

What they talk about when they talk about...

Katie Huang
February 26th, 2021

A collage of several photographs capturing the joy of graduation. In the center, a young woman with long dark hair is smiling broadly, her head tilted back. To her left, another student is laughing heartily. Above them, a group of students in black caps and red stoles are cheering, many holding up small red flags. The background shows a large, arched brick building, likely a university campus.

Graduating

Who are the commencement speakers?



Entertainment



Who are the commencement speakers?



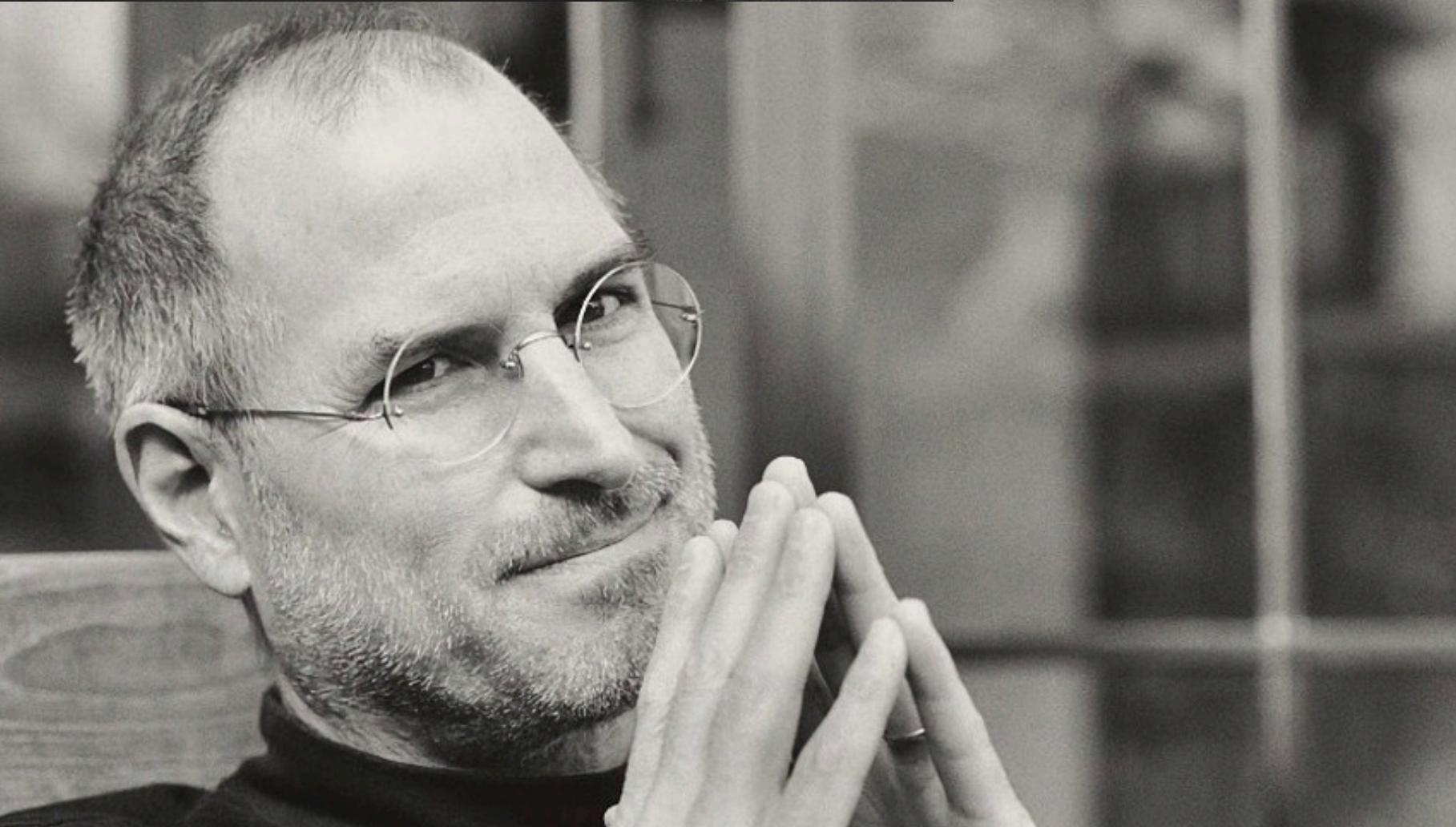
Science



Who are the commencement speakers?



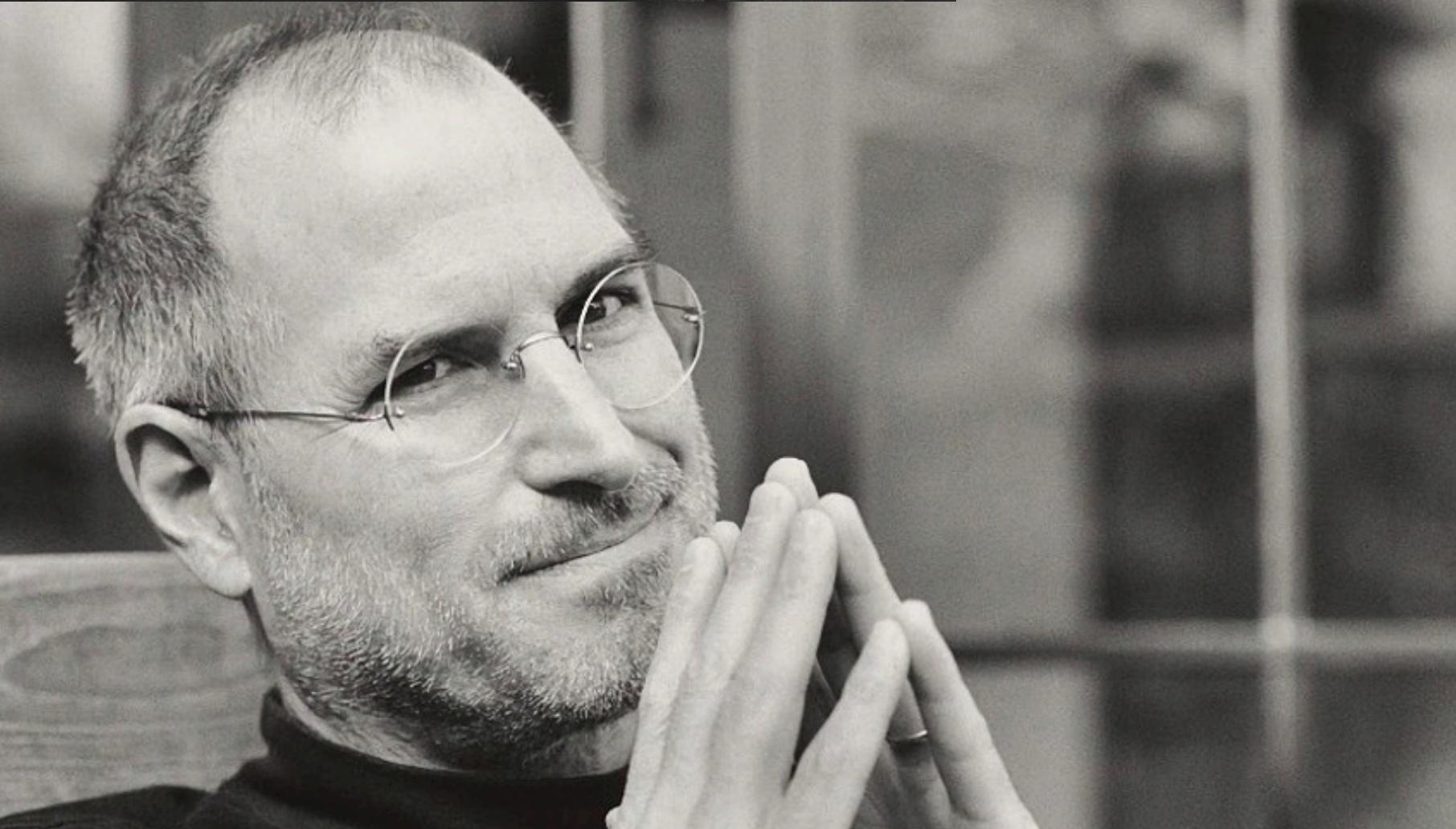
Technology/Business



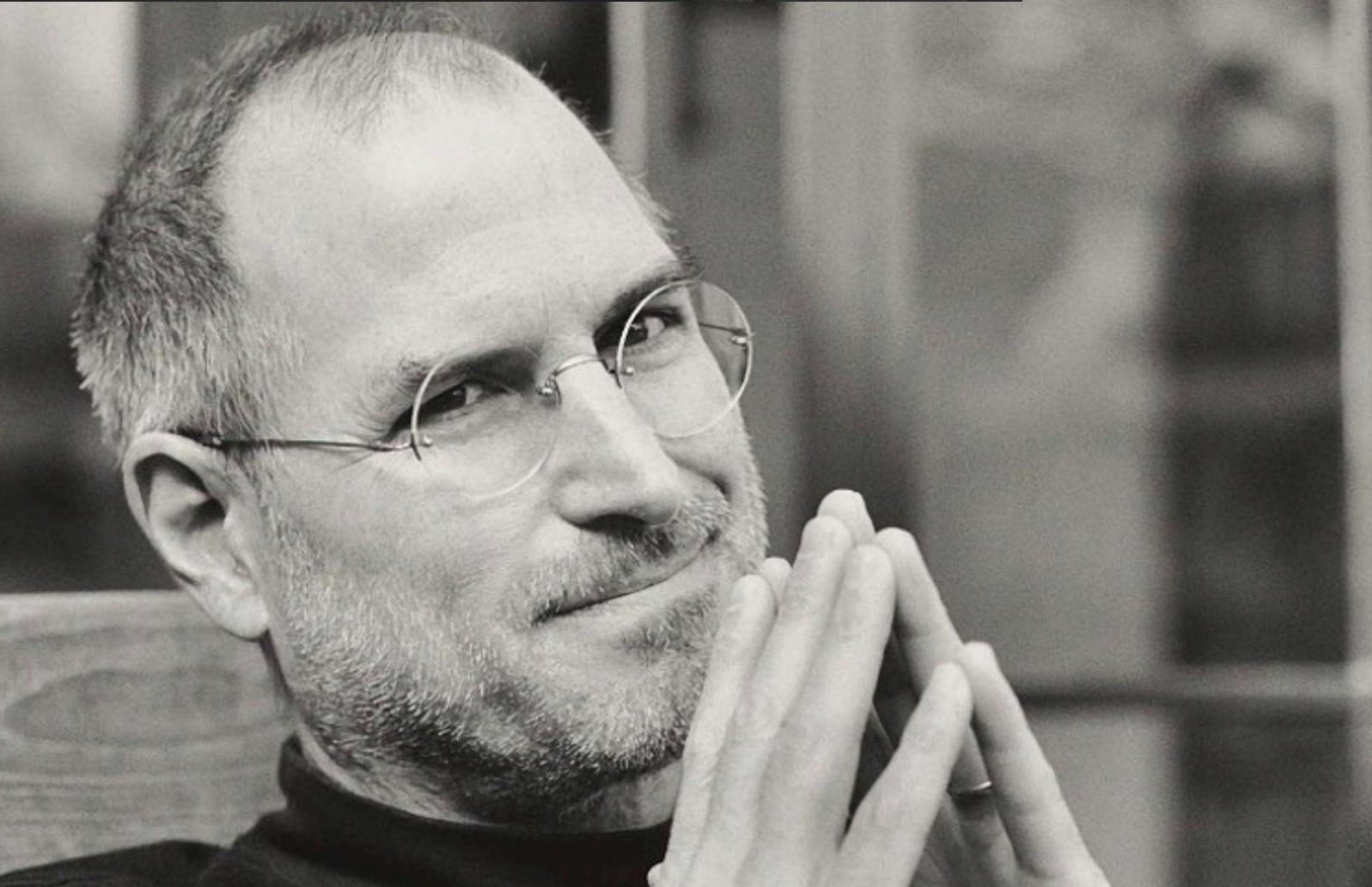
Who are the commencement speakers?



Publish



Who are the commencement speakers?



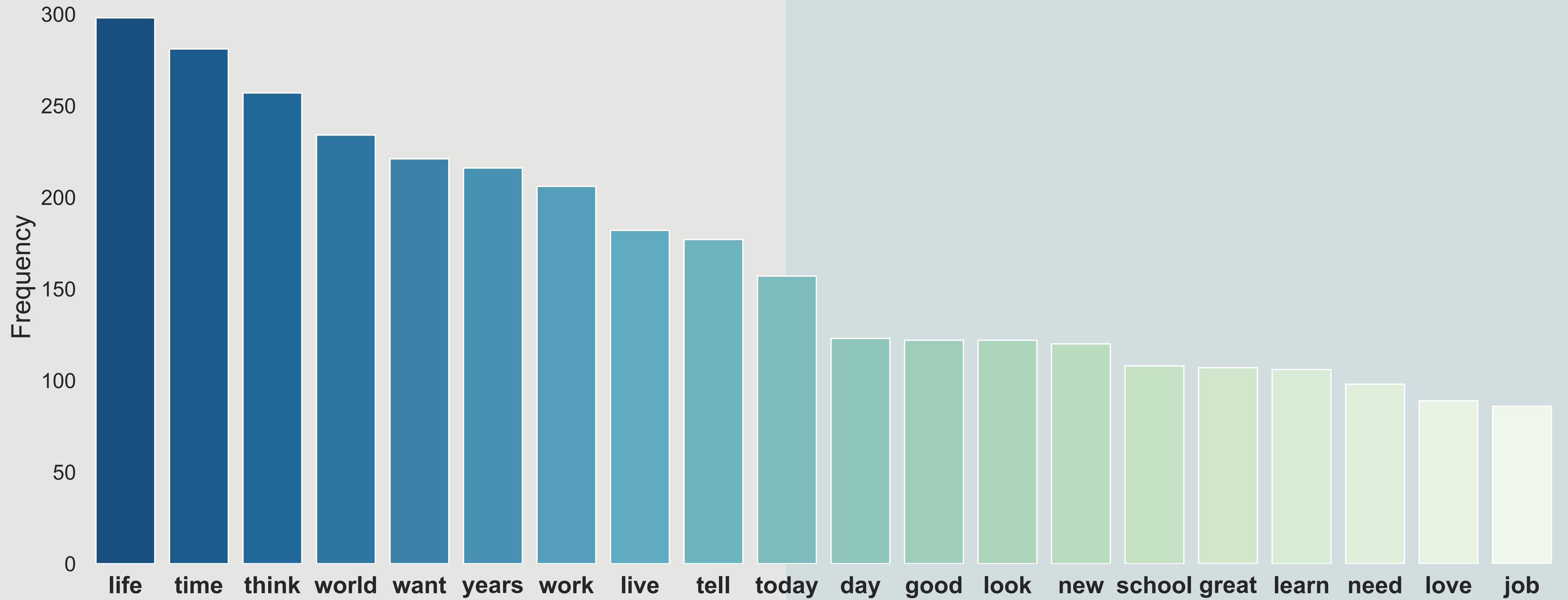
What? Who? How?

Based on 400+ commencement addresses in the U.S.

What? Who? How?

**What do they talk about?
Who is the audience?
How do they talk about it?**

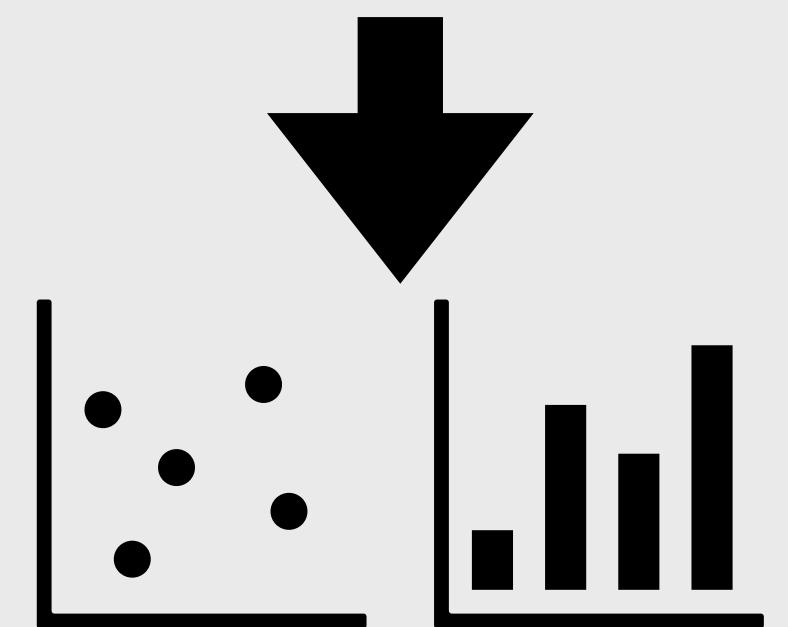
Most commonly used words



What do they talk about?



