

Impact of Corona on Mainstream Music in Germany

by Janek Stein



As always at the
end of the year
on Spotify:
2020 Wrapped





“

Music is the wine that fills the cup of silence.

Robert Fripp,
Guitarist of band “King Crimson”

1. Hypothesis



Initial situation



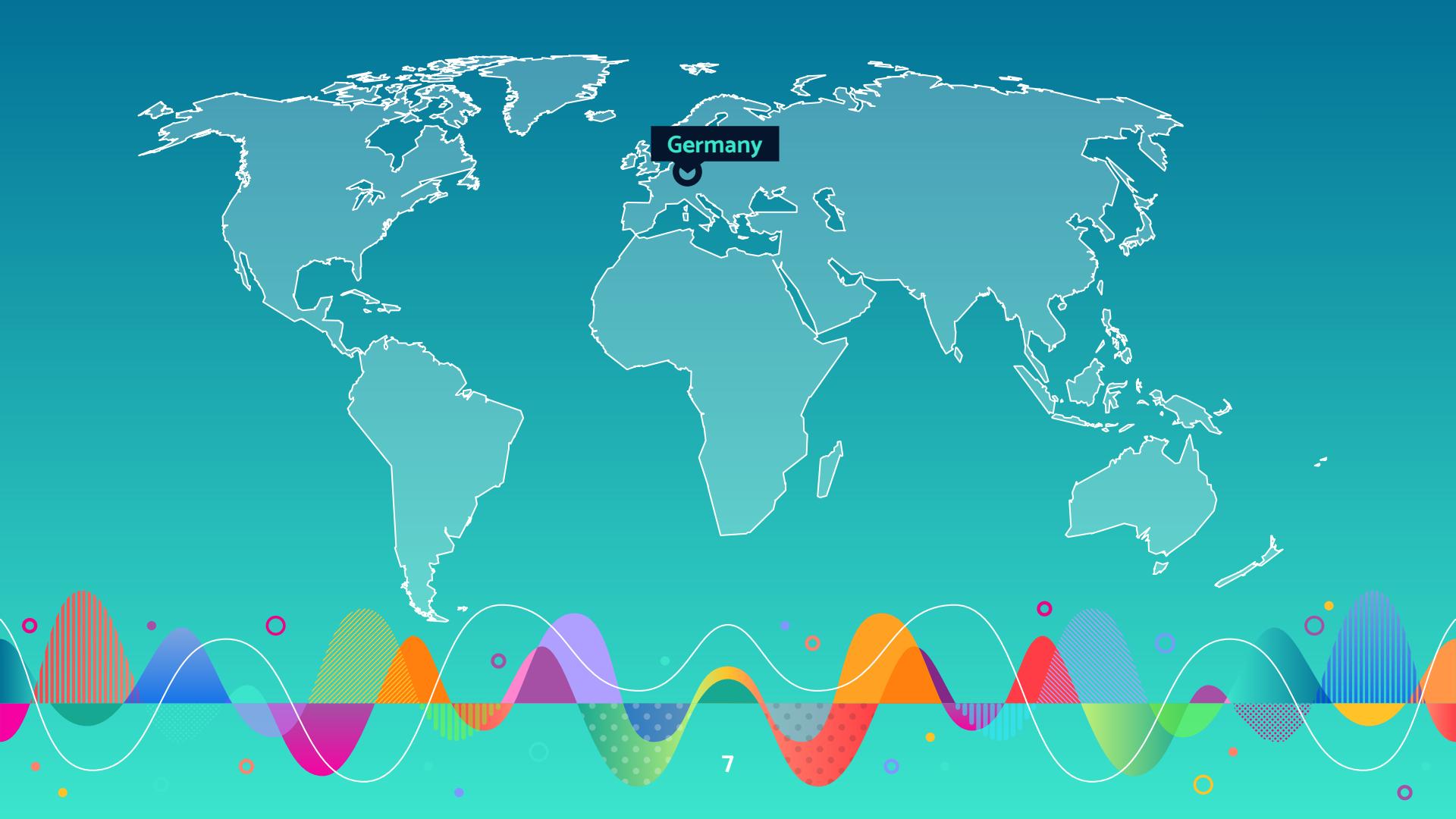
- ▷ Corona has impacted everyone's lives -
- ▷ people stay at home and stores are closed

