

SPOTIFY DATA ANALYSIS

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Budapest, 8 July 2024

THE DATA SET

This dataset presents the top songs currently trending for over 70 countries and contains the daily top 50 songs on Spotify between 18 October 2023 and 1 May 2024.

Data Source: <https://www.kaggle.com/datasets/asaniczka/top-spotify-songs-in-73-countries-daily-updated/data>

PURPOSES

- ❖ **Download, Clean** and **Get to know** our data using base queries
- ❖ **Identify the most popular artists** based on different metrics
- ❖ Analyze the correlation between **popularity** and the explicitness, tempo, danceability, speechiness, and duration of songs
- ❖ Analyze geographical correlation between the popularity of Taylor Swift's songs and The Eras Tour concert events

THE MOST POPULAR ARTISTS

Top 10 Artists in the Global Top 50

The artists were ranked based on three criterias:

1. Who had the most songs in the Top 50 list,
2. What was their overall ranking (the lower the overall ranking, the better the songs performed),
3. And what is the average popularity of the artist's songs?

	country	artists	songs_count	sum_daily_rank	popularity
1	Global Top 50	Taylor Swift	605	12808	83.20
2	Global Top 50	The Weeknd	512	14091	89.88
3	Global Top 50	Jung Kook	408	9993	88.46
4	Global Top 50	Peso Pluma	378	10502	91.86
5	Global Top 50	Bad Bunny	327	7987	93.49
6	Global Top 50	Feid	312	6301	94.56
7	Global Top 50	Ariana Grande	277	5594	84.61
8	Global Top 50	Dua Lipa	276	8836	91.71
9	Global Top 50	Xavi	256	4425	93.28
10	Global Top 50	Doja Cat	254	6089	85.46

THE MOST POPULAR ARTISTS

Top 10 Artists in Hungary

The artists were ranked based on three criterias:

1. Who had the most songs in the Top 50 list,
2. What was their overall ranking (the lower the overall ranking, the better the songs performed),
3. And what is the average popularity of the artist's songs?

	country	artists	songs_count	sum_daily_rank	popularity
1	HU	Azahriah	2933	75659	59.74
2	HU	DESH	2157	55402	59.71
3	HU	Pogány Induló	963	18590	57.03
4	HU	Young Fly	752	13332	60.48
5	HU	Beton.Hofi	564	16006	52.74
6	HU	ANUBII\$	365	8764	53.58
7	HU	KKevin	301	7135	57.89
8	HU	Hundred Sins	275	7916	55.90
9	HU	Bruno X Spacc	258	6751	57.93
10	HU	VALMAR	251	4591	60.35

THE MOST POPULAR SONGS

As with the most popular artists, the songs were ranked according to three criterias:

1. Which song has appeared most often in the Top 50,
2. What was their overall ranking (the lower the overall ranking, the better the songs did),
3. And what is the average popularity of the songs?

Top 10 Songs in the Global Top 50

	country	name	artists	song_count	song_rank	mean_popularity
1	Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	495	7128	89.27
2	Global Top 50	Que Onda	Calle 24, Chino Pacas, Fuerza Regida	360	9348	94.03
3	Global Top 50	Seven (feat. Latto) (Explicit Ver.)	Jung Kook, Latto	358	7258	88.90
4	Global Top 50	PERRO NEGRO	Bad Bunny, Feid	356	7716	95.05
5	Global Top 50	Starboy	The Weeknd, Daft Punk	346	11978	93.40
6	Global Top 50	CARNIVAL	₩, <i>KanyeWest</i> , <i>TyDolla</i> ign, Rich The Kid, P...	338	3133	92.53
7	Global Top 50	QLONA	KAROL G, Peso Pluma	330	8272	92.68
8	Global Top 50	I Remember Everything (feat. Kacey Musgraves)	Zach Bryan, Kacey Musgraves	280	11188	92.79
9	Global Top 50	Prada	cassó, RAYE, D-Block Europe	267	9996	93.39
10	Global Top 50	LUNA	Feid, ATL Jacob	258	4416	94.22

THE MOST POPULAR SONGS

As with the most popular artists, the songs were ranked according to three criterias:

1. Which song has appeared most often in the Top 50,
2. What was their overall ranking (the lower the overall ranking, the better the songs did),
3. And what is the average popularity of the songs?

