



Spotify Clarifies

Majestic Capybara • An Analysis of Music Popularity over Time



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Introduction and Key Insights

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Main Themes Found in Song Titles

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Preference for Sad Songs in Recent Years

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Key Insights



Main Themes
Found in Song
Titles



Preference for
Sad Songs in
Recent Years



What Makes a
Song Danceable



“Algorithmic”
Approach to
Song Production

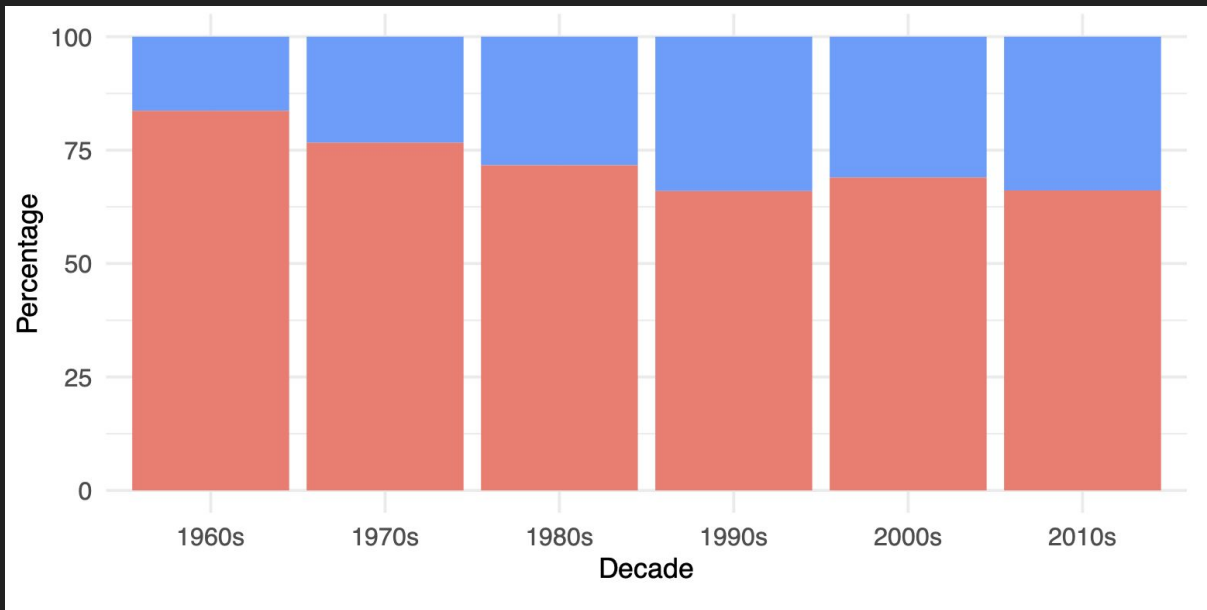


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Preference for Sad Songs in Recent Years

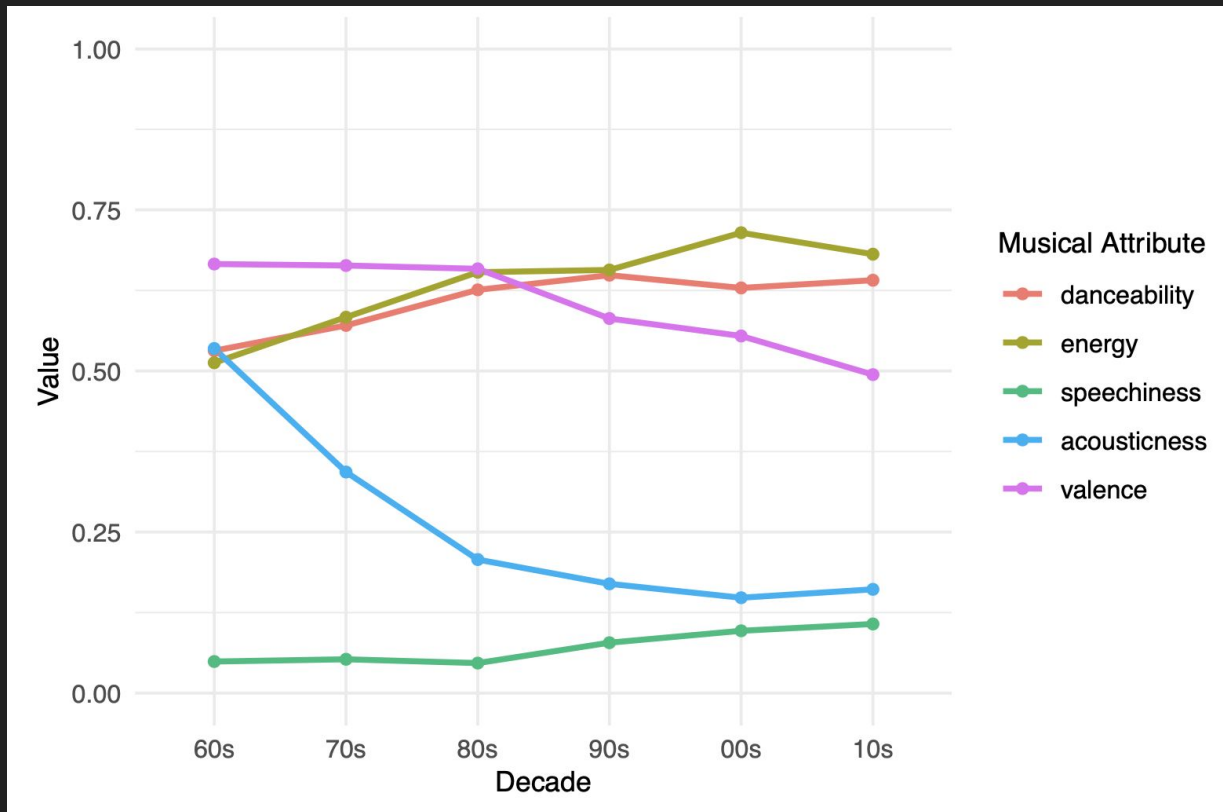
- Proportion of Major/Minor Modes of Hit Songs
 - More Minor (Sad) Songs in Recent Decades