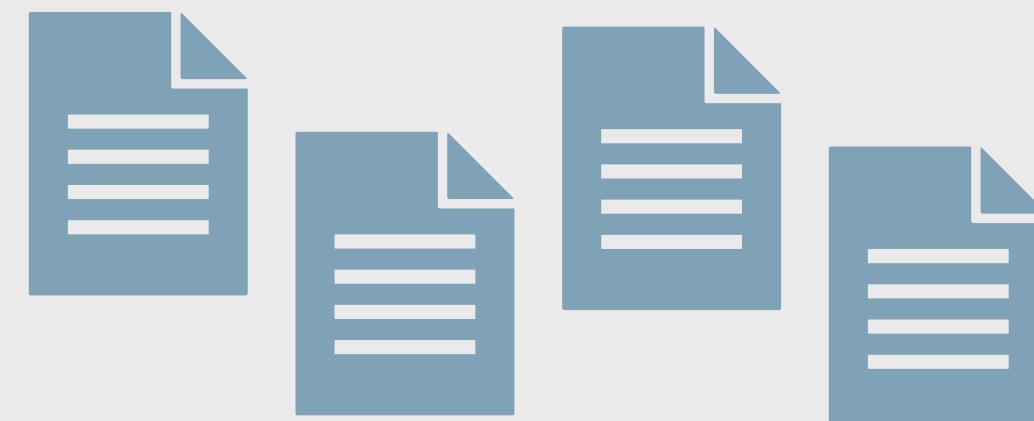
Transcripts



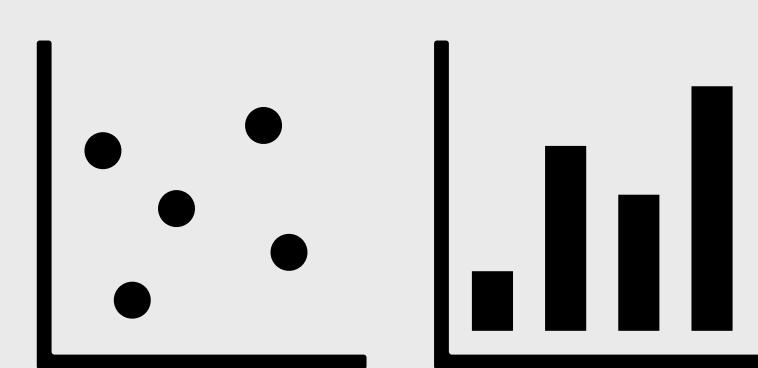
Topic modeling

- **TF-IDF**
- **NMF**

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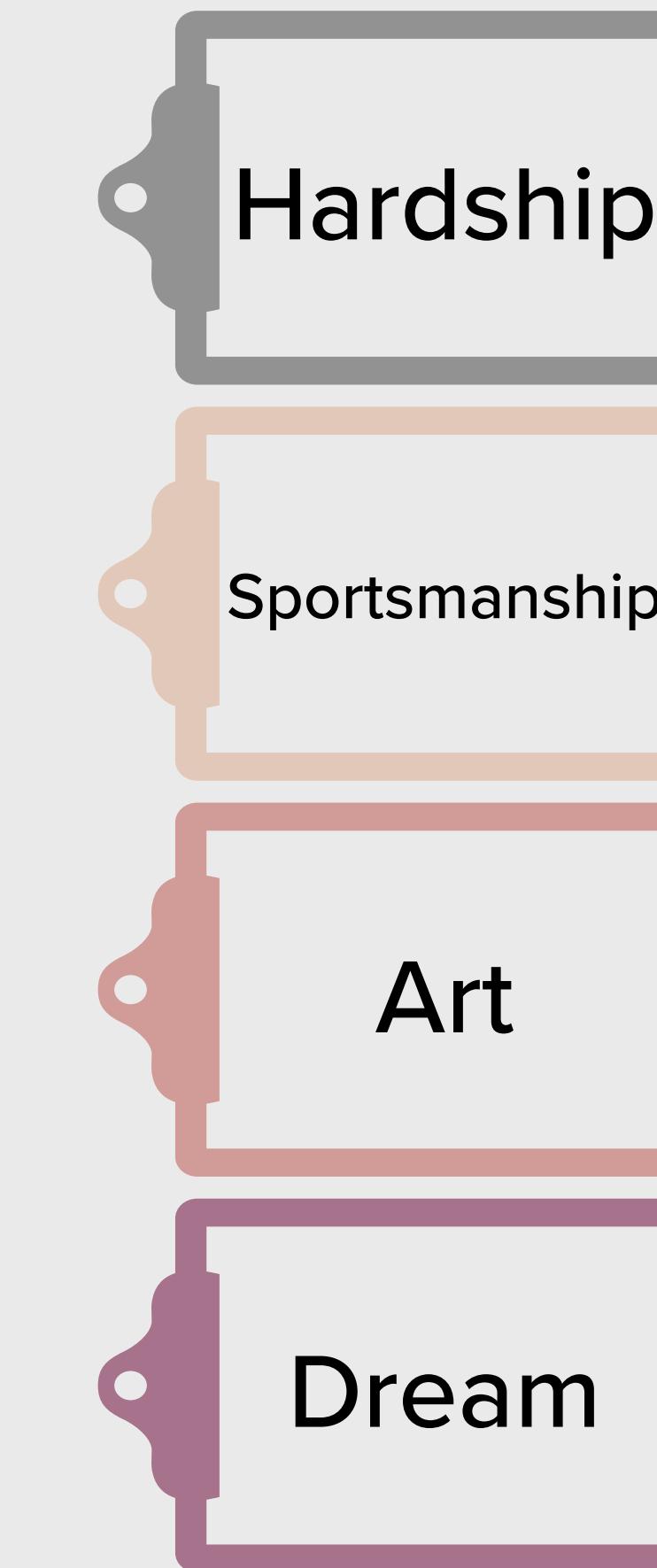
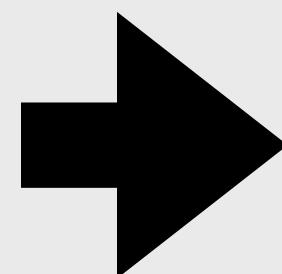


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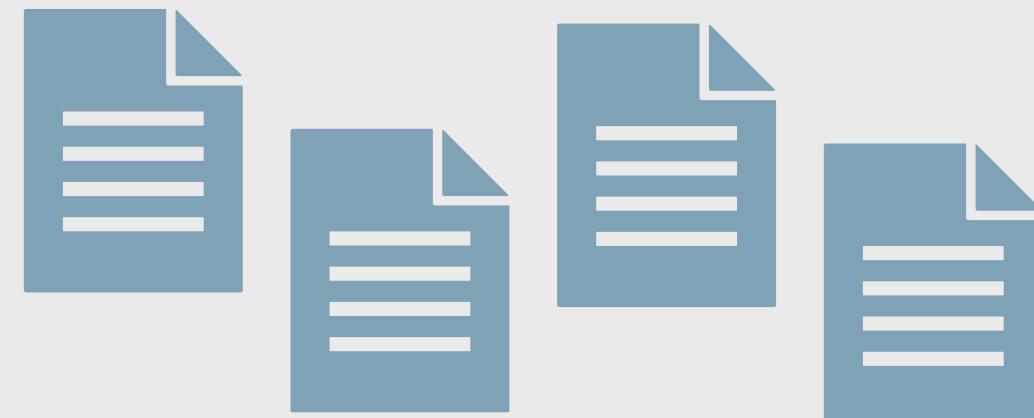


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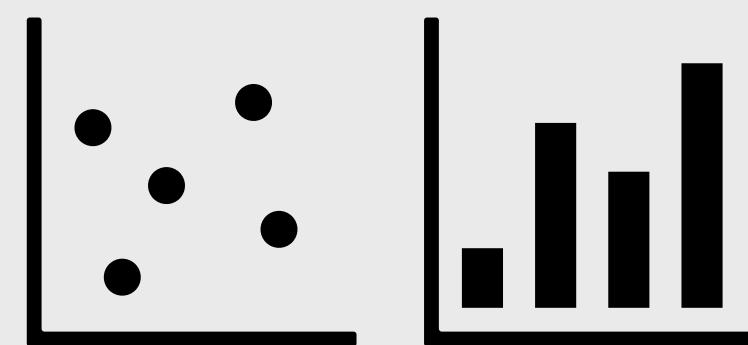
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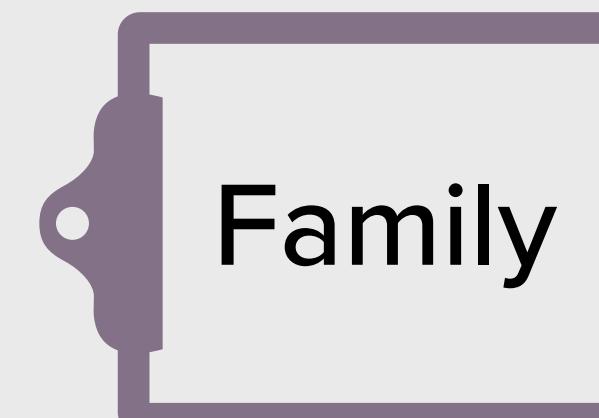


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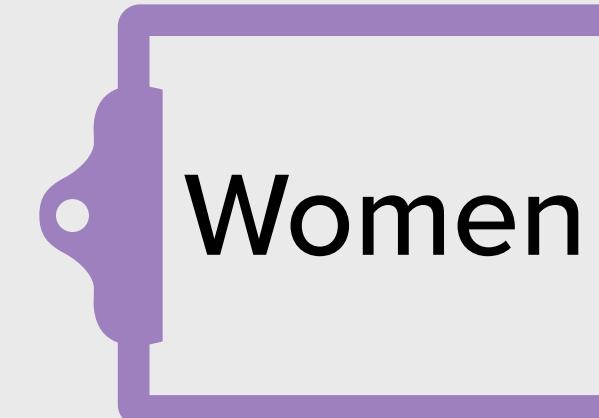


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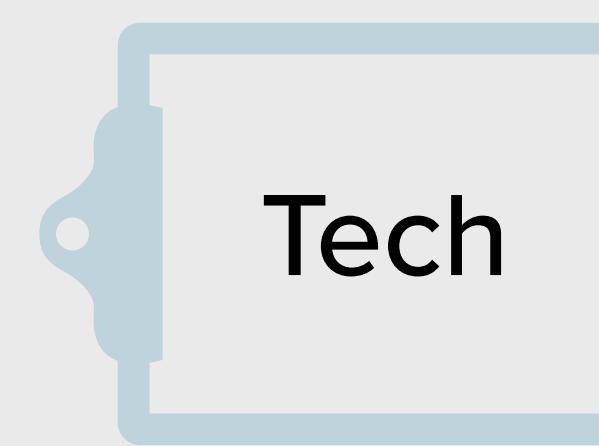
parents, friends,
advice, story...



voice, mother,
conversation...



generation, country,
community, history...



company, business,
career, leadership



fear, failure,
challenge...



team, game,
player, sport...

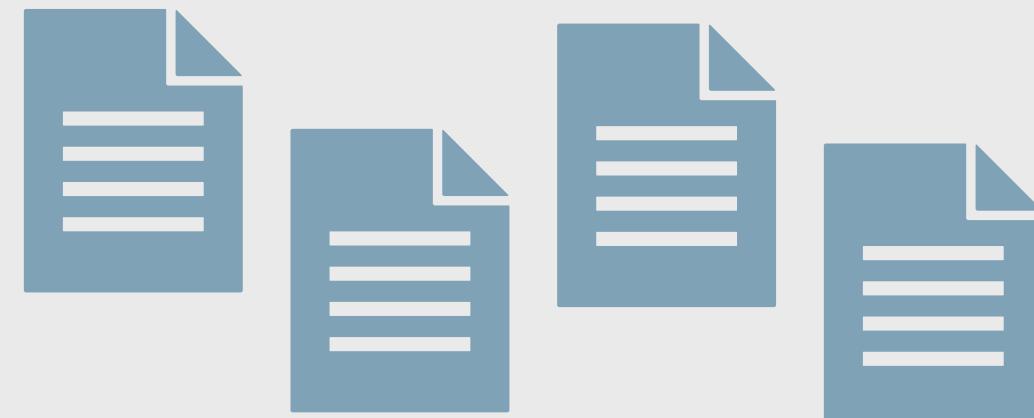


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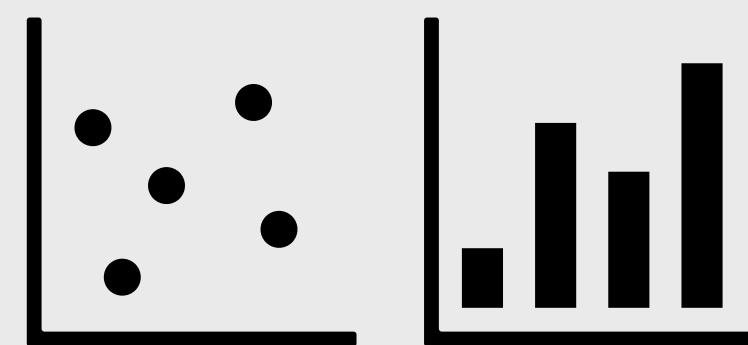


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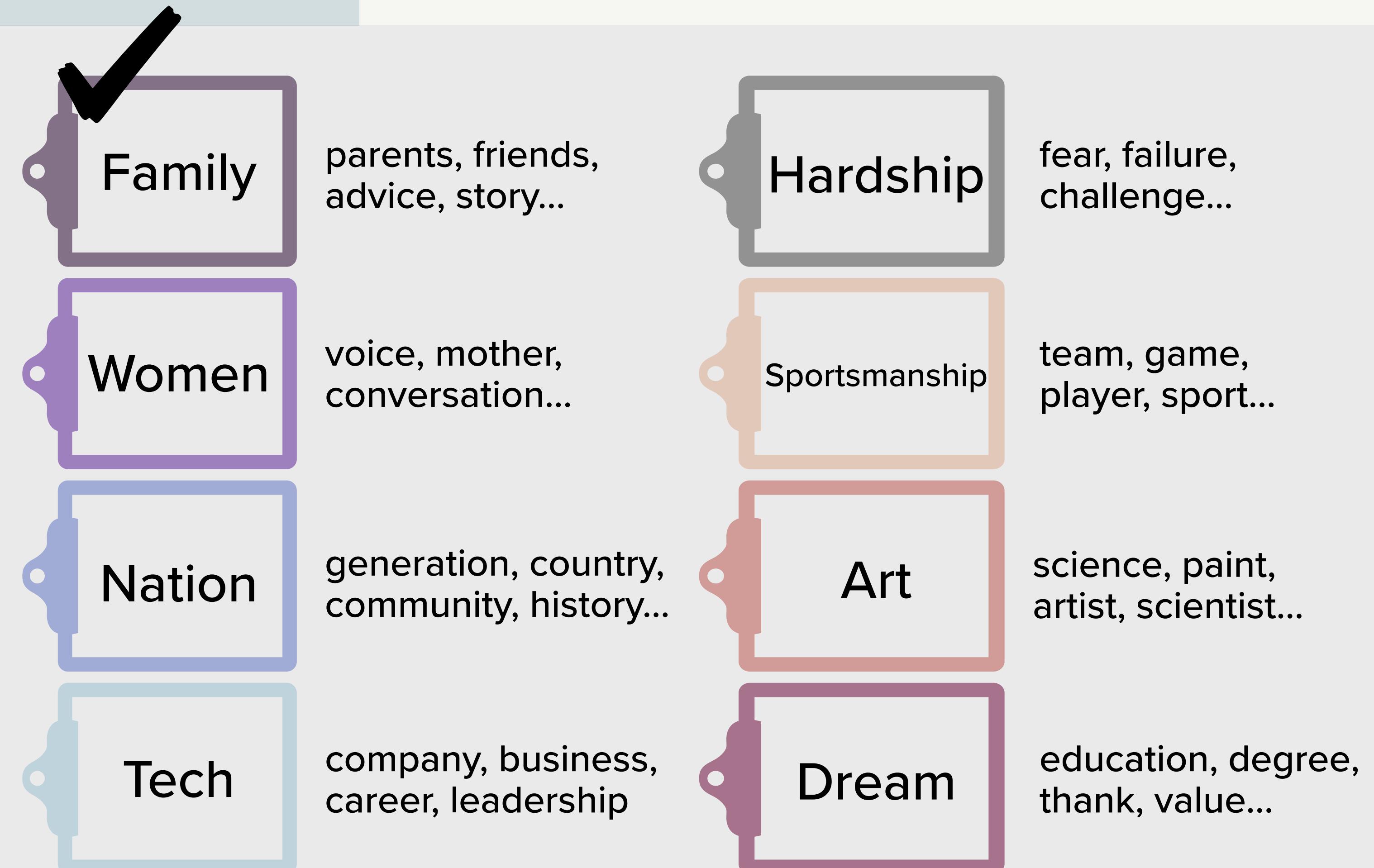