Top 10 Songs in Hungary

	country	name	artists	song_count	song_rank	mean_popularity
1	HU	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	764	5012	64.21
2	HU	Valencia	Tomi, VALMAR	382	4738	61.82
3	HU	Pakisztáni/popo	DESH, Young Fly	382	6458	61.34
4	HU	BAGIRA	Beton.Hofi, Hundred Sins	376	10594	57.25
5	HU	Afro Beat	Pogány Induló, ANUBII\$	374	9116	55.56
6	HU	lost tiki	Azahriah, DESH	364	8618	60.45
7	HU	Cigány-ügy	L.L. Junior, KKevin, Rytmus, Érdi Baba	364	9500	58.41
8	HU	Rollin'	DESH, Young Fly, KKevin	360	8709	59.94
9	HU	CARNIVAL	¥, <i>KanyeWest</i> , <i>TyDolla</i> ign, Rich The Kid, P...	353	5282	92.68
10	HU	Mind1	Azahriah, DESH	352	12772	56.10

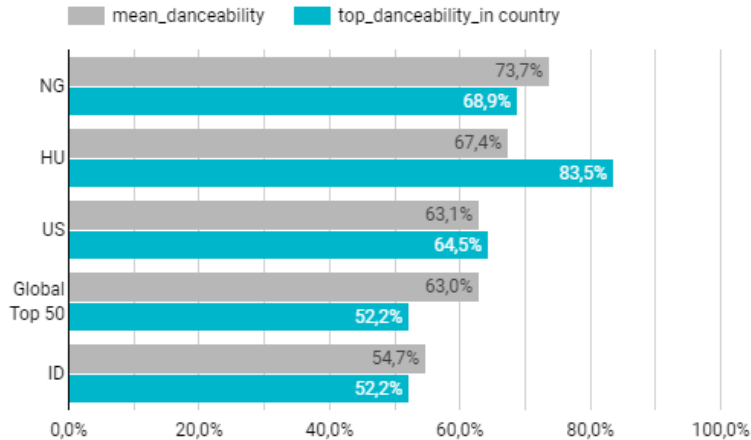
The relation between song features and popularity

I looked at the average musical characteristics of music popular on Spotify in Hungary, the US and globally. I also compared countries whose musical characteristics differs significantly from the global average. I have compared the characteristics of the most popular songs in each country with the average values and produced the following results:

Danceability

Danceability describes how suitable a track is for dancing based on a combination of musical elements including tempo, rhythm stability, beat strength, and overall regularity. A value of 0% is least danceable and 100% is most danceable.

Danceability

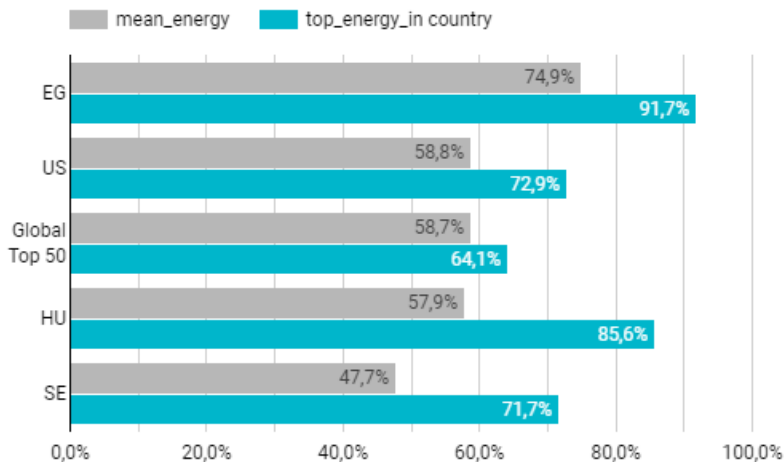


Country	Name	Artists	Danceability
Nigeria	BLOOD ON THE DANCE FLOOR (feat. Bloody Civilian and Wale)	ODUMODUBLVCK, Bloody Civilian, Wale	68,9%
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	83,5%
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	64,5%
Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	52,2%
Indonesia	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	52,2%

THE MOST POPULAR SONGS

Energy is a measure from 0% to 100% and represents a perceptual measure of intensity and activity. Typically, energetic tracks feel fast, loud, and noisy.