Hypothesis

Staying at home has impacted
mainstream music in Germany

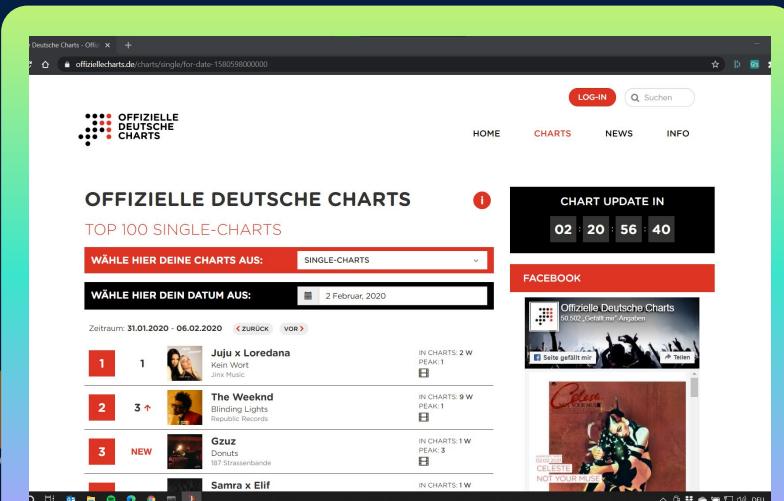
2. DATA SOURCES





Germany

Top 100 German Charts



Deutsche Charts - Offizielle Deutsche Charts

OFFIZIELLE DEUTSCHE CHARTS

TOP 100 SINGLE-CHARTS

WÄHLE HIER DEINE CHARTS AUS: SINGLE-CHARTS

WÄHLE HIER DEIN DATUM AUS: 2 Februar 2020

Zeitraum: 31.01.2020 - 06.02.2020

RANK	ARTIST	SONG	IN CHARTS	PEAK
1	Juju x Loredana	Kein Wort	2 W	PEAK: 1
2	The Weeknd	Blinding Lights	9 W	PEAK: 1
3	GZUS	Dorouts	1 W	PEAK: 3
NEW	Samra x Elif	Samra x Elif	1 W	

CHART UPDATE IN: 02 : 20 : 56 : 40

FACEBOOK: Offizielle Deutsche Charts

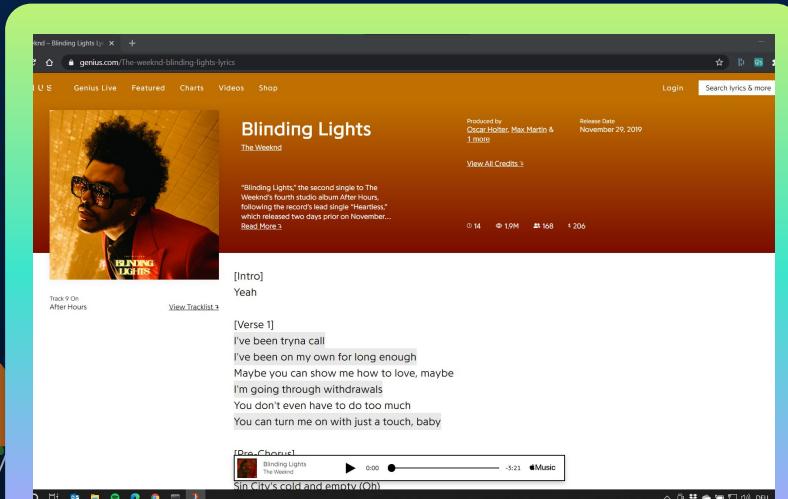
Blau

www.offiziellecharts.de
run by



Song Lyrics

Genius - API



www.genius.com



Audio Features

Spotify API



www.spotify.com



1,756 songs

Released between January 2018 and December 2020

1,205 songs

Released in 2019 and 2020

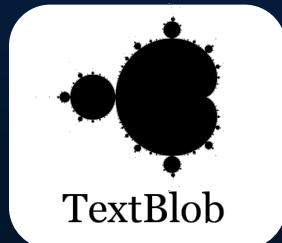
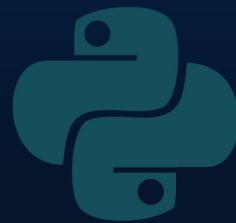
585 songs

Released on average per year

3. Tools



Tools used



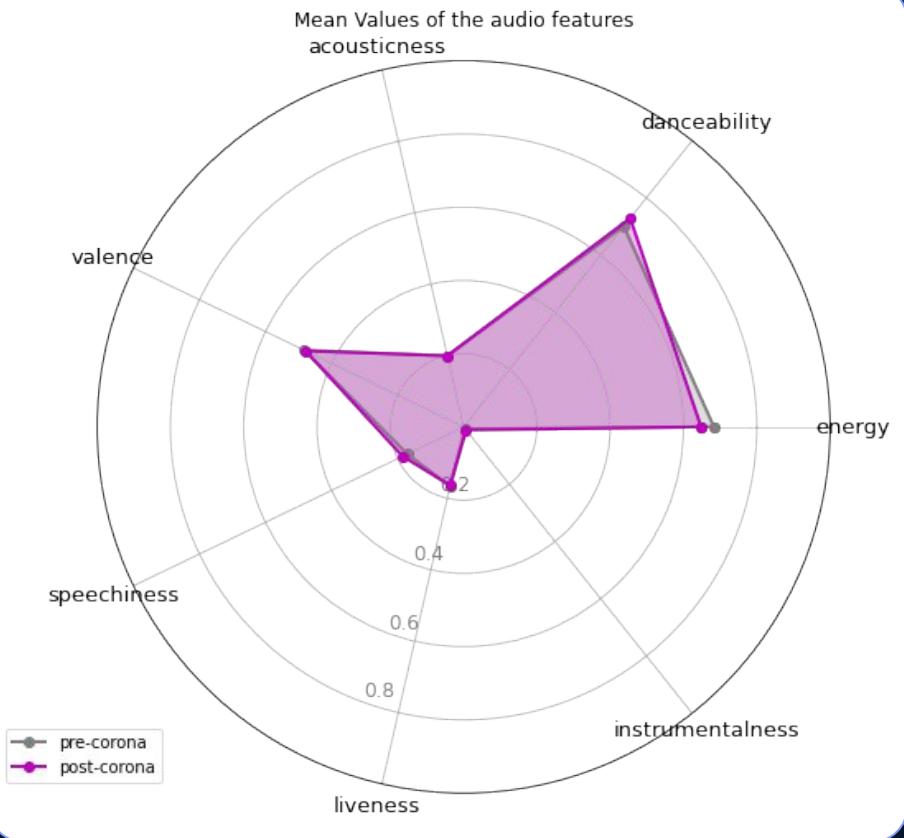
4. AUDIO FEATURES



Development of features over time (example)