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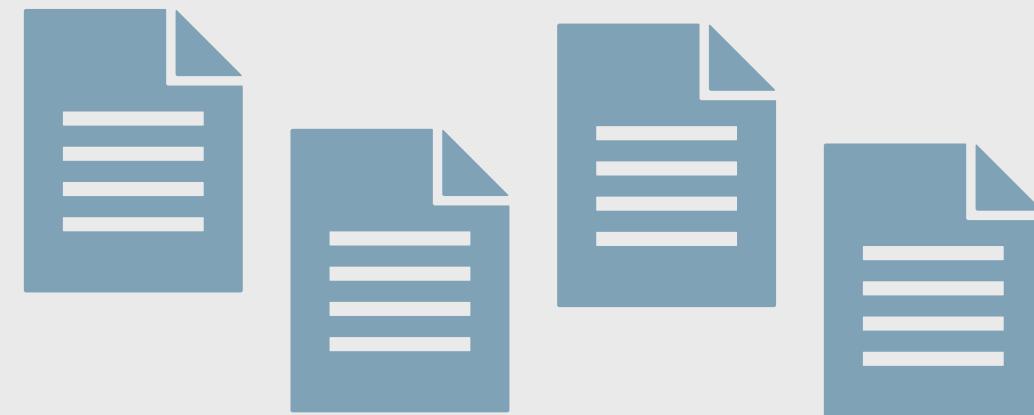


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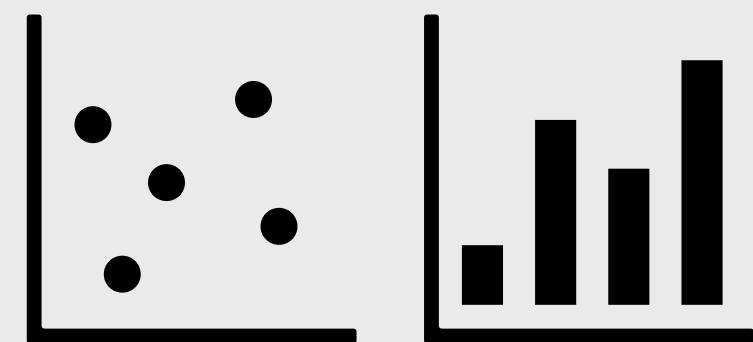
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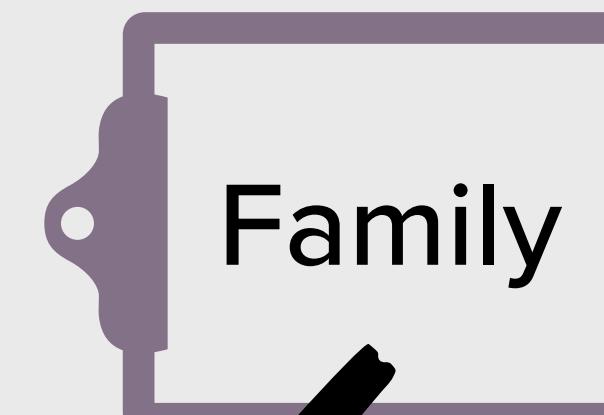


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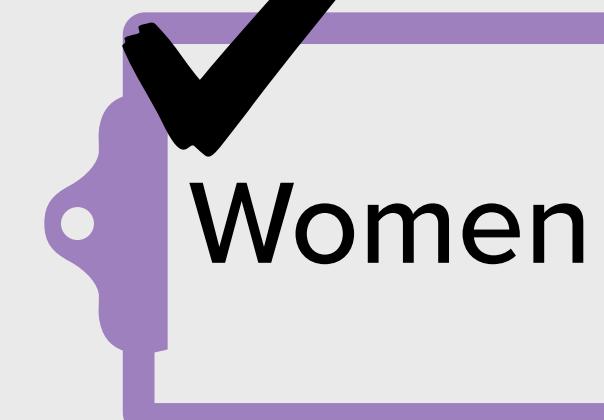


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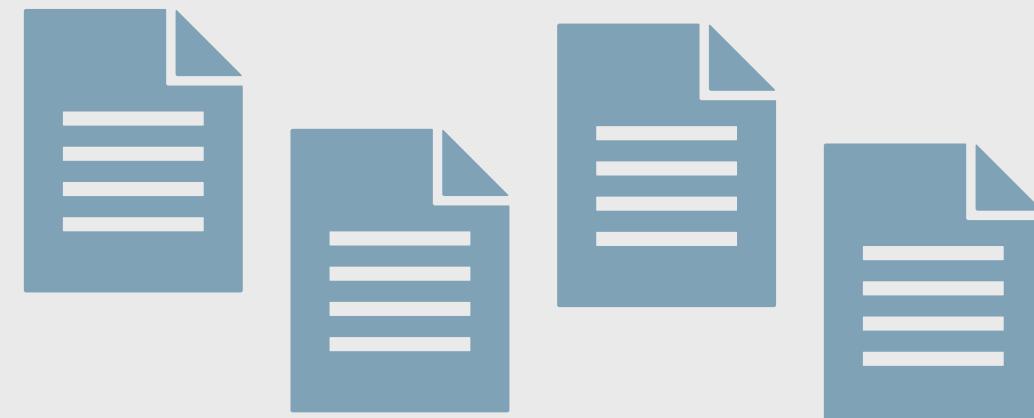


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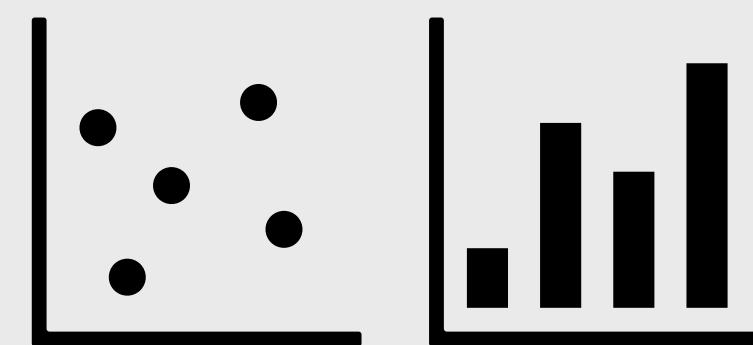


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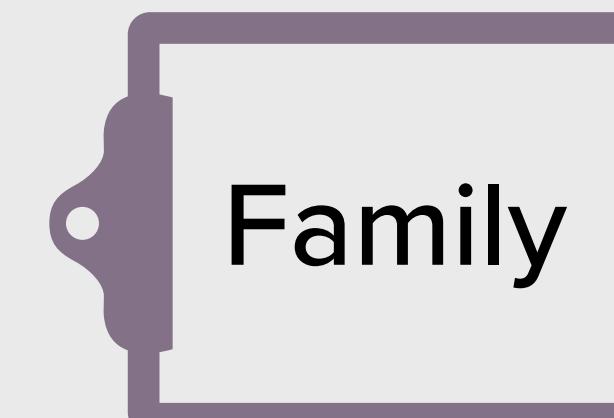


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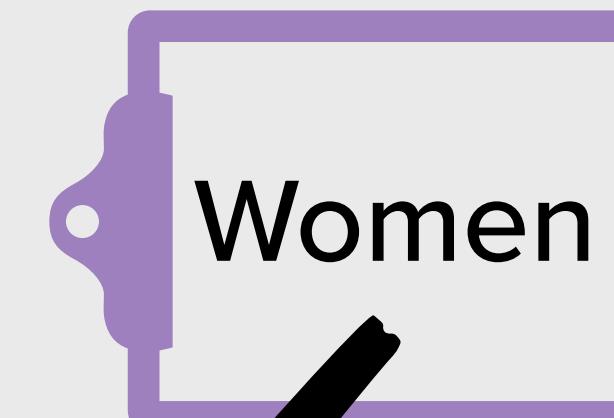


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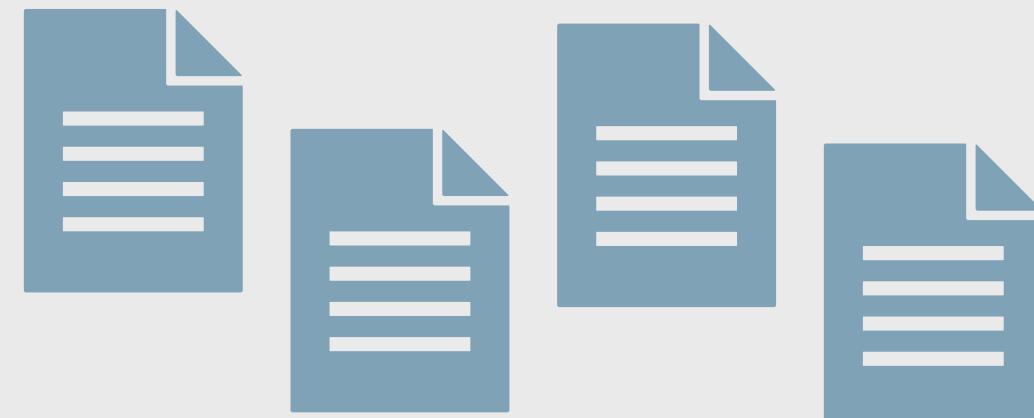


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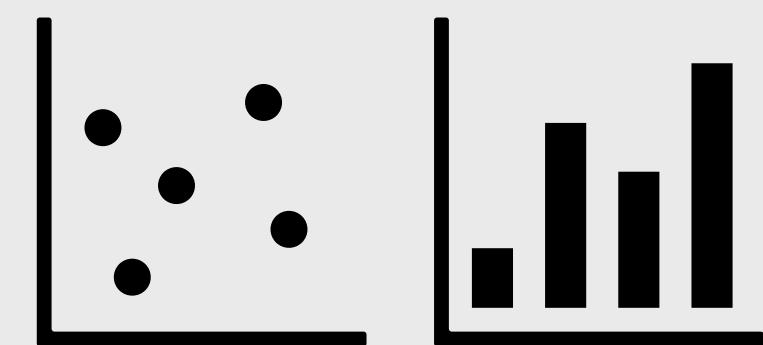


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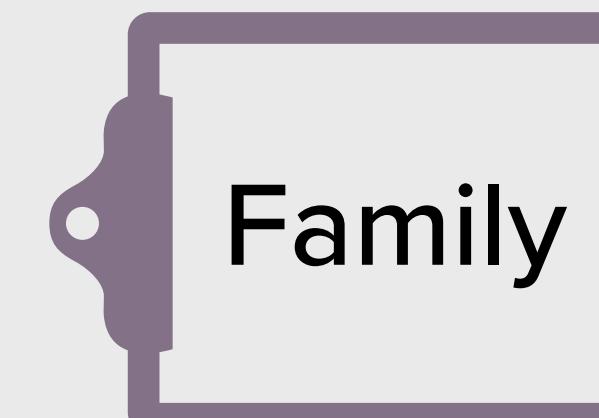


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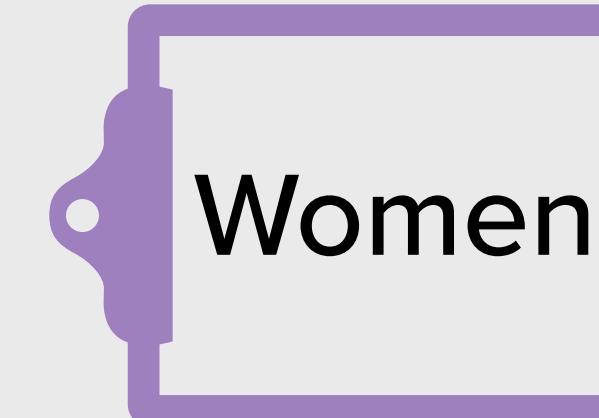


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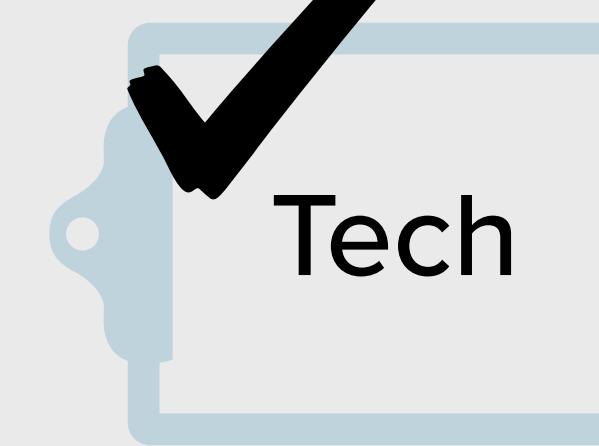
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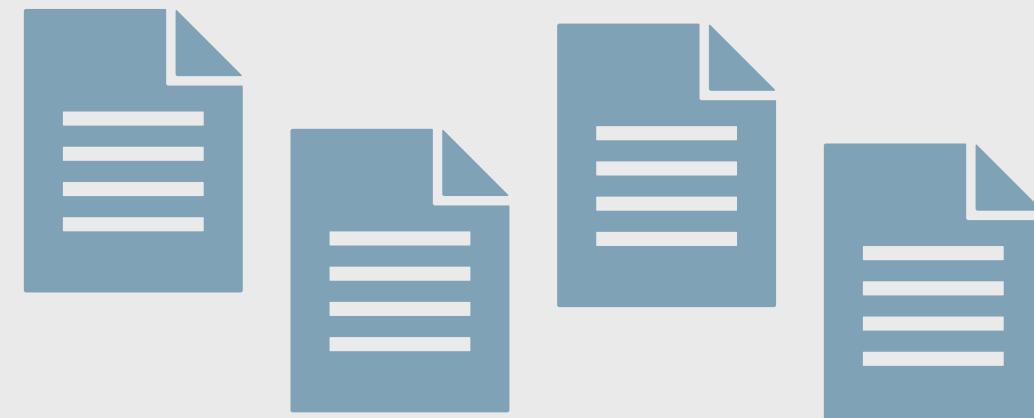


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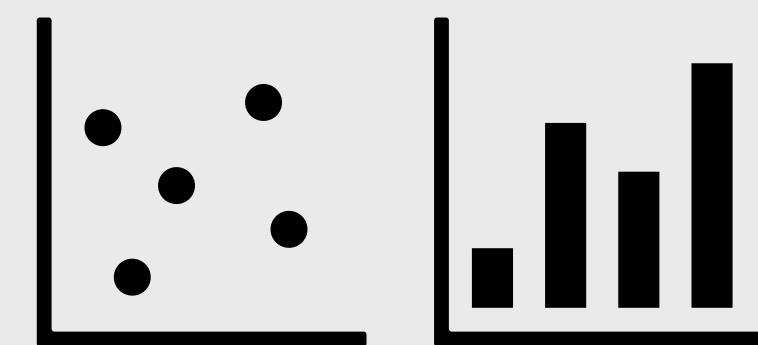