Energy

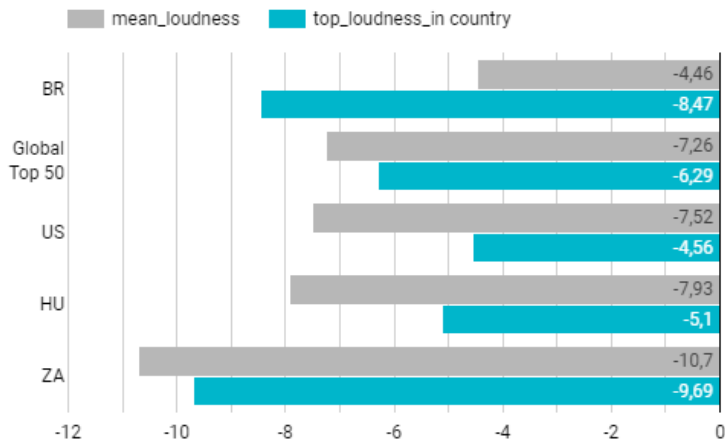


Country	Name	Artists	Energy
Egypt	سيبك من اللي خلع - من فيلم حمص وحلاوة	Mahmoud El Leithy, Essam Sasa	91,7%
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	72,9%
Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	64,1%
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	85,6%
Sweden	Prada	cassö, RAYE, D-Block Europe	71,7%

THE MOST POPULAR SONGS

The overall loudness of a track in decibels (dB). Loudness values are averaged across the entire track and are useful for comparing relative loudness of tracks. Values typically range between -60 and 0 dB.

Loudness

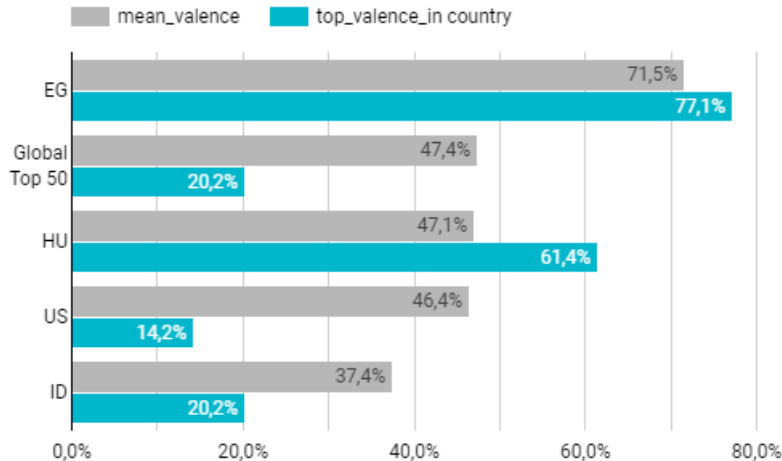


Country	Name	Artists	Loudness
Brazil	Let's Go 4	Dj GBR, Mc IG, MC Ryan SP, MC PH, Mc Davi, Mc Luki, Mc Don Juan, Mc Kadu, TrapLaudo, MC GP, MC GH do 7	-8,47
Global Top 50	One Of The Girls (with JENNIE, Lily Rose	The Weeknd, JENNIE, Lily-Rose Depp	-6,29
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	-4,56
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	-5,10
South Africa	Imithandazo (feat. Young Stunna, DJ	Kabza De Small, Mthunzi, DJ Maphorisa, Young Stunna, Sizwe Alakine, Umthakathi Kush	-9,69

THE MOST POPULAR SONGS

A measure from 0% to 100% describing the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful, euphoric), while tracks with low valence sound more negative (e.g. sad, depressed, angry).

Valence

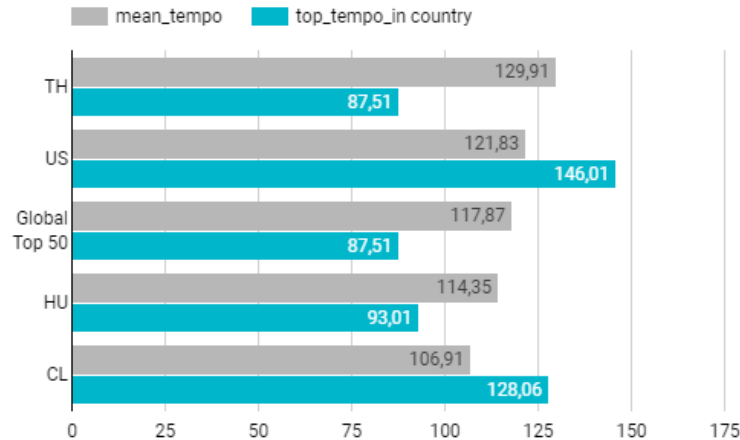


Country	Name	Artists	Valence
Egypt	سيبك من اللي خلع - من فيلم حمص وحلاوة	Mahmoud El Leithy, Essam Sasa	77,1%
Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	20,2%
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	61,4%
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	14,2%
Indonesia	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	20,2%

THE MOST POPULAR SONGS

The overall estimated tempo of a track in beats per minute (BPM). In musical terminology, tempo is the speed or pace of a given piece and derives directly from the average beat duration.