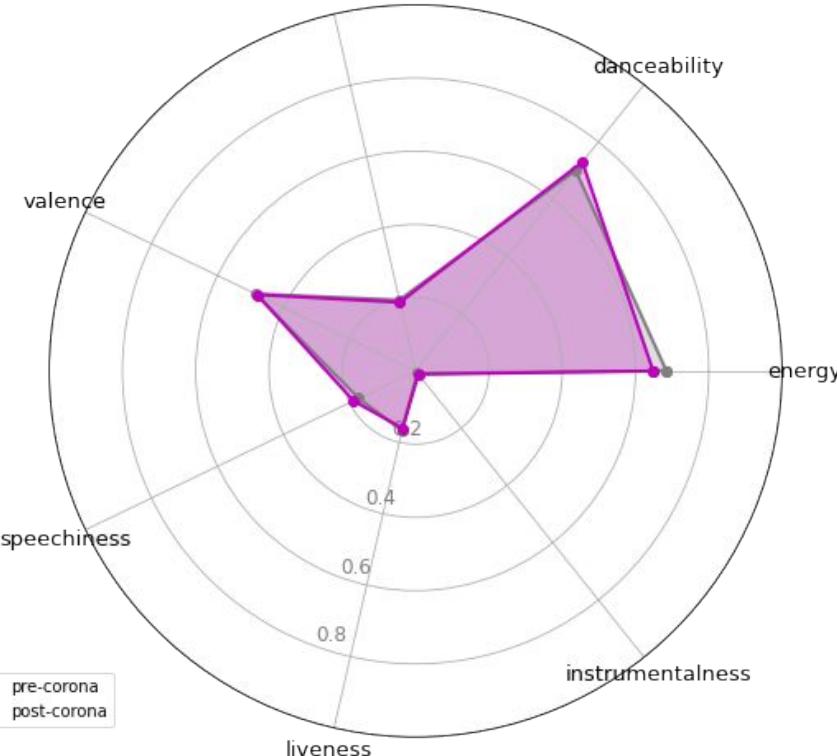


“Danceability” feature over the year



Comparison of audio features by year

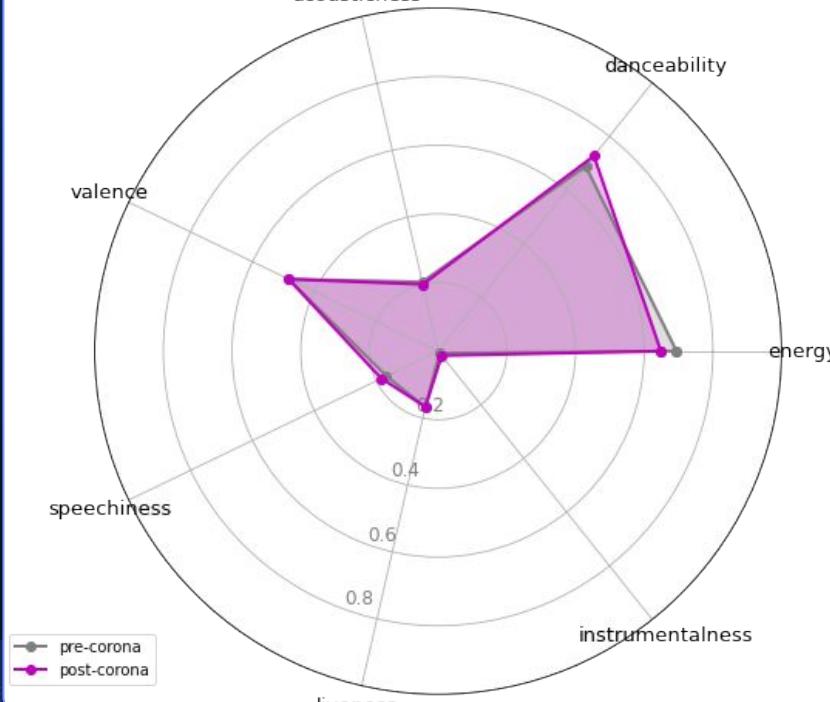
Mean Values of the audio features of songs released between March and December



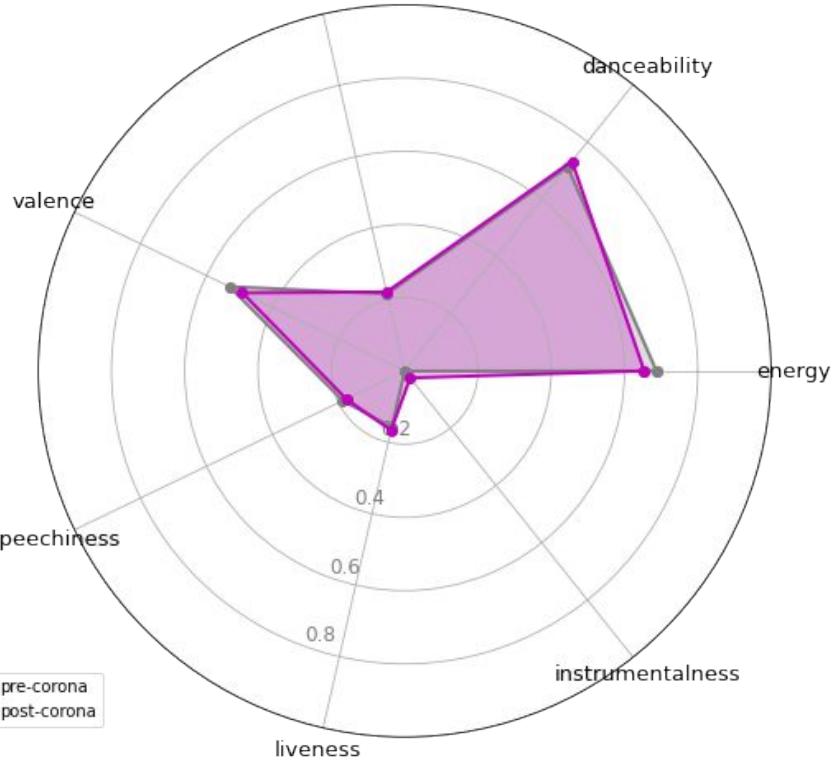
Comparison of audio features by period March - December