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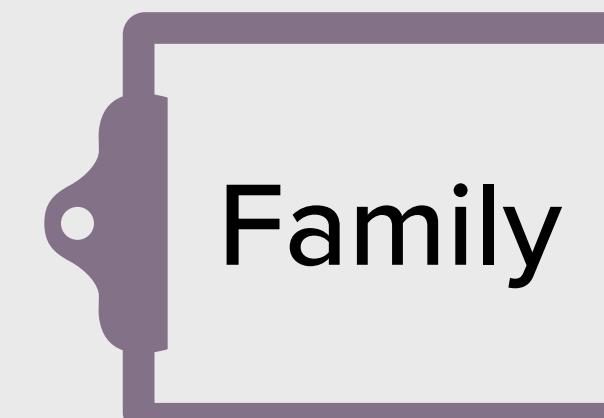


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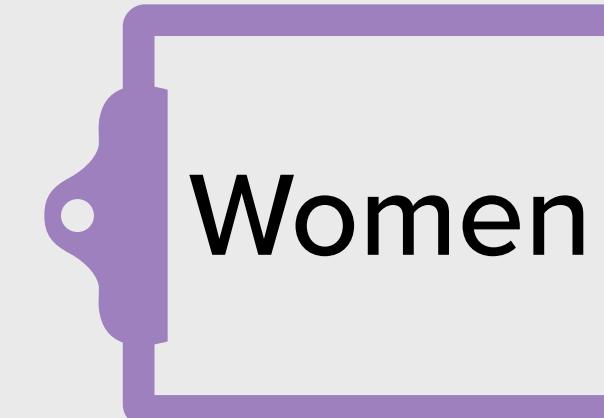


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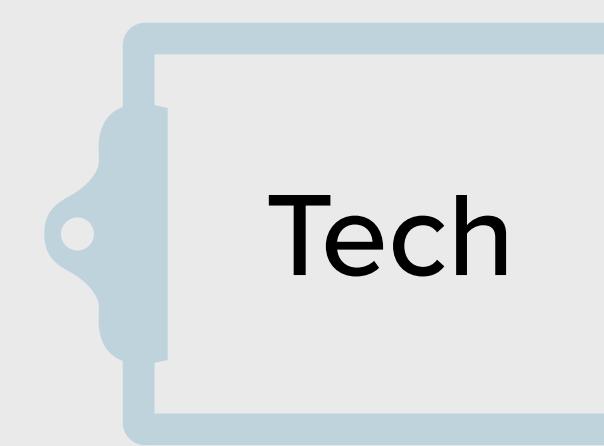
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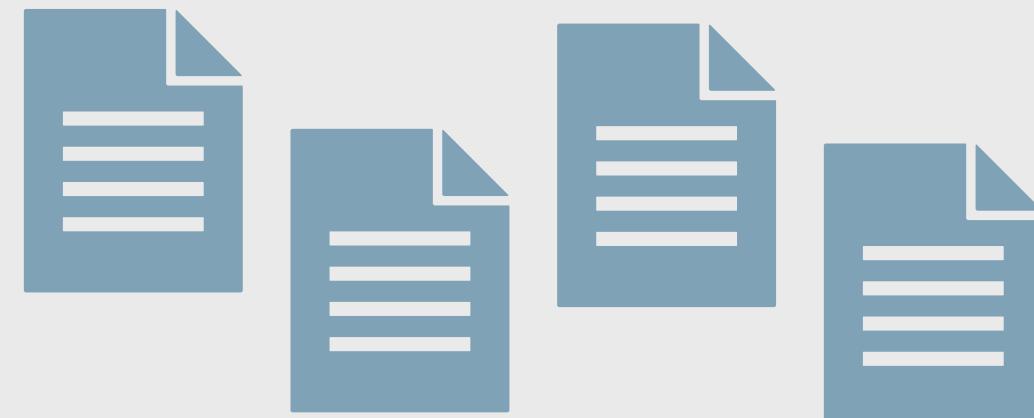


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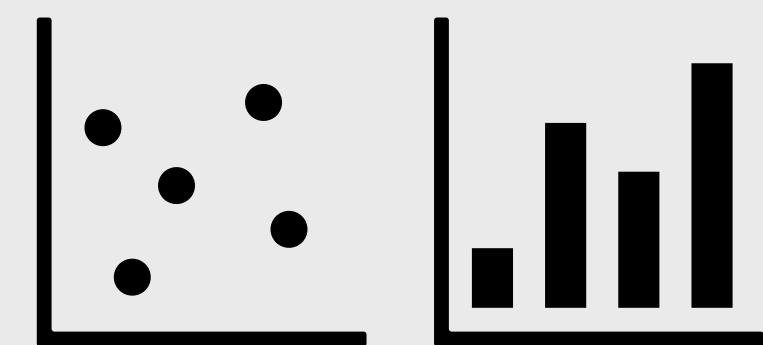


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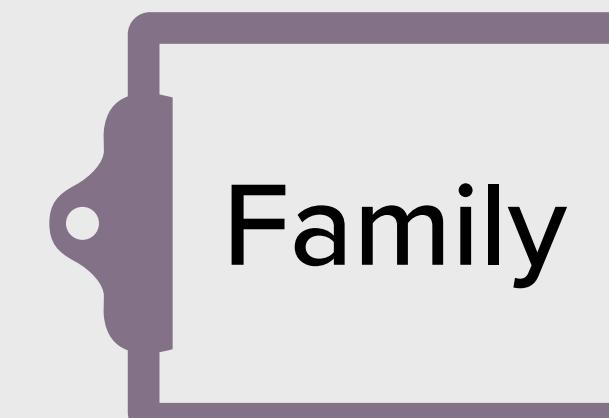


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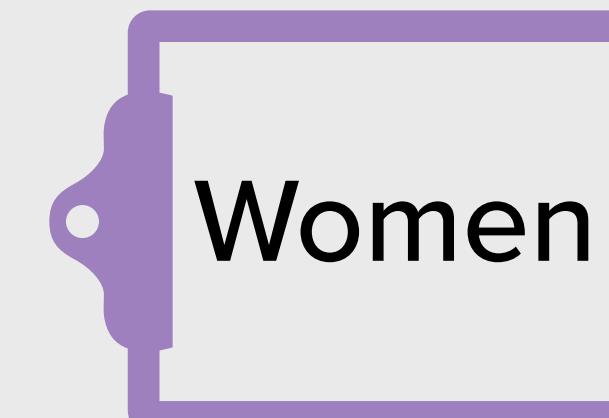


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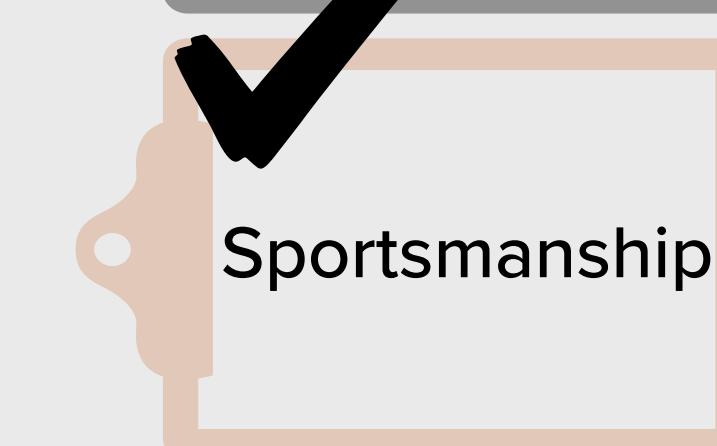
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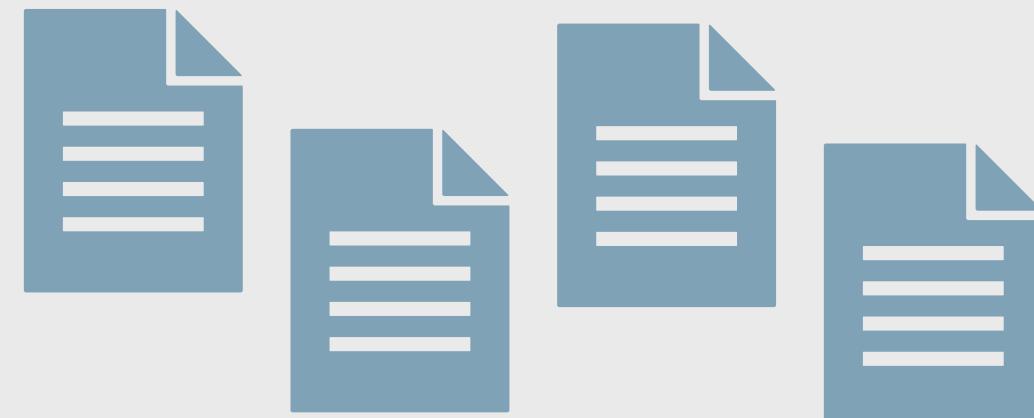


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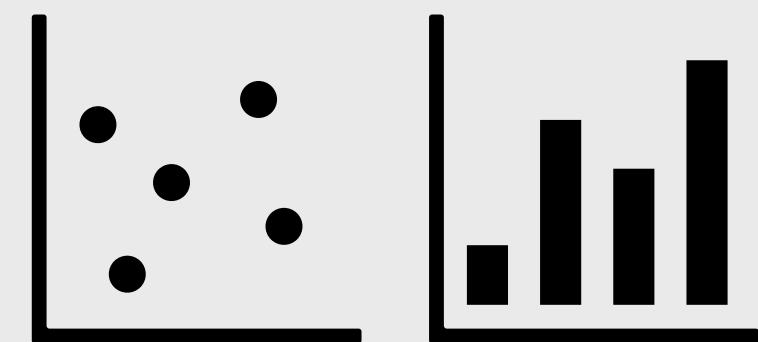


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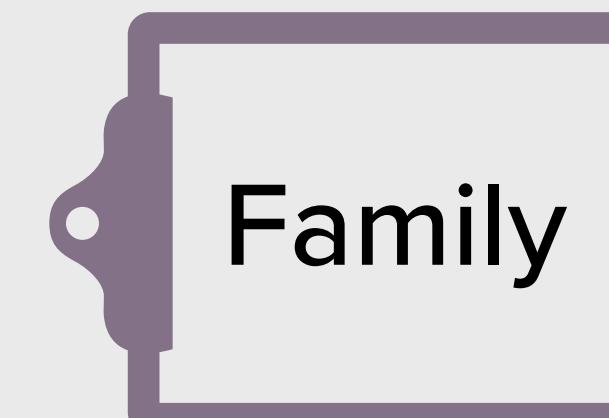


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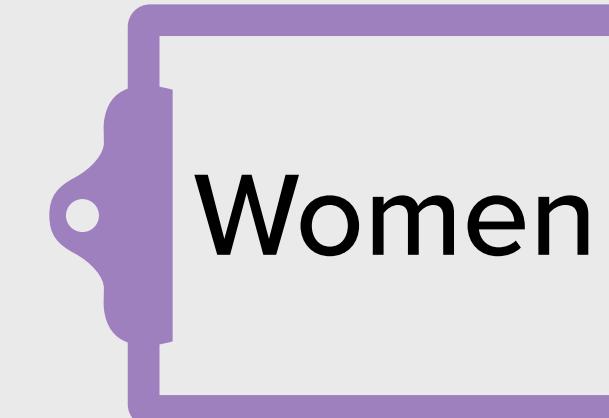


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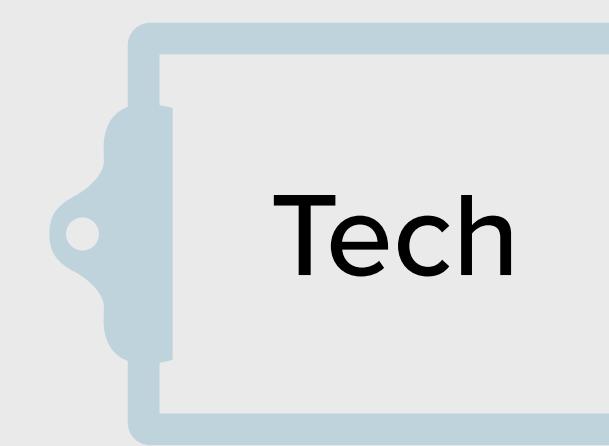
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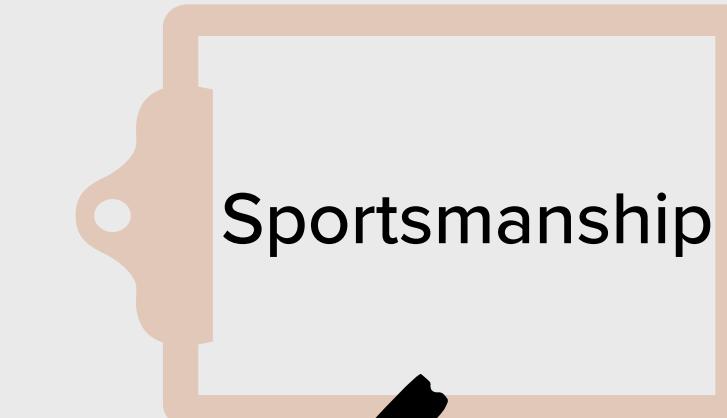
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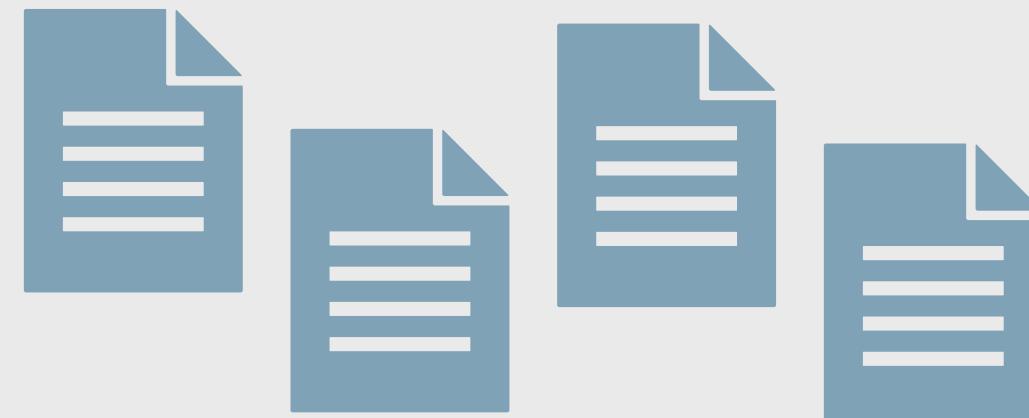


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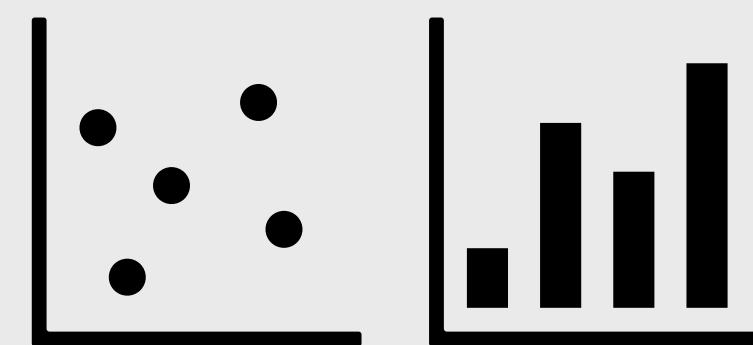


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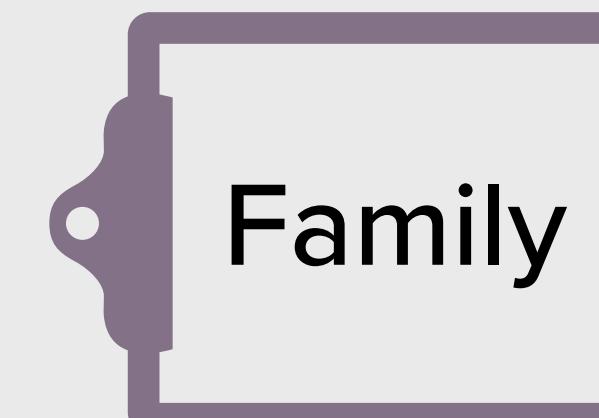