Tempo

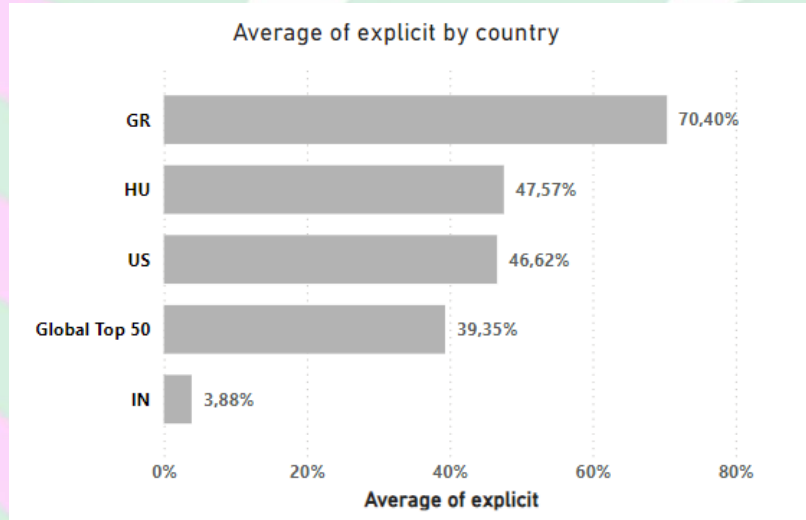


Country	Name	Artists	Tempo
Thailand	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	87,51
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	146,01
Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	87,51
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	93,008
Chile	JARABE (feat. Chiko Alfa, Bayriton, Malito Malozo &	Jairo Vera, Gino Mella, King Savagge, Chiko Alfa,	128,064

THE MOST POPULAR SONGS

Explicitness is a Boolean value if 0 then it is not explicit if 1 then it is. The chart below shows the average explicitness of songs by country.

Explicit



Country	Name	Artists	Explitly
Greece	MONROE	Hawk, TOQUEL, Baghdad	TRUE
Hungary	Rampapapam	DESH, Young Fly, Azahriah, Lord Panamo	TRUE
USA	Rich Baby Daddy (feat. Sexyy Red & SZA)	Drake, Sexyy Red, SZA	TRUE
Global Top 50	One Of The Girls (with JENNIE, Lily Rose Depp)	The Weeknd, JENNIE, Lily-Rose Depp	FALSE
Indonesia	What Jhumka ? (From "Rocky Aur Rani Kii Prem Kahaani")	Pritam, Arijit Singh, Jonita Gandhi, Ranveer Singh, Madan Mohan,	FALSE

THE MOST POPULAR SONGS

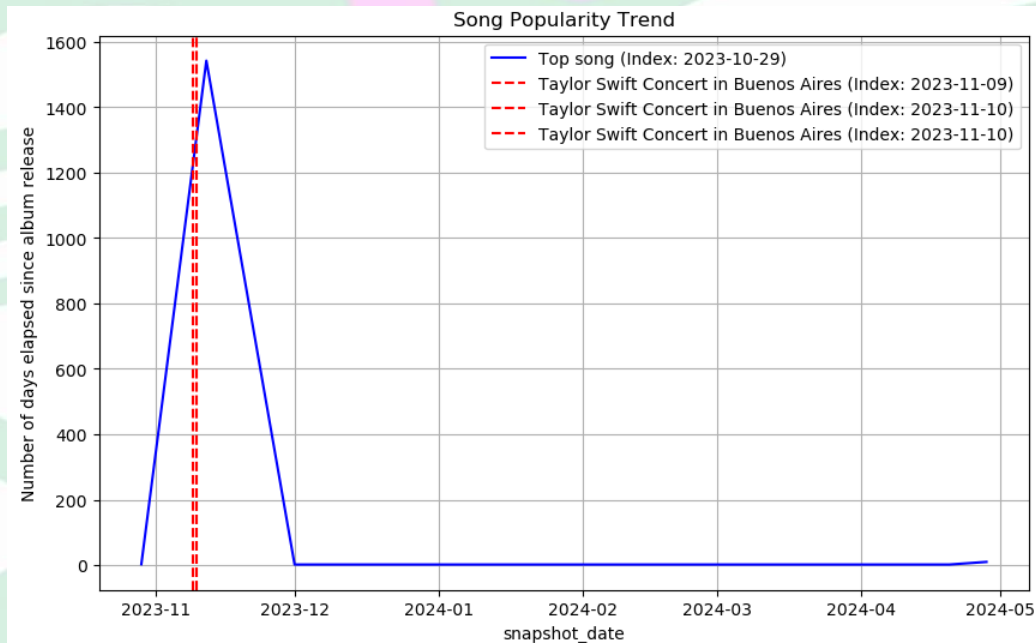
Summary:

- Overall, the relation between popularity and song characteristics is not clear. For Danceability, the average value characterises the most popular songs, while for Energy the songs are well above average. In the case of Loudness and Valence, there is a significant difference in both directions between the top songs. For Tempo, the top songs tend to be below the average of around 120 BPM, but in some countries this value is well above average.
- In terms of explicitness, Greece is the most and Indonesia the least preferred country for songs with explicitness.