First Lockdown

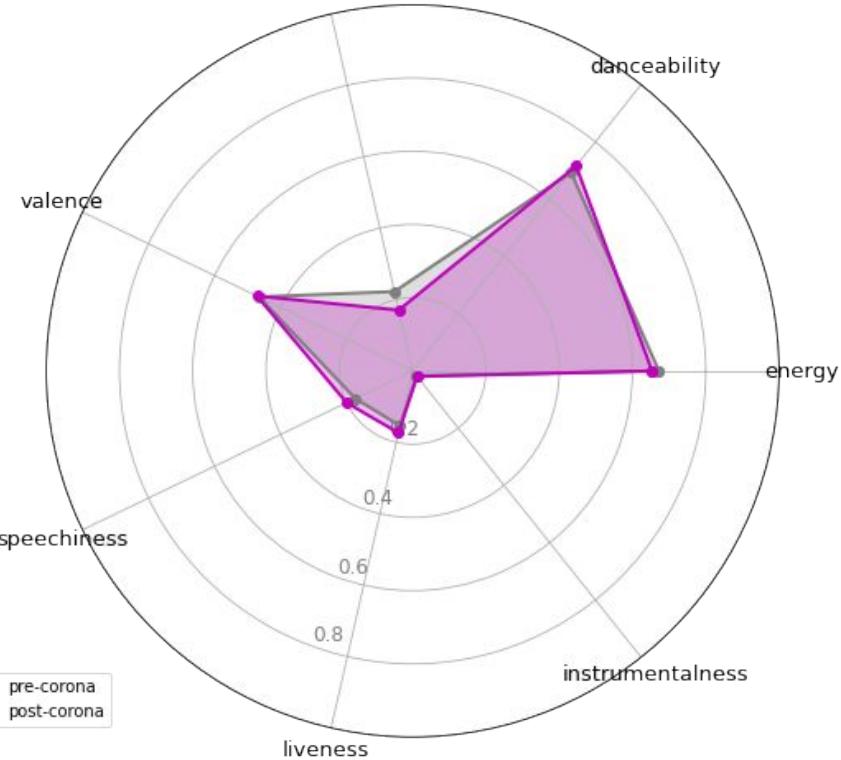
Mean Values of the audio features of songs released in the months of first lockdown



