in sounding louder than other radio stations, as this would allow them to differentiate themselves from the competition. For music producers, on their part, it was essential to generate productions that sounded louder than those of other artists. This chain of competition for loudness has been termed the loudness war, which, to summarise, involved an average increase of 20dB over 20 years (Vickers, 2011).

The consequences for the music itself are quickly noticeable. The dynamics of the songs were compromised by raising the volume levels and bringing them closer to the threshold marked by 0dB (from which noise is produced). This is because the sensation of "punch" in a recording depends on the distance between the softest and loudest sound, so compressing the recordings means that this difference decreases. Hence, there is a widespread complaint that music produced in the digital era is flat and repetitive. An accusation from which no genre has been spared, but reggaeton, in particular, receives because this accusation is added to the aesthetic values of traditional masculinity, imposing and dominant, that in its particular context can be gathered under the concept of bling-bling (Aldana Pando & Rodríguez Suárez, 2008). However, the emergence of streaming platforms (the digital transmission of music) slightly changes the game's rules.

Loudness refers to how intense listeners perceive a sound, so it is a crucial aspect in audio production to achieve a coherent and satisfying auditory experience. LUFS (Loudness Units relative to Full Scale) represent a standard for measuring the sound intensity of an audio file. This metric considers how the human ear interprets sound, offering a more accurate assessment than conventional methods based on sound peaks.

In the realm of online music platforms, LUFS is used to equalise the volume of songs, ensuring that all maintain a uniform level of loudness and preventing abrupt volume jumps between tracks. Each streaming service establishes its ideal loudness criterion, commonly between -14 LUFS and -16 LUFS, thus adjusting the volume of songs to align with this standard and offer a more homogeneous listening experience. However, if reggaeton songs show centrality between -7dB and -2dB, it is worth questioning how much this will influence the future mixing and mastering processes customary in the genre. Here, it is

evident that, although they retain some of their neighbourhood essences, sonically, reggaeton will more closely resemble pop (at least in sonic standards) (Figure 15).
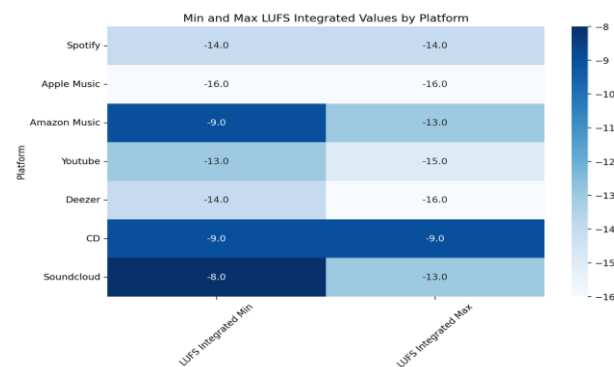

Fig. 15: Minimum and maximum LUFS values are determined by the streaming platform.

5.2. The paths of popularity

Breaks in the popularity trend also bring aspects that need to be considered for analysis. Before reggaeton songs appeared in the BHLS, the movement had several milestones behind it. It is worth mentioning: its emergence in the fusion of Panamanian rhythm (itself inheriting from Jamaican aesthetics) (Stewart et al., 2019) and Puerto Rican rap (Pereira & Soares, 2019b); its persecution in Puerto Rico during the 1990s (Negrón-Muntaner & Rivera, 2009), and its consolidation, thanks to multiple factors, among which we can cite the significant impact it had on the Latin community of New York.

However, based on the available data, it is necessary to highlight the decline in popularity that the genre was experiencing until the appearance of non-Puerto Rican artists, such as Colombians J Balvin, Karol G, and Maluma, later reinforced by the arrival of figures like Bad Bunny, Ozuna, and Farruko, who managed to integrate songs into the BHLS after this. The arrival of Colombians introduced a more pop air, which implied the genre's acceptance in other countries, not only from the consumption standpoint but also from the production perspective.

The sonic characteristics that allow a musical style to become more pop, that is, more popular, have been frequently discussed in the literature. In this regard, Emanuele Raganato's (2023) perspective is useful as it addresses the process of the popularization of music through several key concepts: first, the role of symbolic intermediaries,

such as journalists and critics, who influence the creation and diffusion of cultural tastes; second, musical contamination, which reflects the negotiation between dominant power and subaltern resistance, resulting in a fusion of cultural influences; third, the accessibility and simplification of music, which facilitates its understanding by a wider audience; fourth, the debate on authenticity, where it is questioned whether popularization leads to the trivialization and loss of originality; and finally, the positive impact of popularization, which can foster musical diversity and offer new opportunities for artists. While it goes beyond the scope of this study, it is clear that the Colombian contribution to the genre involved a simplification of musical elements, not from a linguistic perspective but rather through the sonic and thematic treatment, which allowed reggaeton to become more digestible for a larger audience. One consequence of this is the discussion about whether what is currently heard in the style is true reggaeton or a blend of pop trends over a dembow base. Another is that, thanks to this, in Cuba (Lavielle-Pullés, 2011; Márquez Cicero, 2018), Chile (Urrutia, 2008), Mexico (Lora & Moreno, 2020), and other countries, variants have emerged, among which neoperreo (Arias Salvado, 2019) can be mentioned.