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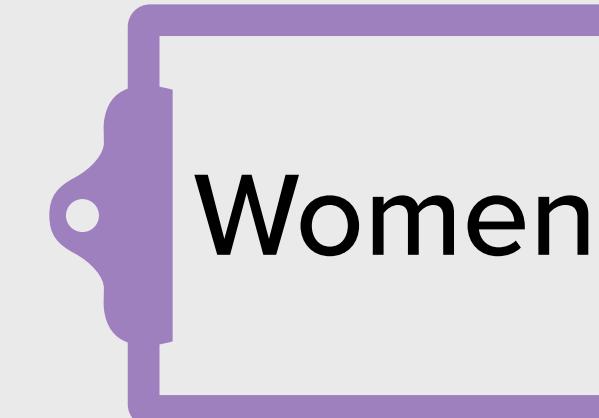


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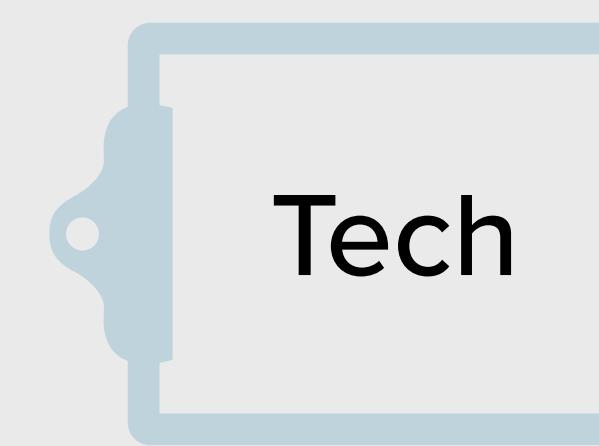
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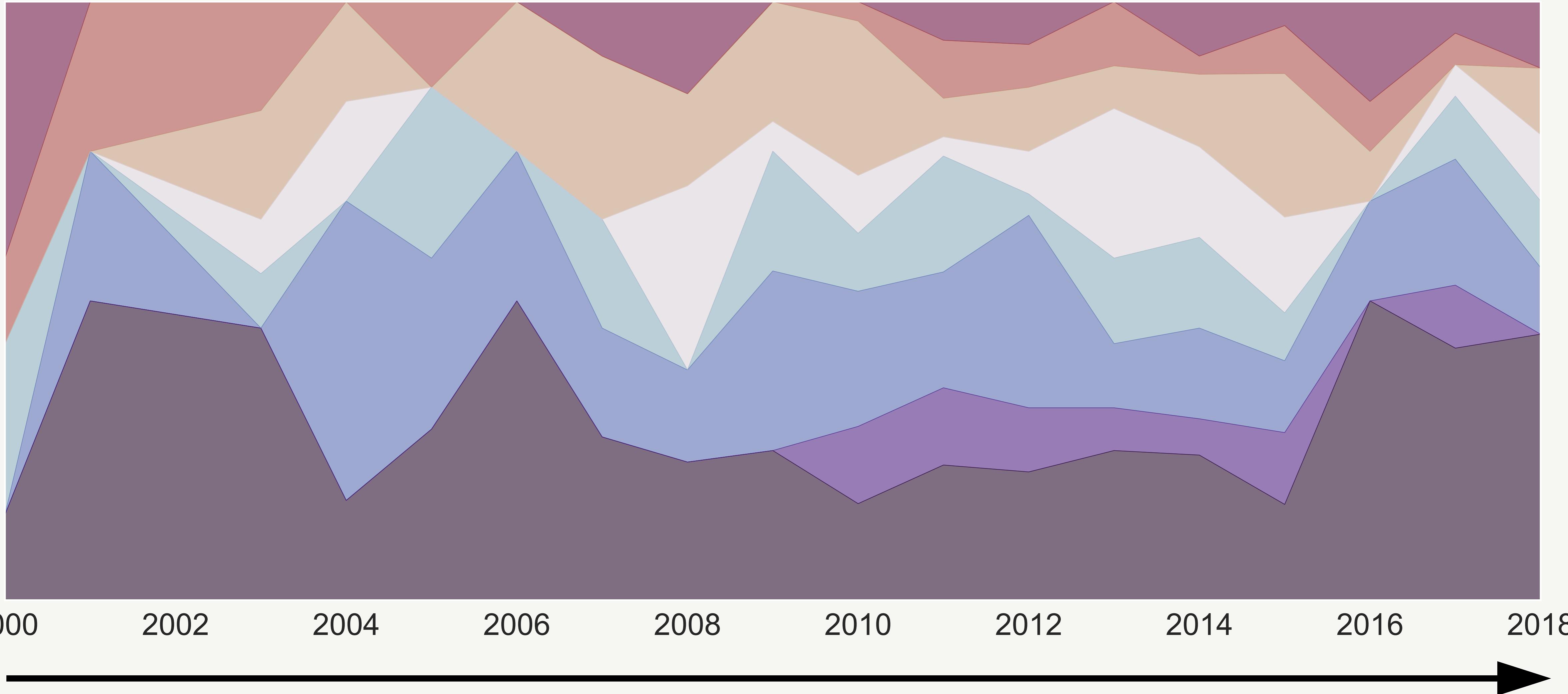


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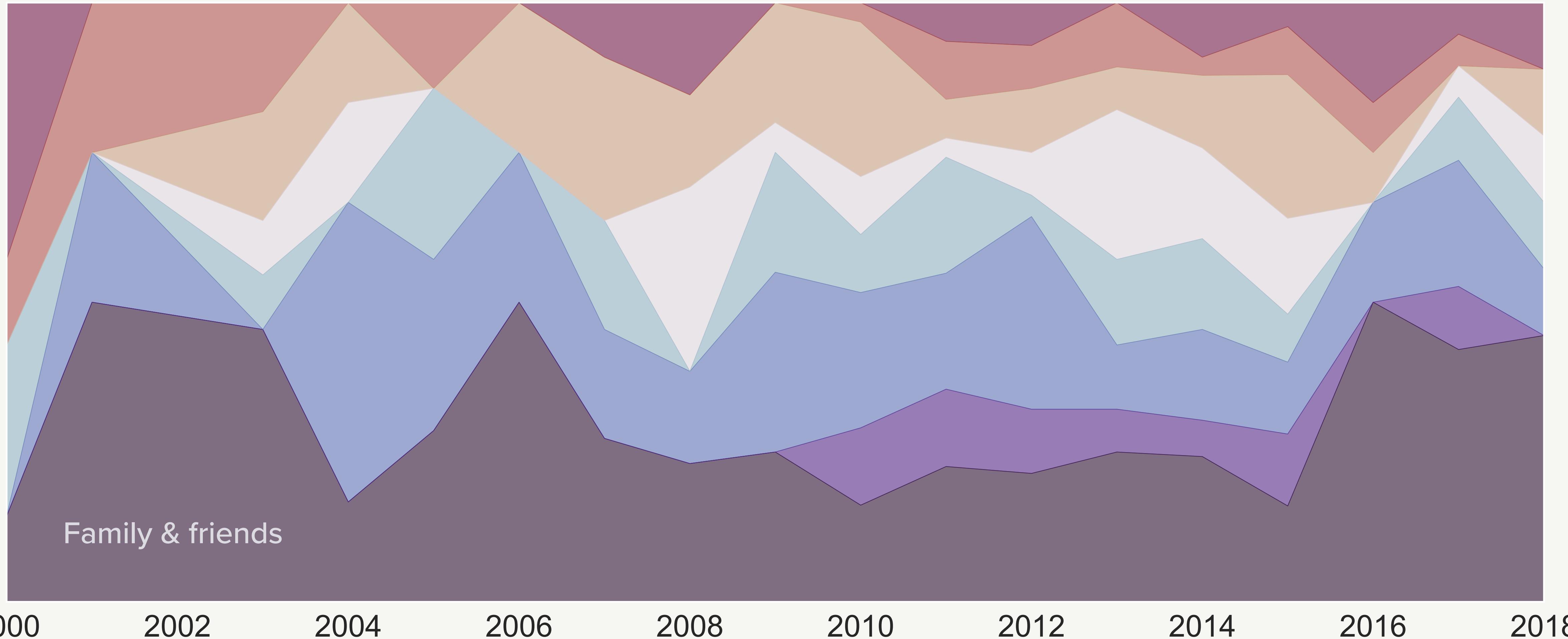


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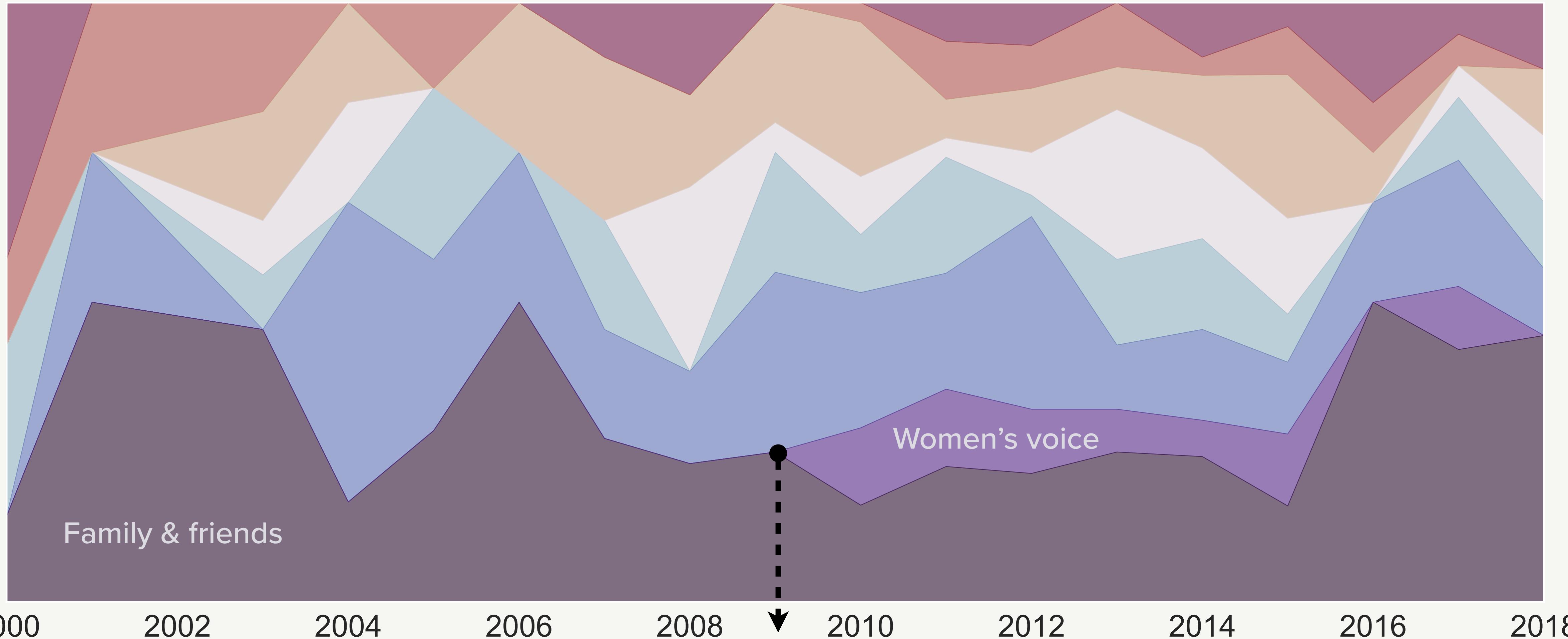
Trend over the years