Mean Values of the audio features of songs released in March

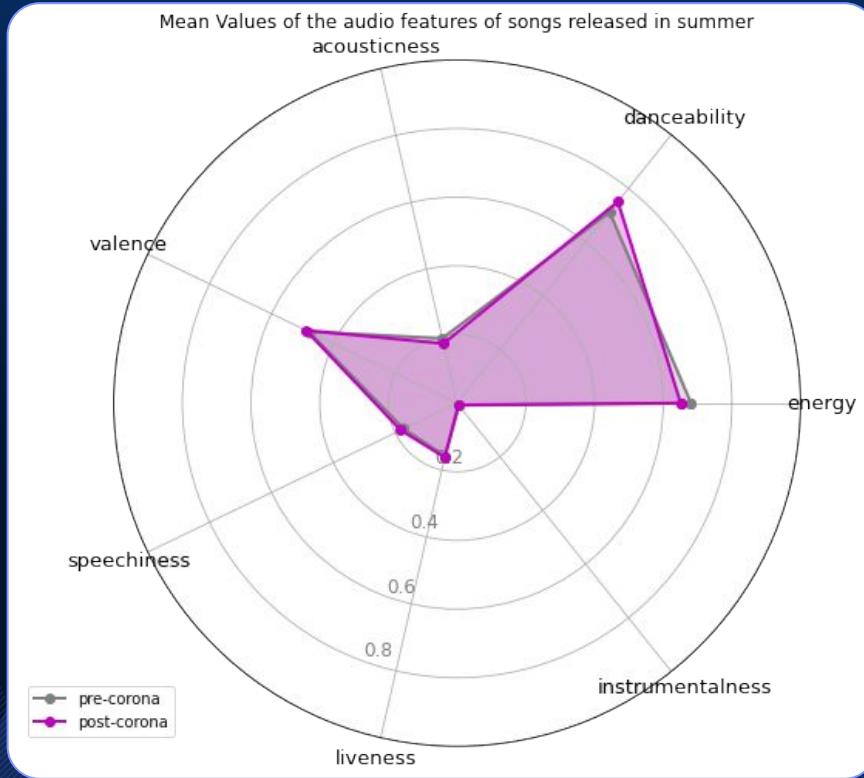


Mean Values of the audio features of songs released in April



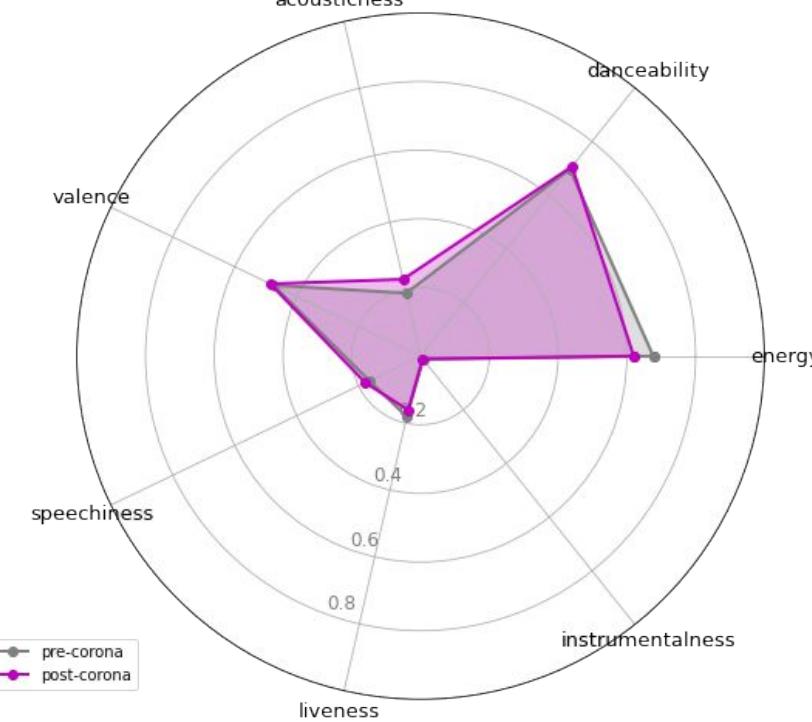
Comparison of audio features by Months March & April

Summer



Second Lockdown

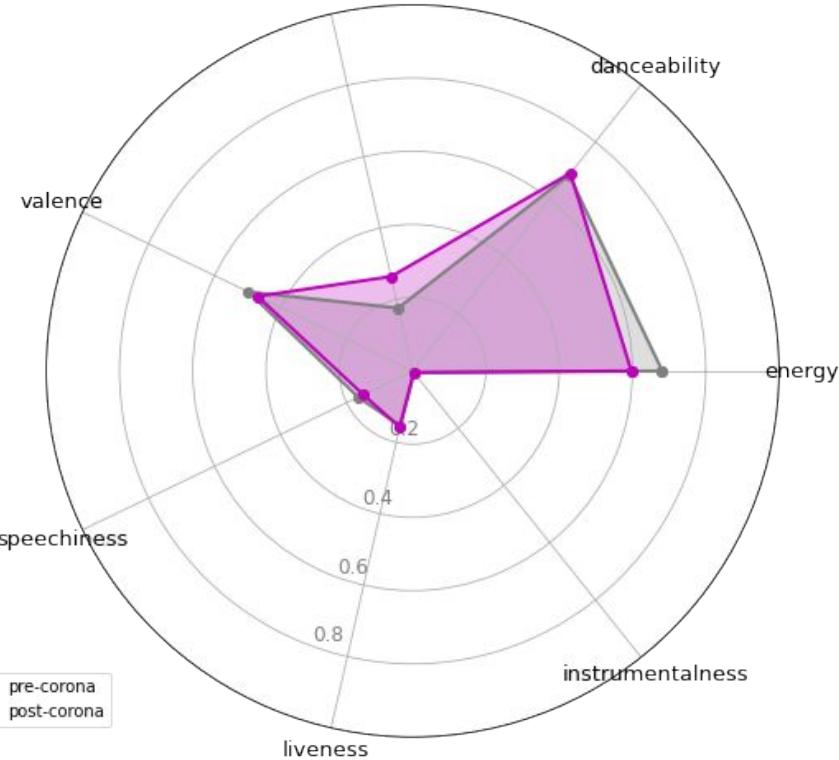
Mean Values of the audio features of songs released in the months of second lockdown