Preference for Sad Songs in Recent Years

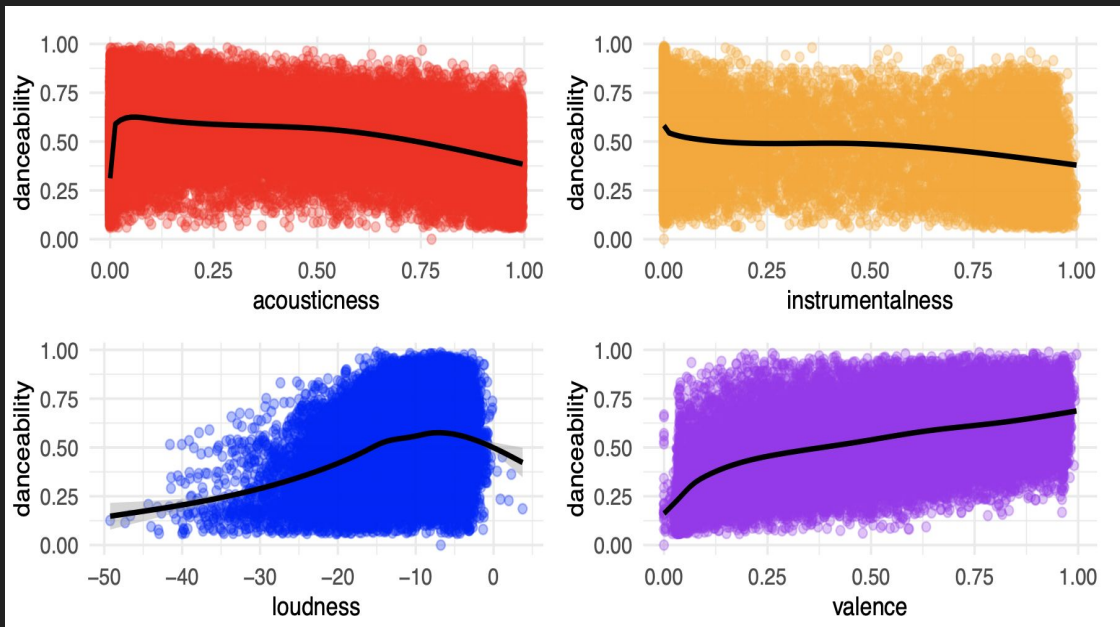
- Decreasing
 - Acousticness
 - Valence
- Increasing
 - Danceability
 - Energy





What Makes a Song Danceable

- Acoustic Presence
- Instruments + Vocals
- Loudness Threshold
- Positive Sounds





What Makes a Song Danceable

- Time Signature Analysis on Common Time (4/4)
 - Highest Average Danceability
 - Ex: club or electronic dance music

Time Signature	4	3	5	1	0
Average Danceability	0.5579703	0.4049516	0.3993724	0.4014569	0.1334000
Average Acousticness	0.3308935	0.6177392	0.6153970	0.6211903	0.5906667
Average Energy	0.6058251	0.3784532	0.3824055	0.3927565	0.4109940
Number of Tracks	36117	3808	587	371	3
Number of Hits	15693	973	117	61	1
Percentage of Hit Tracks	0.4345	0.2555	0.1993	0.1644	0.3333