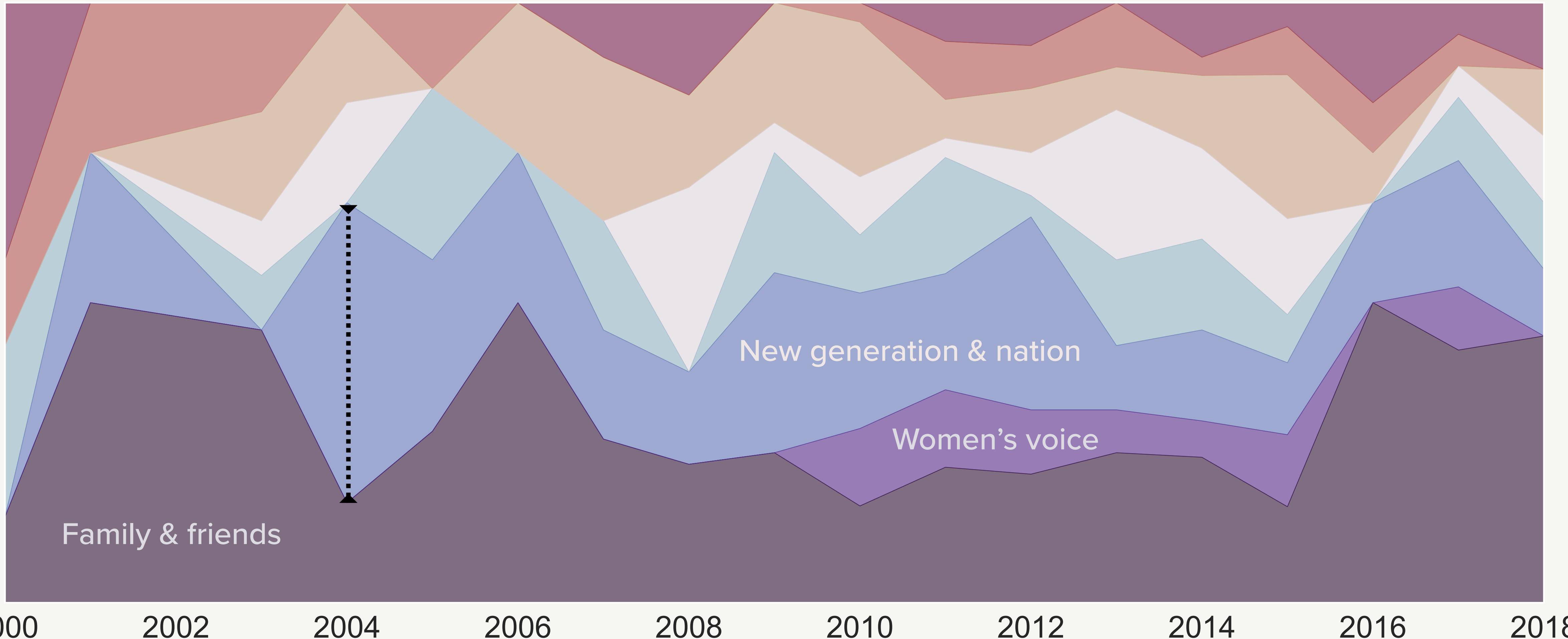
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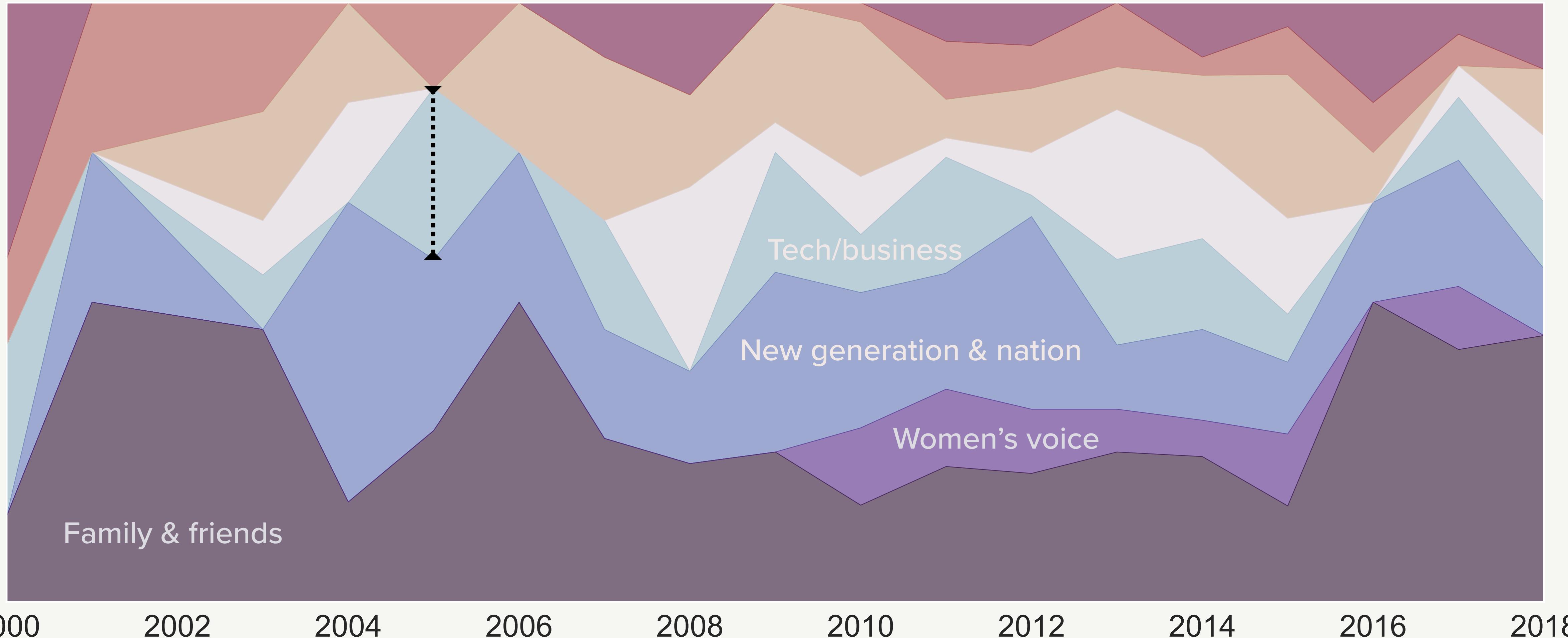
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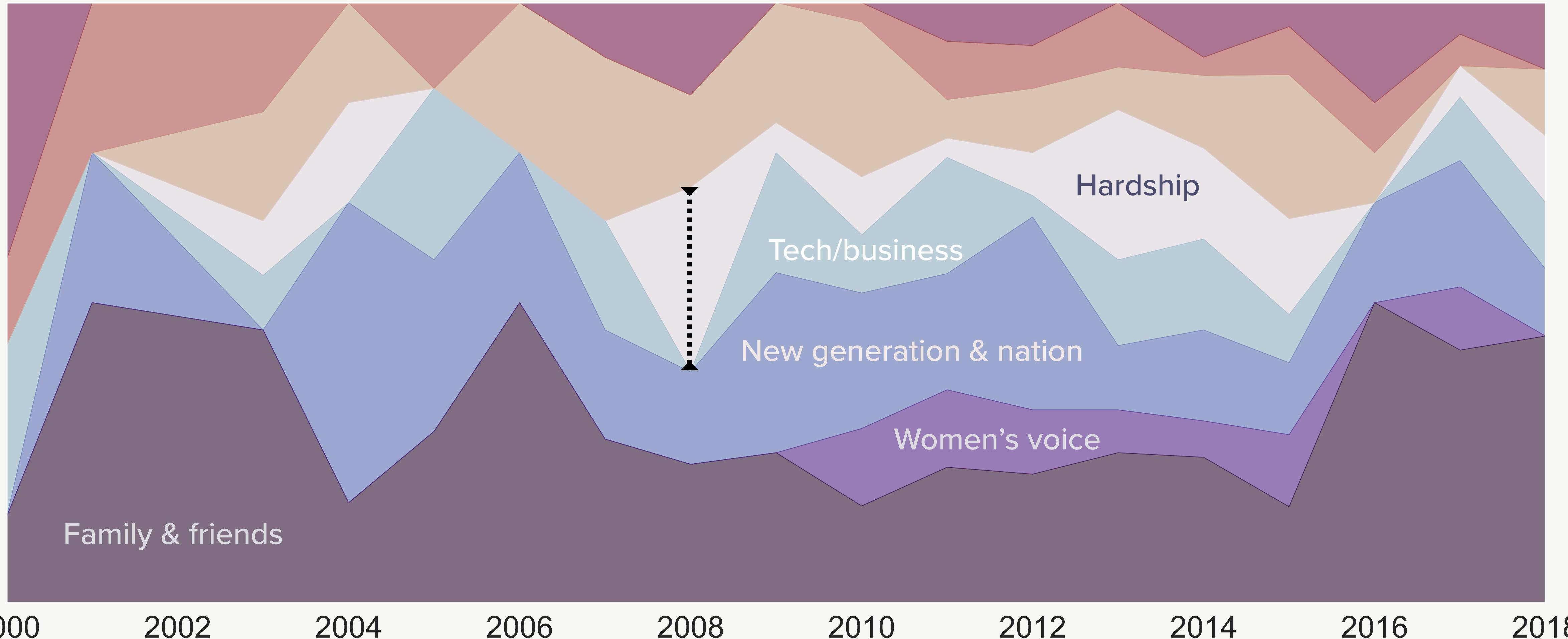
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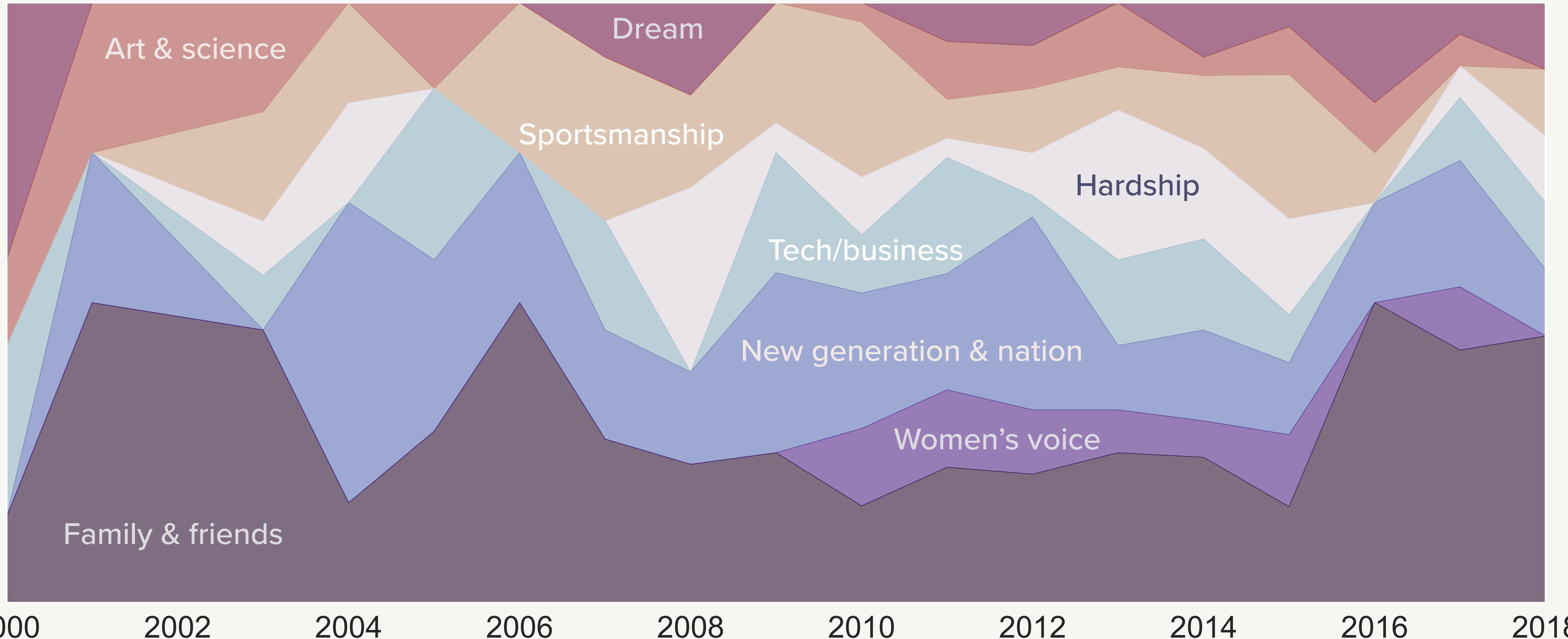
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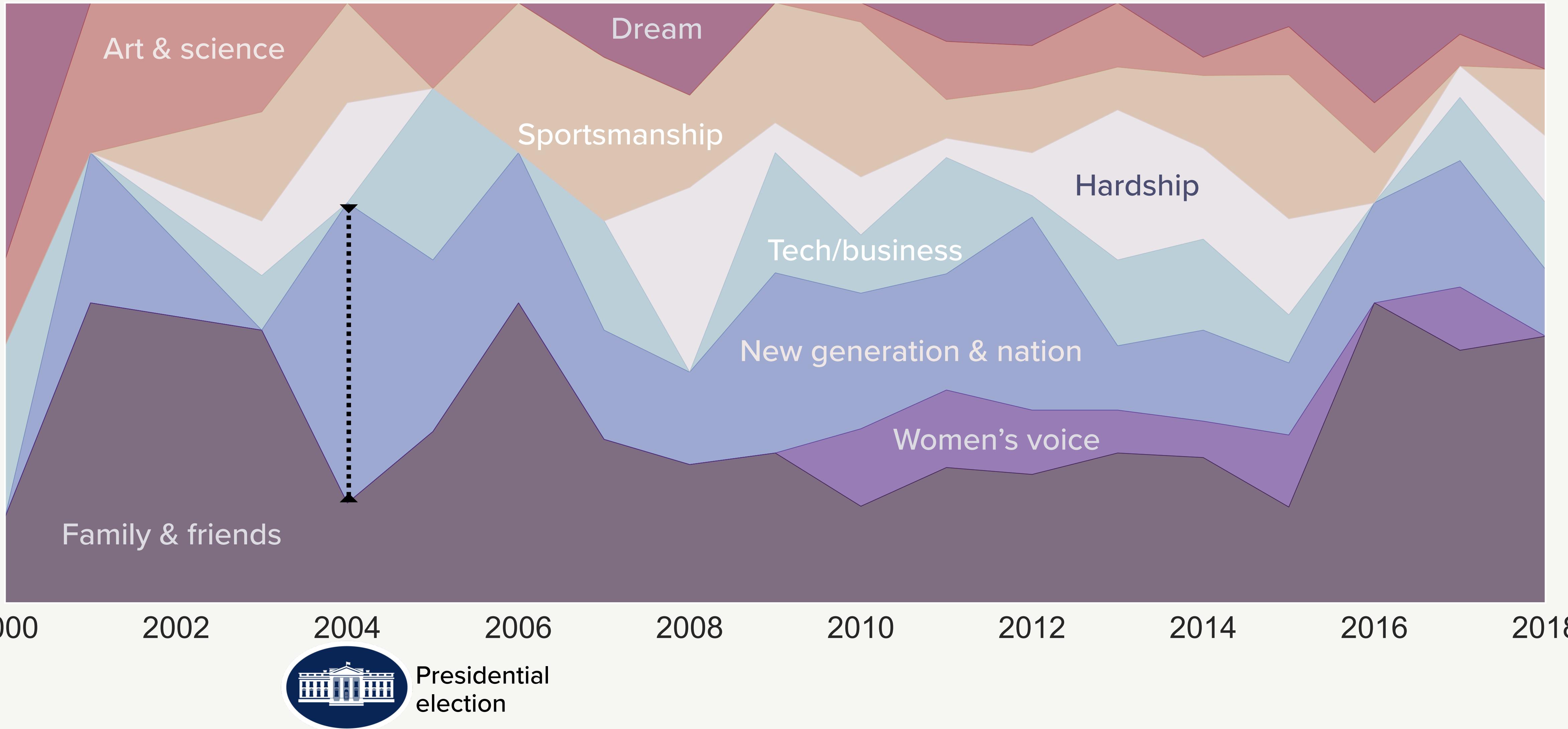
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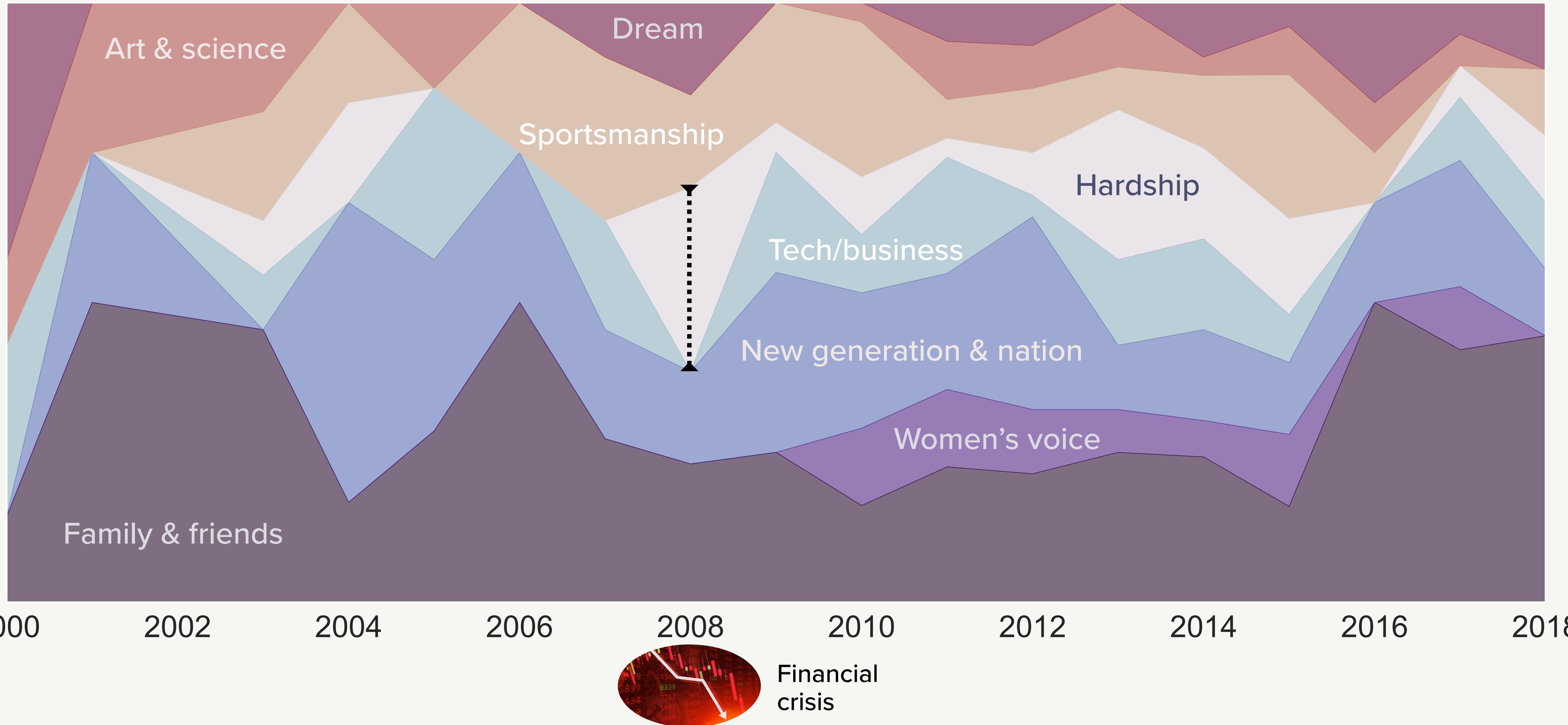
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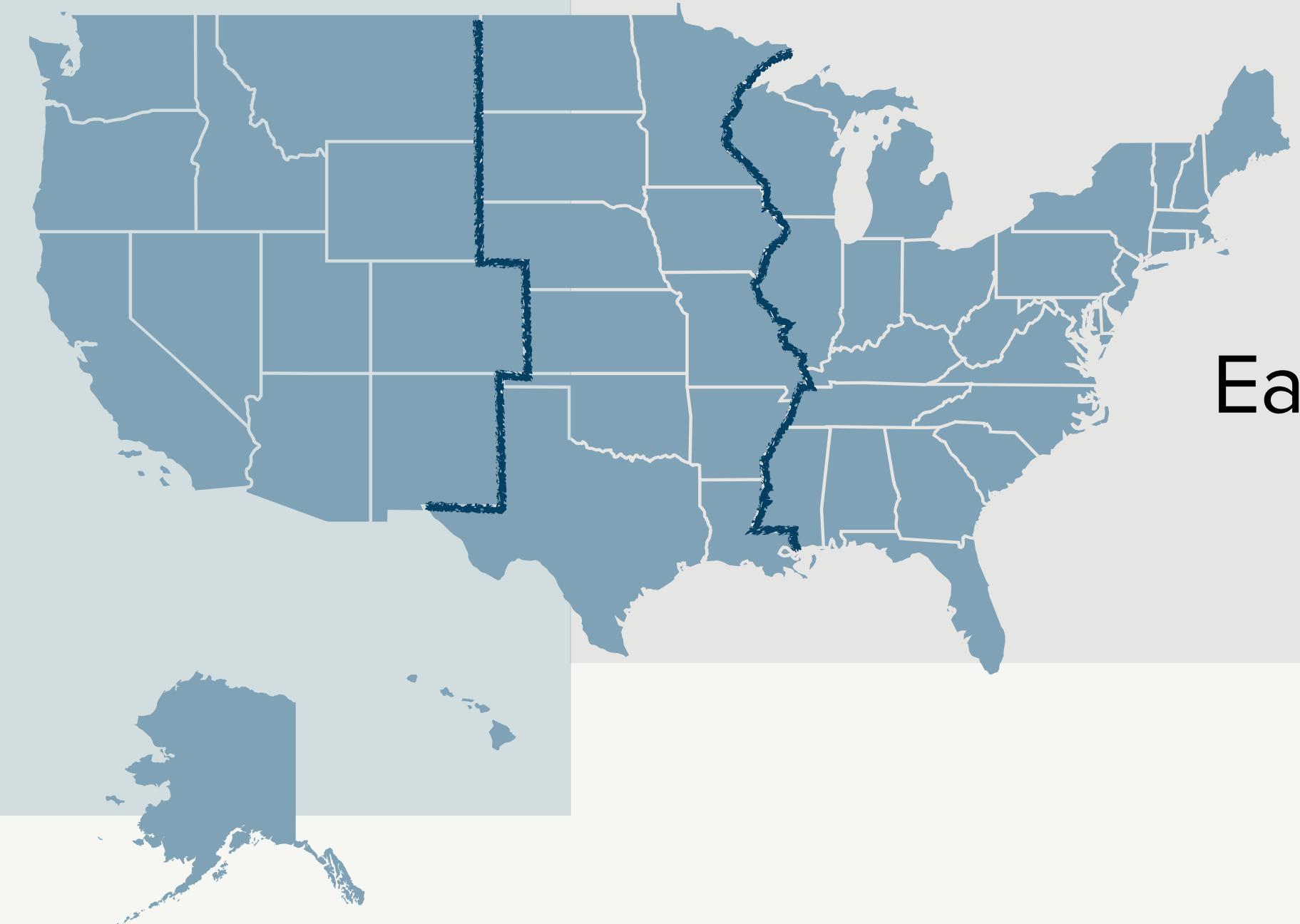
Who is the audience?