Mean Values of the audio features of songs released in November



Mean Values of the audio features of songs released in December

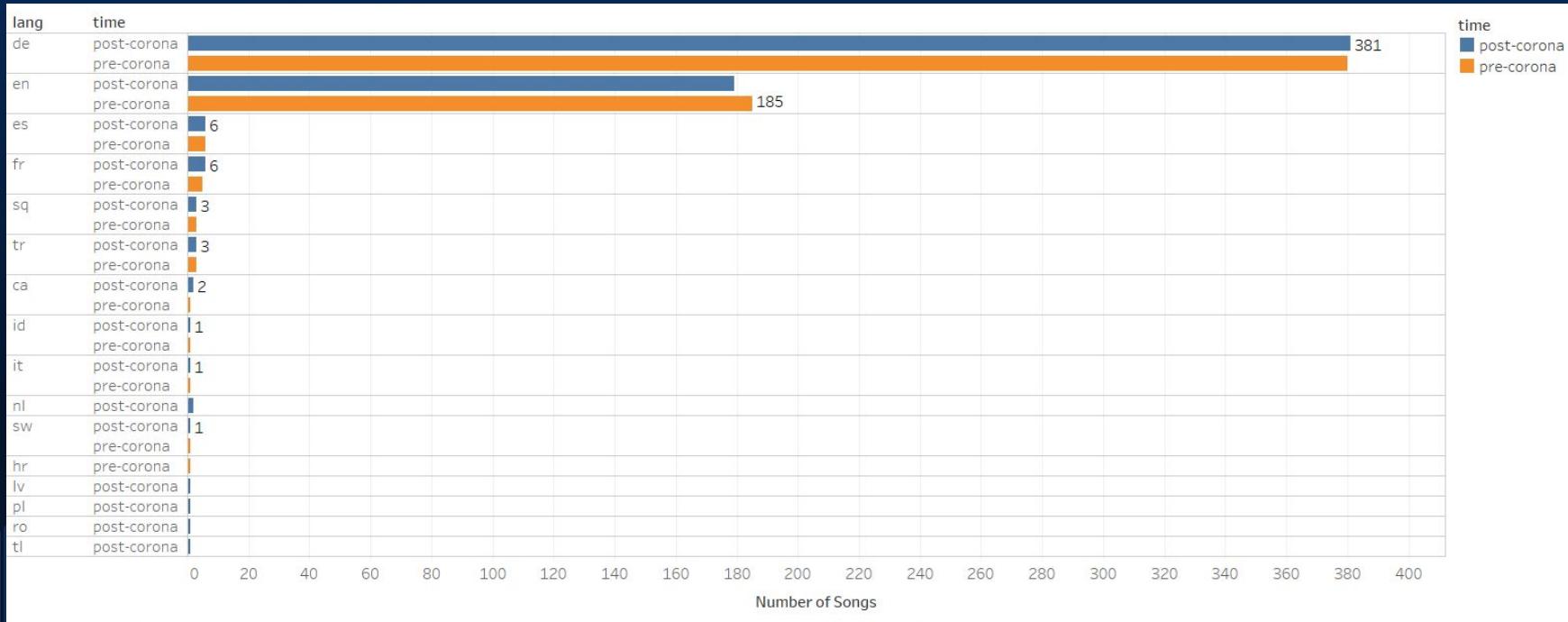


Comparison of audio features by Months November & December

5. LYRICS

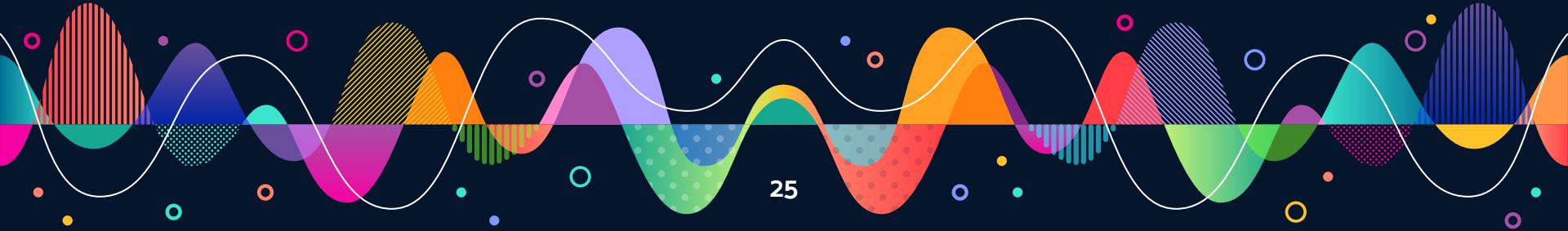
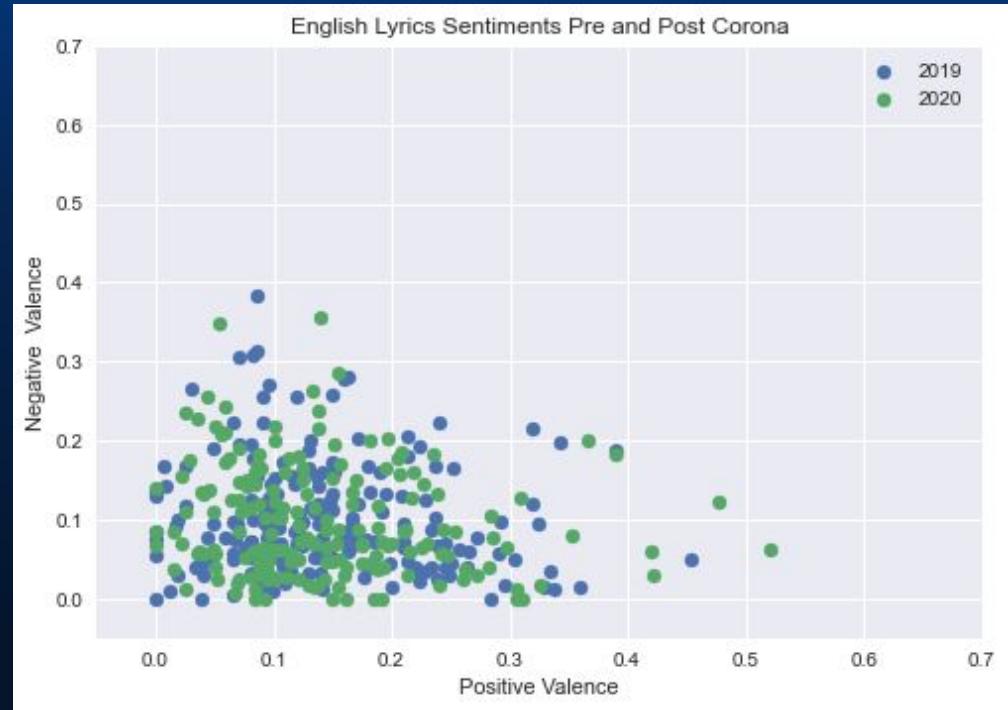
The background features a series of overlapping, rounded, organic shapes in various colors: orange, purple, red, green, blue, and yellow. These shapes are partially transparent, creating a layered effect. Scattered throughout the background are numerous small, colorful circles and dots in shades of pink, yellow, light blue, and teal, some with black outlines.