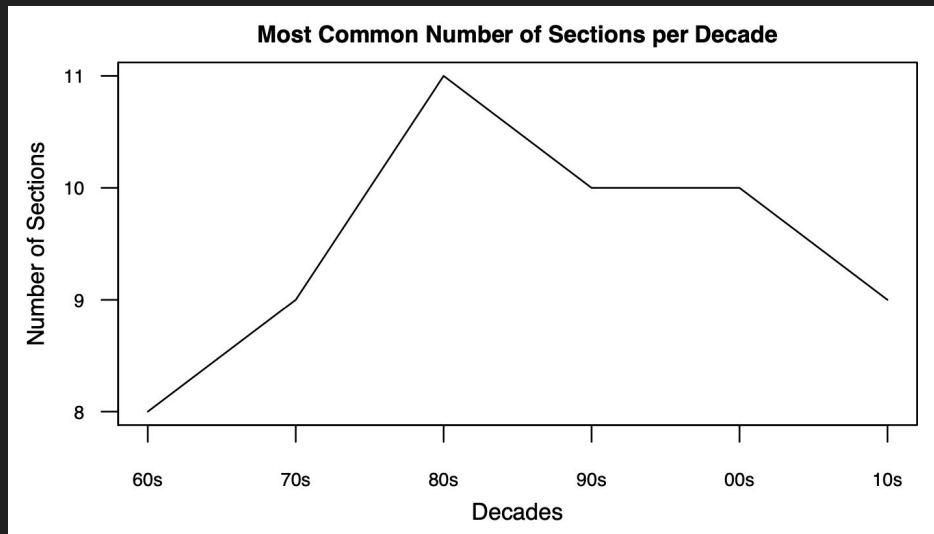


“Algorithmic” Approach to Song Production

- Tracks are Divided into Sections

Most commonly: Intro, verse 1, pre-chorus, chorus, verse 2, pre-chorus, chorus, bridge, outro

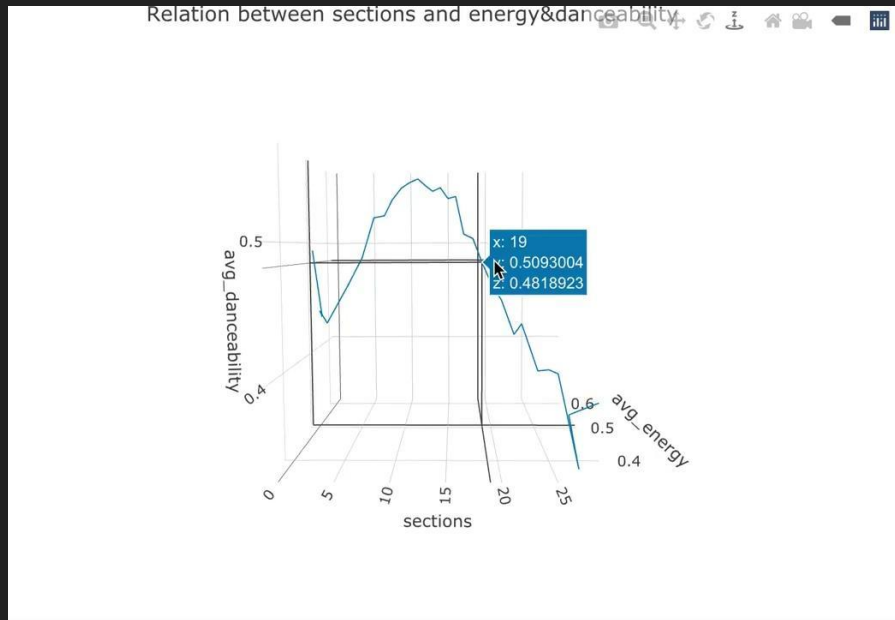
- Nine Sections is Consistent in Recent Years
- Rigid Structure to Likely Increases Potential Song Success





“Algorithmic” Approach to Song Production

- Tracks are divided into Sections
 - Ex: intro, verse, pre-chorus, chorus, bridge, and outros
- Relation to average energy and danceability
 - Quadratic Relationship
- Reasonable Amounts of Sections
 - Higher energy
 - Head-Bopping Melodies





“Algorithmic” Approach to Song Production

- Decrease in Song Production over the Decades
- Quality vs. Quantity

1960s - 1980s

Artist	Decade	Total Number of Songs
Traditional	60s	145
P. Susheela	60s	130
Jerry Goldsmith	60s	118
Harry Belafonte	60s	114
Ennio Morricone	60s	96
MPB4	70s	59
Buzzcocks	70s	50
kalapana	70s	49
John Coltrane	70s	44
Vicente Fernández	70s	44
The Cleaners From Venus	80s	47
Malcolm Arnold	80s	45
Nobuo Uematsu	80s	33
Skinny Puppy	80s	33
Running Wild	80s	32

1990s - 2010s

Artist	Decade	Total Number of Songs
Luis Miguel	90s	28
Madonna	90s	25
Iggy Pop	90s	22
Nobuo Uematsu	90s	19
El Gran Combo De Puerto Rico	90s	17
Toby Keith	00s	27
Tim McGraw	00s	24
Rascal Flatts	00s	24
Iron Maiden	00s	23
Kenny Chesney	00s	23
Drake	10s	50
Glee Cast	10s	41
Taylor Swift	10s	35
Luke Bryan	10s	25
The Weeknd	10s	24

Conclusions

- Main Themes Found in Song Titles
 - Emotions and Relationships
- Preference for Sad Songs in Recent Years
 - Trends indicate More Minor Modes and Less Positive Sounds
- What Makes a Song Danceable
 - Acousticness, Vocals, Volume Threshold, Higher Valence
 - Common Time Signature
- “Algorithmic” Approach to Song Production
 - Development of a Rigid Structure in Sections
 - Less Song Production

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Thank You!

Any Questions?