Based on location of the schools

West

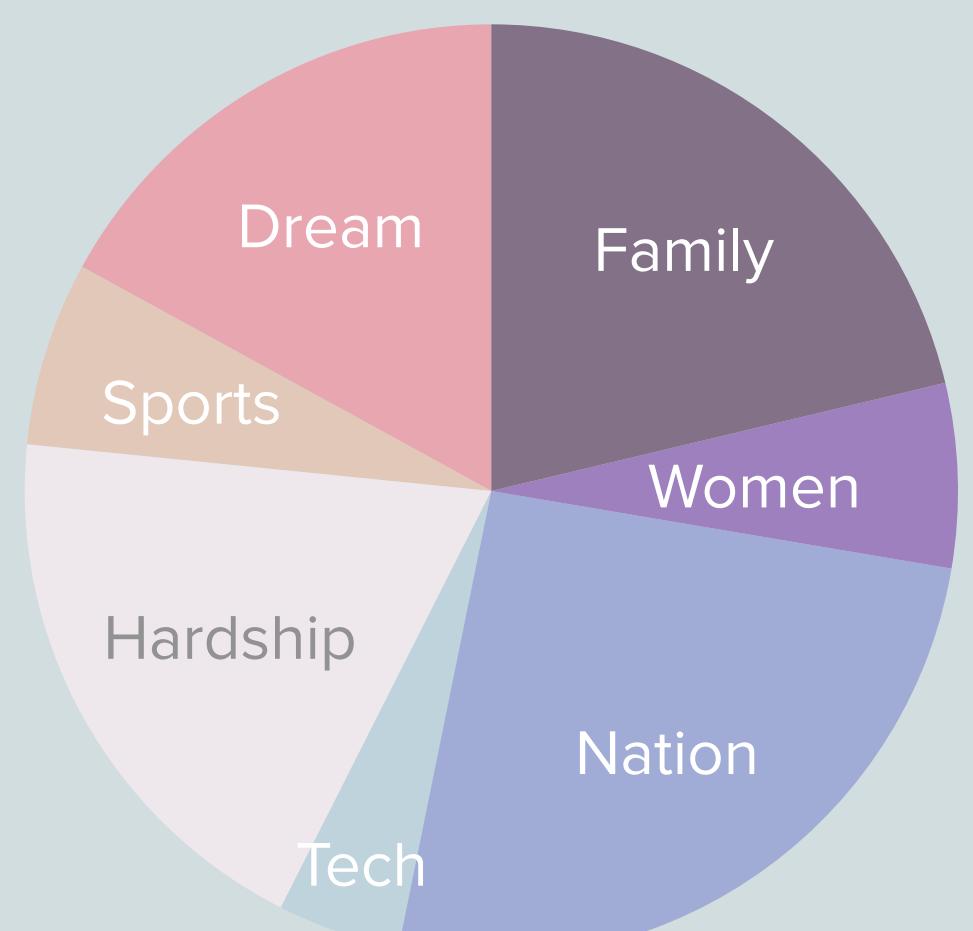
Central

East

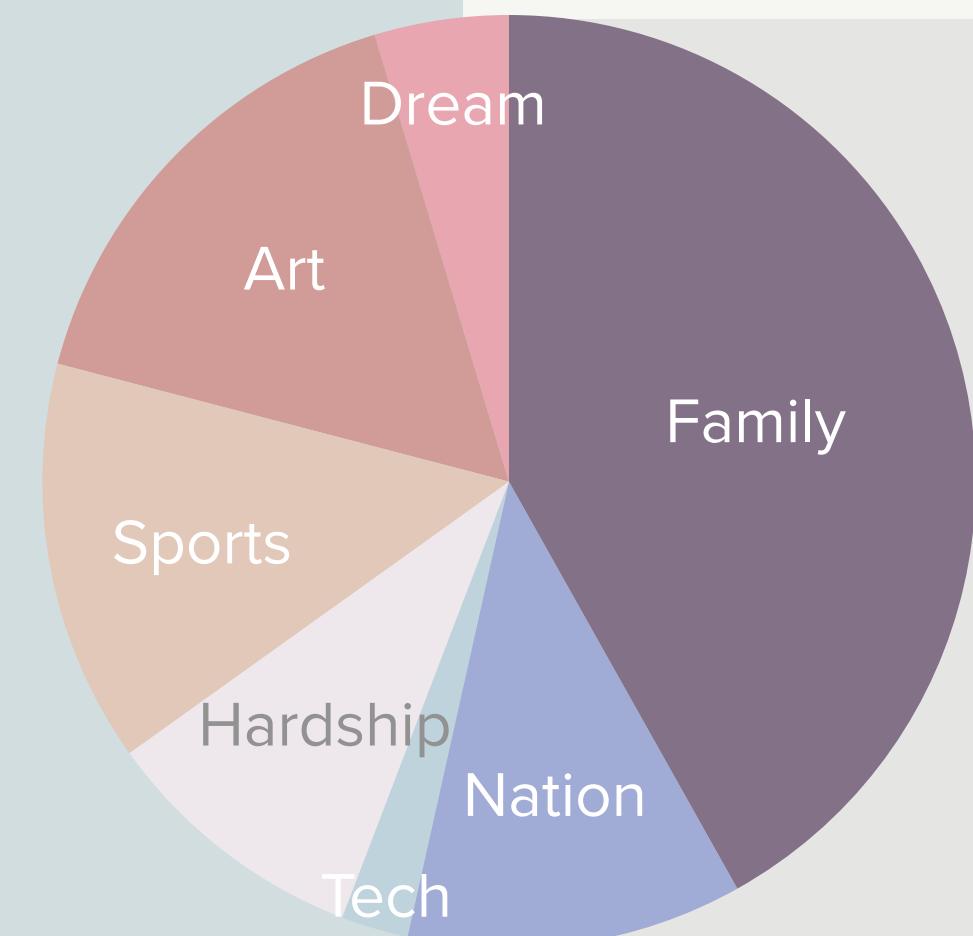


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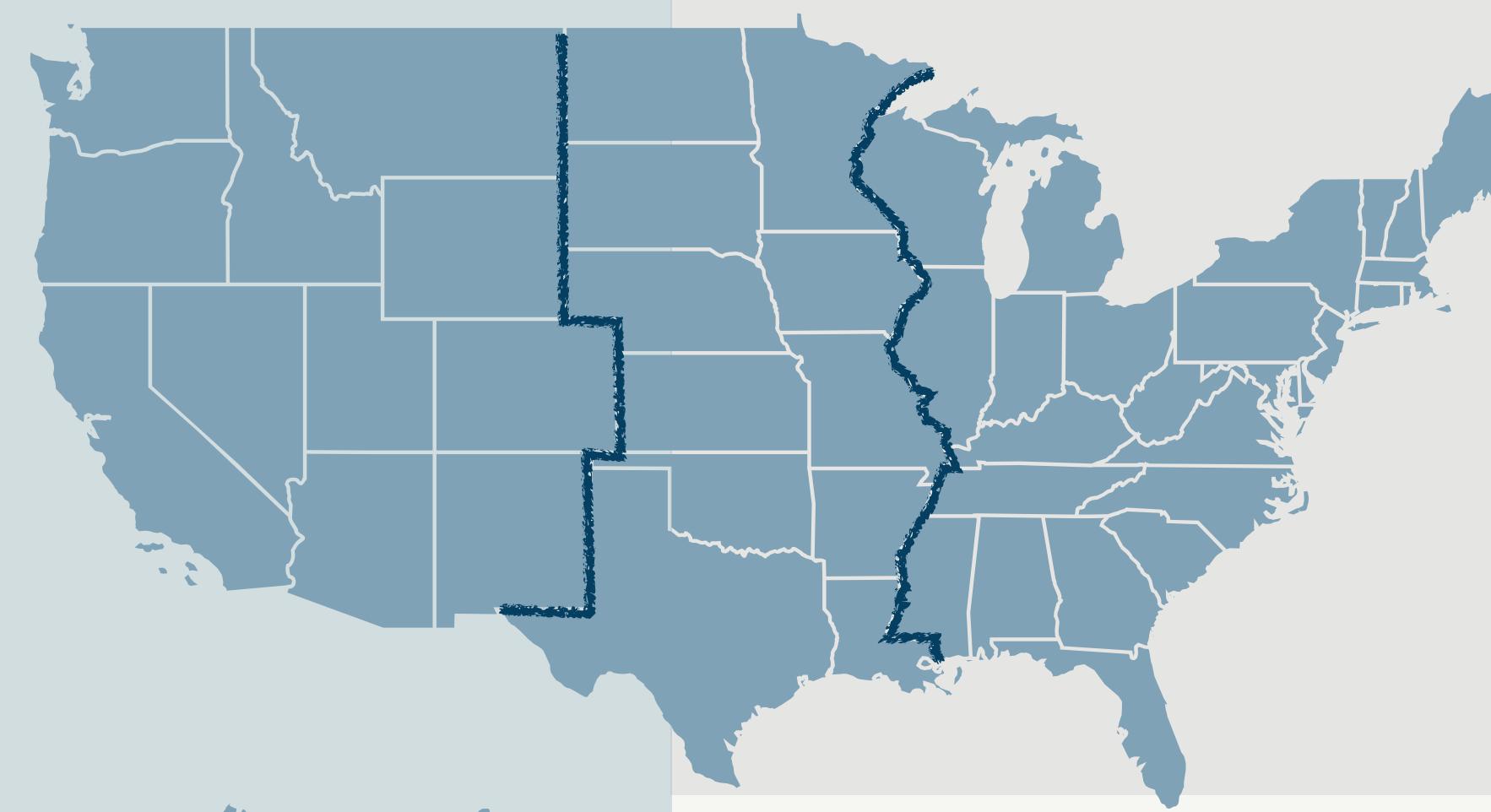
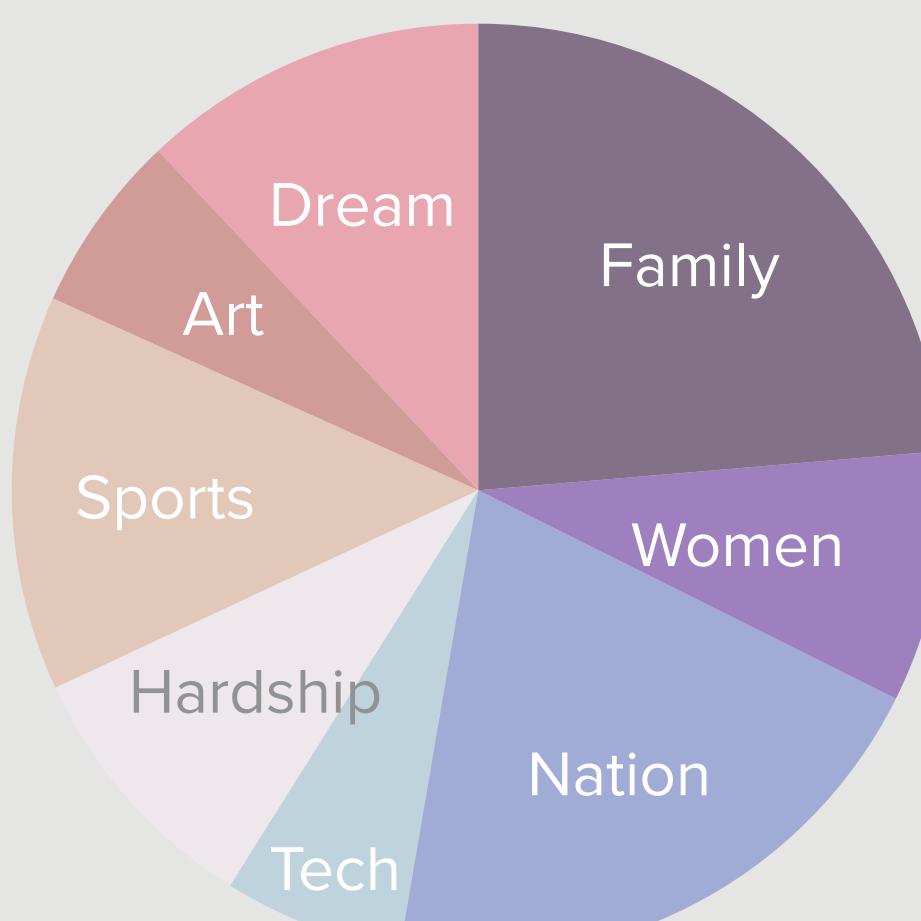
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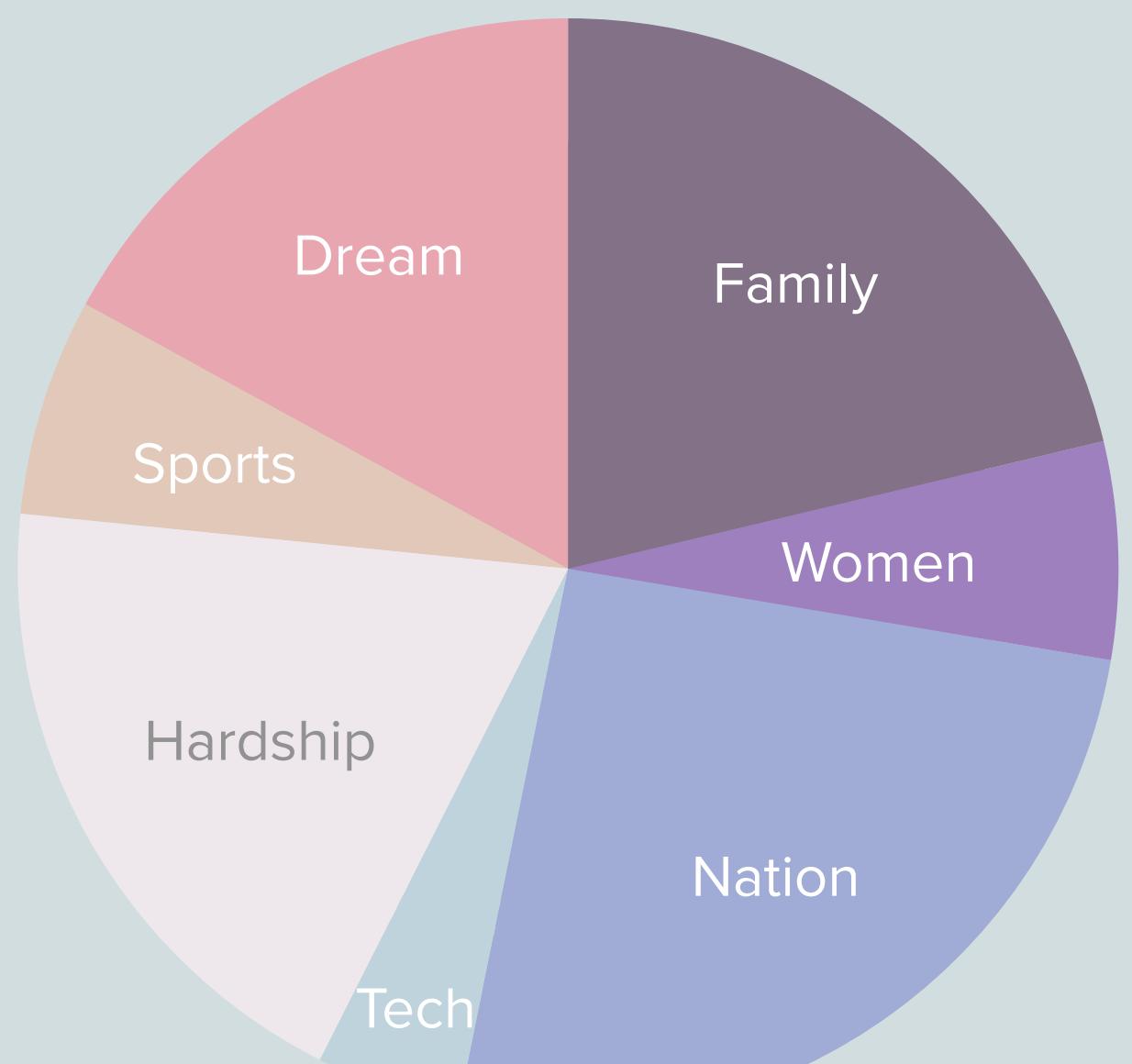