However, if reggaeton speaks of anything, it is about the Latino identity (Rudolph, 2011). As its global popularity increases, the arrival of other genres, artists, and aesthetics will imply what crossover in the music industry has always entailed and has been known for decades: the expansion increases the loss of its original identity traces (Peterson & Berger, 1990). As the lyrics become less controversial, the videos become less stereotyped, and the aesthetics become less bling-bling, some of that expression of collective identity mutates into other imaginaries. Paradoxically, while misogyny, machismo, and the imagery of rascals and cangris are desirable in such popular music, their disappearance will be accompanied by the mutation of their Latin identity marks.

5.3. Reggaeton during the pandemic

The pandemic factor significantly influenced the popularity of reggaeton. While often criticized, reggaeton was a prominent companion for Latinos during the Covid-19 pandemic. To understand why reggaeton became increasingly popular during this period, it is essential to examine those years

specifically. The rise in music releases was not unique to reggaeton, but its growing popularity was distinct. Viewing the pandemic years as a social experiment can help identify what reggaeton offered listeners and why it became more appealing.

During the pandemic, artists had more time to produce music since live performances were halted, leading to increased streams on digital platforms. This trend was observed across all genres, making it crucial to focus on the consumption side of reggaeton.

One possible reason for its popularity could be the nature of perreo, a dance style emphasizing proximity, which became a forbidden activity during social distancing.

Additionally, the data highlights reggaeton's emphasis on dance. Metrics such as BPM, energy, and danceability indicate that reggaeton is inherently a rhythm and dance genre, closely associated with dembow (Pejović & Andrijević, 2020.; Saldarriaga et al., 2023). In a time of enforced social distancing and fear of contagion, reggaeton served as a reminder of the communal experience of dancing together to the beat of dembow.

6. Conclusions

The sound parameters most closely related to the popularity of reggaeton are Danceability, Happiness, and Loudness. Reggaeton is a genre for dancing or evoking dance. Conversely, Instrumentalness and Acousticness move in opposite directions, so for dancing perreo, it is preferable to have few instrumental variations and minimal involvement of human-played instruments. Musically, reggaeton is a genre of synthetic sounds, algorithms, and prefabricated sequences.

Two revealing periods for understanding it within the BHLS are 2010 and 2020, the former for the reactivation of the genre the latter for the time of its expansion.

The values of the Russell circumflex show that the vast majority of songs are in the deactivation quadrants, in equal proportions to pleasure and displeasure. This requires a contextual reading: reggaeton seems to deactivate specific nervous system barriers in favour of immersion in collectivity: the collectivity of the dance floor, the collectivity of the Latin imaginary.

6.1. Future research lines

Although these data consolidate all reggaeton songs, and many claim it is a monotonous and predictable style, the progressive listening of BHLS songs suggests that there are trends within the songs. A clear one is marked by classic reggaeton, and another is marked by trapeton (led by the voices of artists like Ozuna and Bad Bunny). Additionally, the genealogy of Colombian artists is clear, with a pretty distinguishable style. However, in addition to making aesthetic judgments from personal appreciation, analysing the data to characterise latent taxonomies is necessary.

Furthermore, the role of women as active subjects needs to be studied in depth. Although prejudices point to a contradiction that women sing reggaeton, despite how they are treated in their lyrics and videos, no studies show evidence of their place in this universe, neither as consumers nor as producers of musical and visual content. Everything seen in the literature is descriptive, and the research scopes fluctuate between exploratory and, at most, descriptive.

As the popularity curves and the number of songs included in the BHLS grow in opposite directions, we must be attentive to whether the genre reaches its stabilisation cycle and impending exhaustion.

This possible line of research is not about reggaeton itself; it is, essentially, about how the cultural industry takes genuine, minority, and disruptive expressions and co-opts them to refresh the appearance of its products. It is, in reality, an inquiry into how the price is paid to reach larger audiences. However, we propose that this monitoring should not be based on personal prejudices or individual tastes but rather carried out with a careful reading of the data available. Furthermore, fortunately, we have more data available with each passing day.

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