Language Distribution Comparison

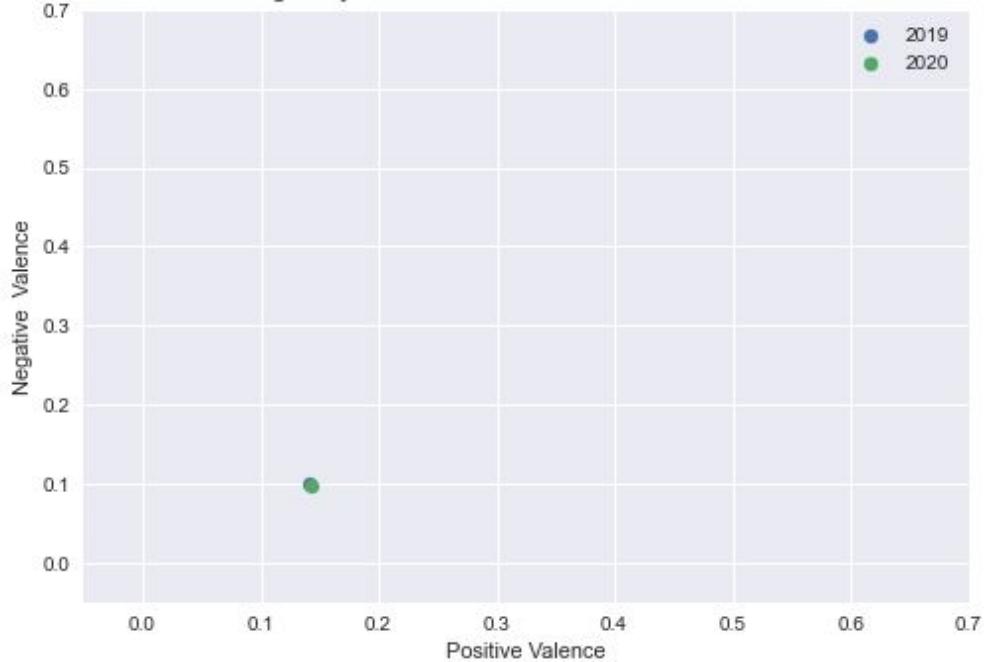


Sentiment Analysis (EN)

- ▷ Generally slightly higher spread of data on the positive valence

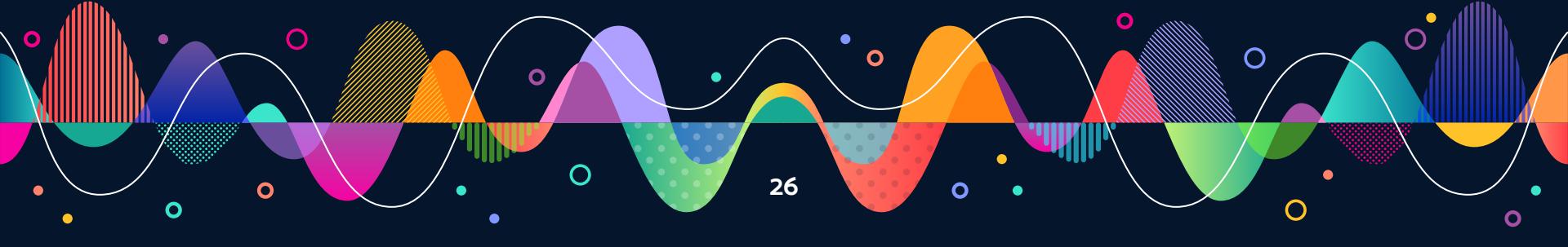


English Lyrics Mean Sentiments Pre and Post Corona



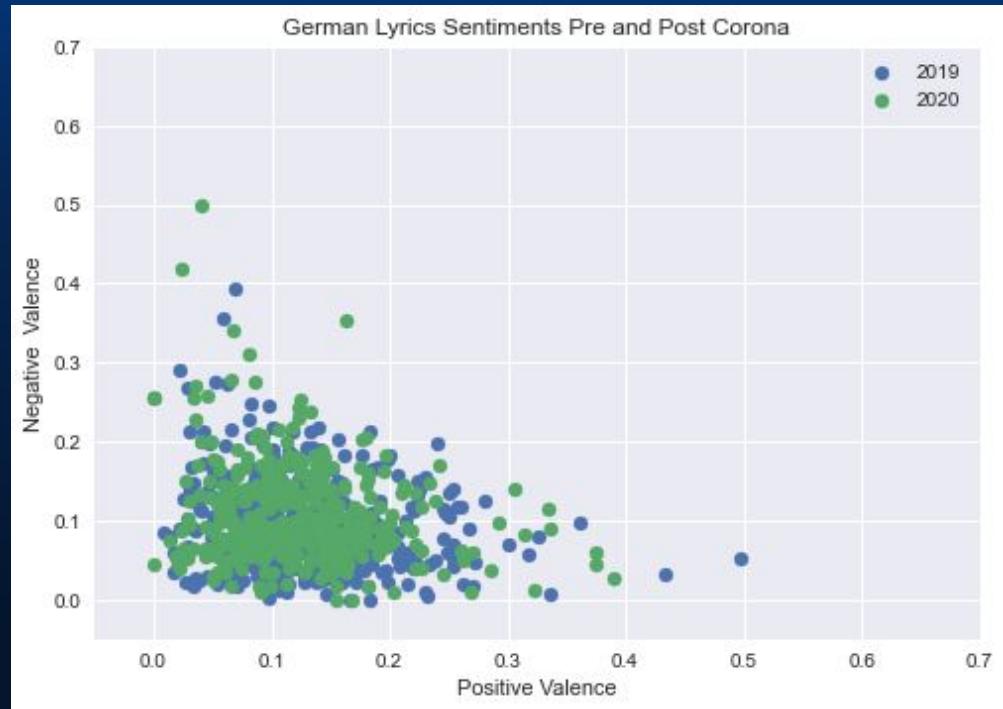
Sentiment Analysis (EN)