The popular Taylor Swift's songs in Argentina before and after The Eras Tour concerts held in Buenos Aires, AR shows a significant correlation:

Here are the dates of the concerts:

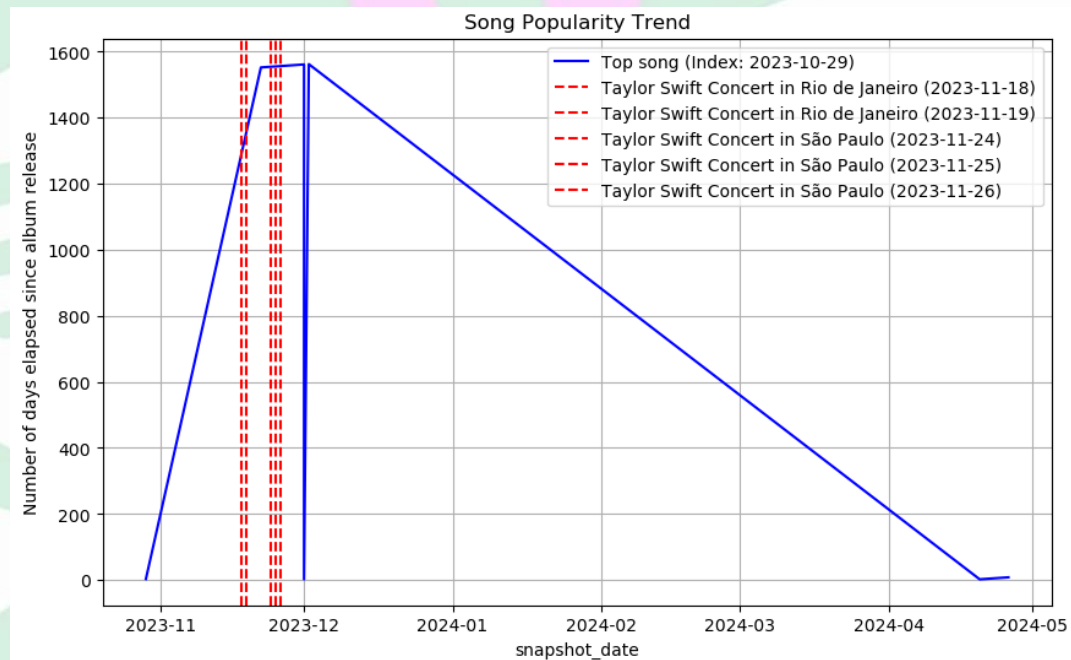
- 11/09/2023 — Buenos Aires, AR
@ Estadio River Plate *
- 11/10/2023 — Buenos Aires, AR
@ Estadio River Plate *
- 11/11/2023 — Buenos Aires, AR
@ Estadio River Plate *



The popular Taylor Swift's songs in Argentina before and after The Eras Tour concerts held in Rio de Janeiro and São Paulo, BR shows a significant correlation:

Here are the dates of the concerts:

- 11/18/2023 — Rio de Janeiro, BR @ Estádio Nilton Santos
- 11/19/2023 — Rio de Janeiro, BR @ Estádio Nilton Santos
- 11/24/2023 — São Paulo, BR @ Allianz Parque
- 11/25/2023 — São Paulo, BR @ Allianz Parque
- 11/26/2023 — São Paulo, BR @ Allianz Parque



Taylor Swift's songs popularity and The Eras Tour concert events correlation

- In Argentina and Brazil, there is a clear link between Taylor Swift's songs and The Eras Tour concert events. In the other countries, no such link can be found. There, the artist is very popular before and after the concerts.
- Fun fact: the most popular Taylor Swift song in Japan is Cruel Summer.

Summary

- The analysis identified the most popular artists and songs. The results were as expected.
- There was no clear correlation between song characteristics and popularity, but the energy of the top songs far exceeded national and global averages.
- The correlation between Taylor Swift's tour locations and local popularity is stronger in some countries and weaker in others.