- ▷ Overall, the sentiment of mainstream music has not changed

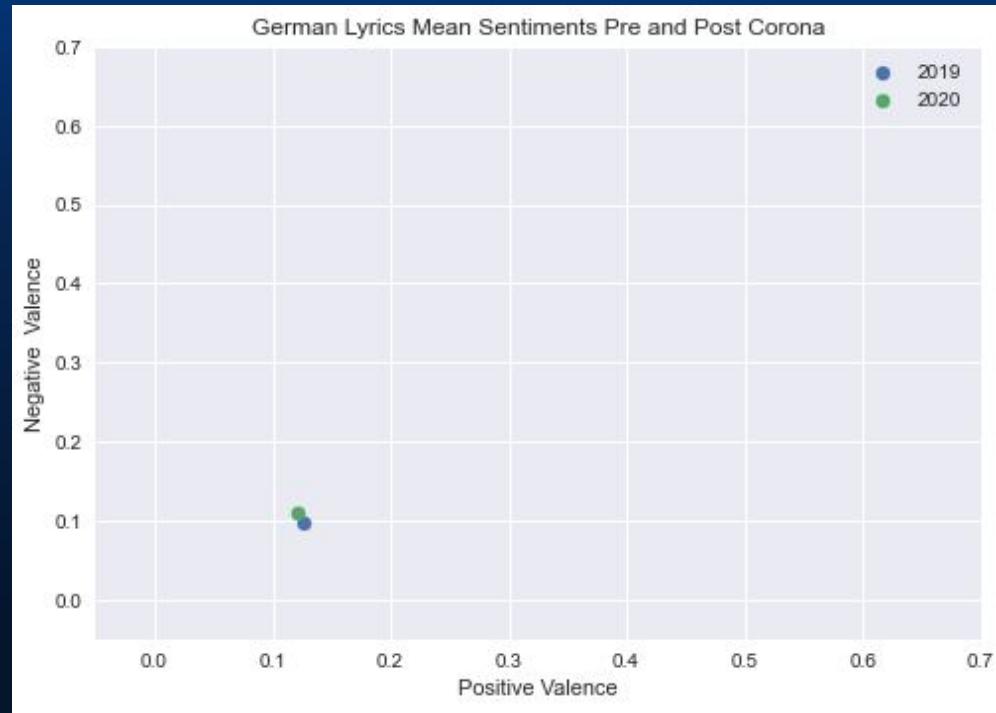


Sentiment Analysis* (GER)

- ▷ One large cluster around mean
- ▷ Spread of observations slightly smaller than of the English songs



* German songs were translated into English for analysis



Sentiment Analysis* (GER)

- ▶ German lyrics post Corona are slightly more negative compared to pre times

* German songs were translated into English for analysis

6. CONCLUSION



Conclusion



Hypothesis



Corona has an impact on Mainstream Music in Germany

Let's look at specific aspects to validate/reject the hypothesis:

- ▷ **Audio features**
- ▷ **Language of lyrics**
- ▷ **Sentiment of lyrics**

Conclusion



Hypothesis



Corona has an impact on Mainstream Music in Germany

- ▷ **Audio features**

- Second lockdown show bigger changes than first lockdown
- Some months show slightly stronger changes than others
- When analyzing the period March - December in an aggregated way, there were no big changes



Conclusion



Hypothesis



Corona has an impact on Mainstream Music in Germany

- ▷ **Language of lyrics**
- There were no significant changes in language distribution of lyrics within the German charts



Conclusion



Hypothesis

Corona has an impact on Mainstream Music in Germany

- ▷ **Sentiment of lyrics**
- English lyrics show on average the same valence of emotions
- German lyrics turned slightly more negative post Corona



Next steps & Learnings



- ▷ Sentiment analysis of German lyrics in German
 - ▷ More interesting: looking at individual streaming behavior instead of using aggregate data

 - ▷ Beware of using different data sources
 - ▷ Don't underestimate working with different languages
- 

Any questions?



Janek Stein

Feel free to reach out to me on LinkedIn: [@janekstein](#)

My work can be found on GitHub: [@jast92](#)

THANKS!



Acknowledgement



For my work I have used information from the following authors:

Cristobal Veas:

[How to Analyze Emotions and Words of the Lyrics From your Favorite Music Artist | by Cristobal Veas | Towards Data Science](#)

Jonathan Cabreira:

[https://towardsdatascience.com/a-music-taste-analysis-using-spotify-ap
i-and-python-e52d186db5fc](https://towardsdatascience.com/a-music-taste-analysis-using-spotify-api-and-python-e52d186db5fc)

- ▷ Presentation template by [SlidesCarnival](#)
- ▷ Photographs by [Unsplash](#)