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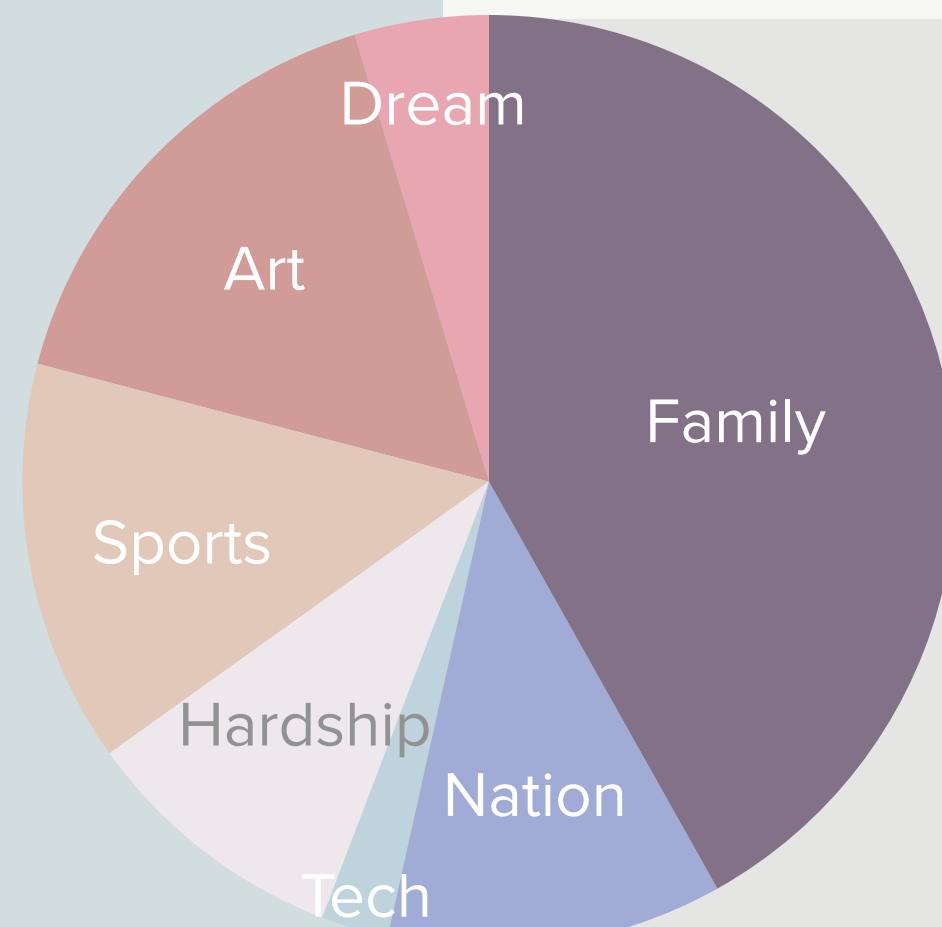


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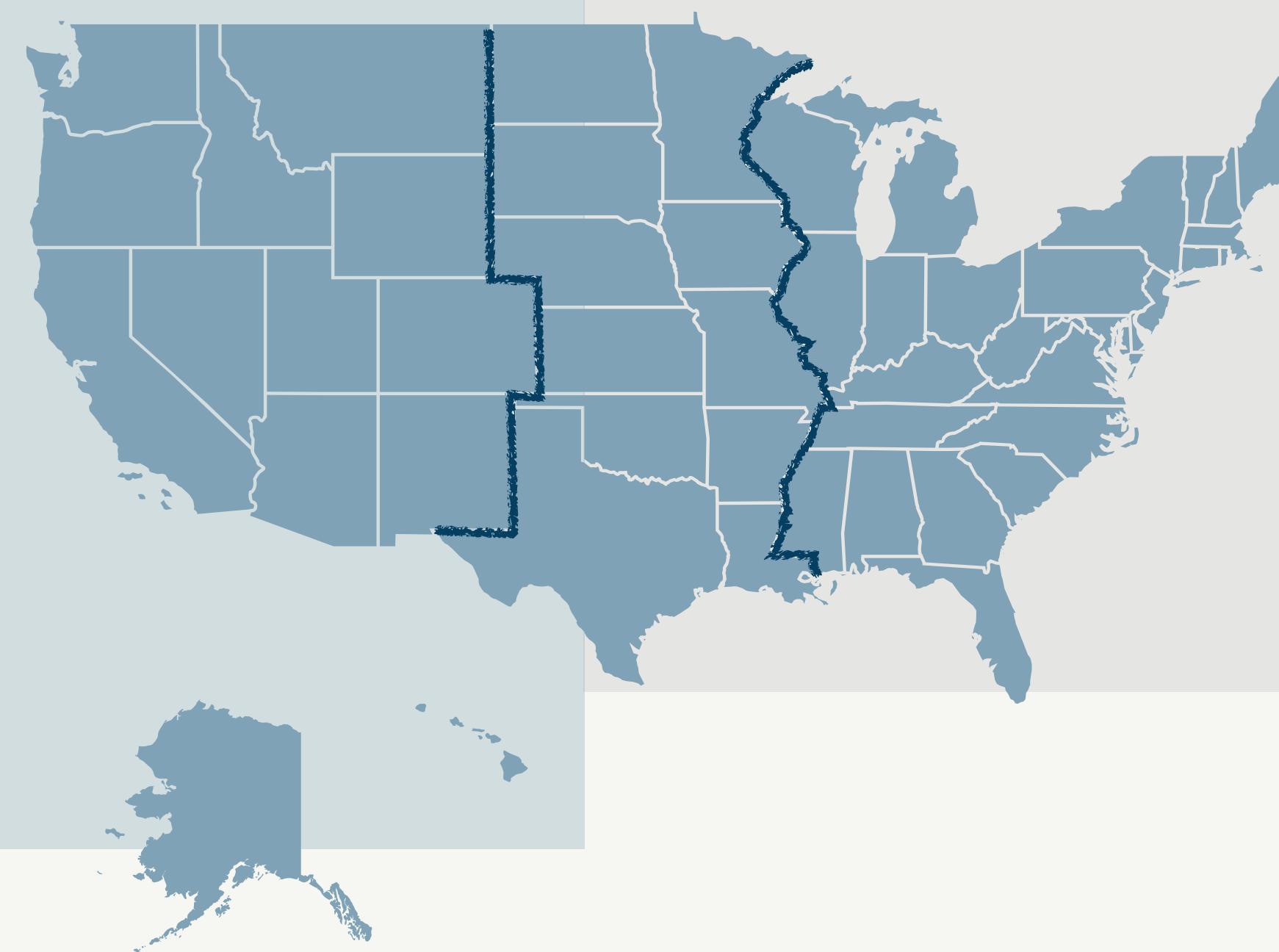
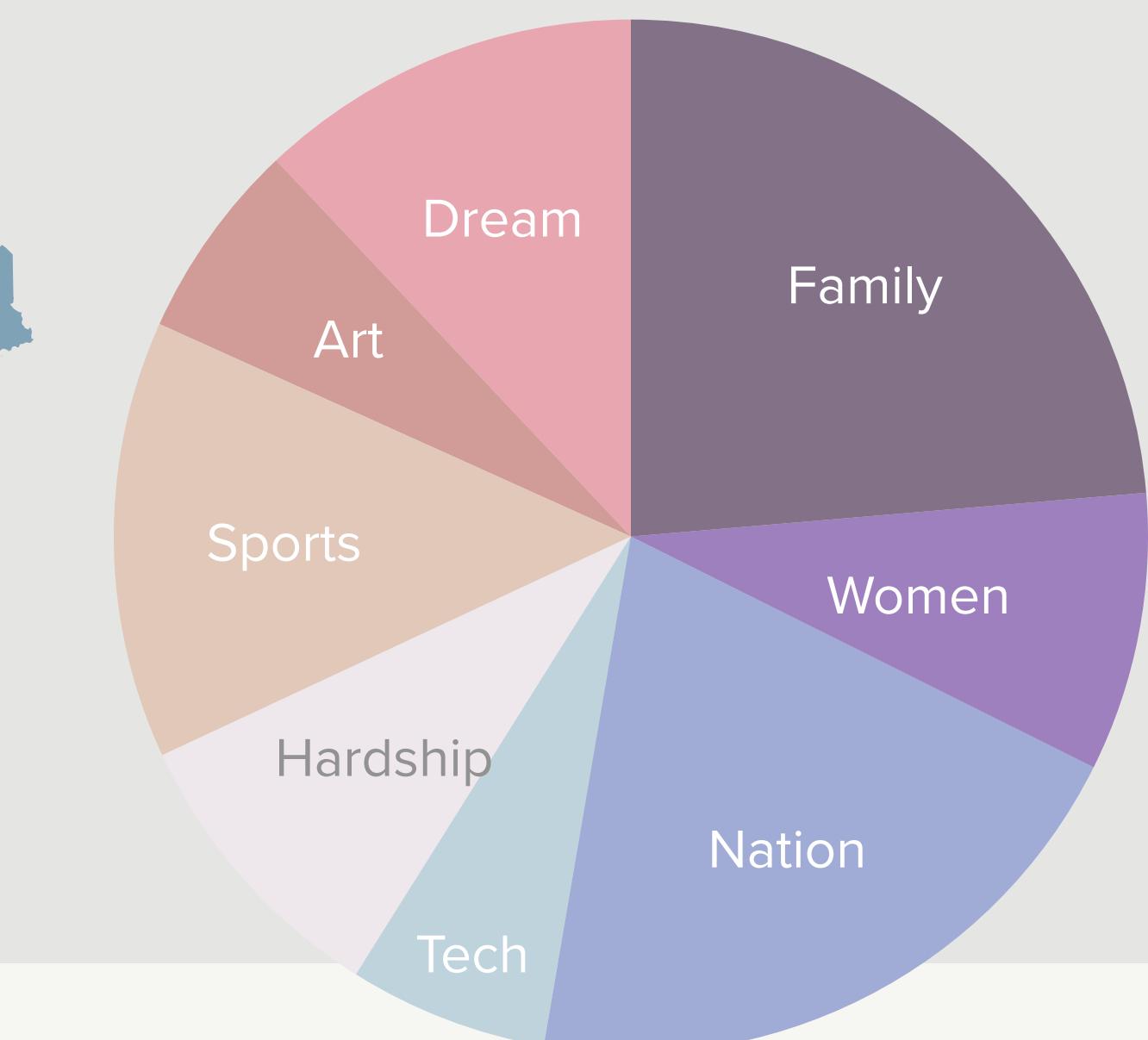
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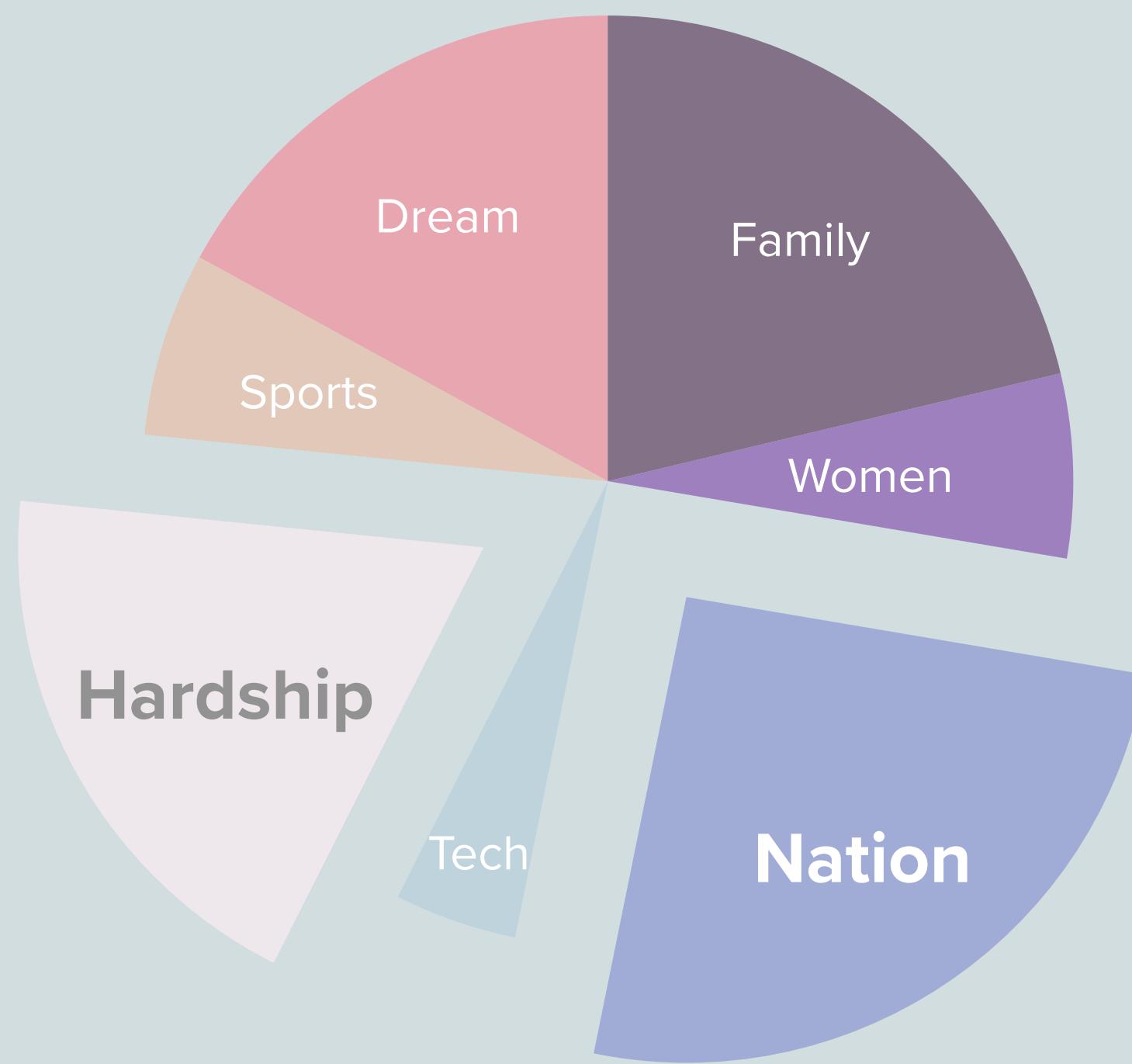


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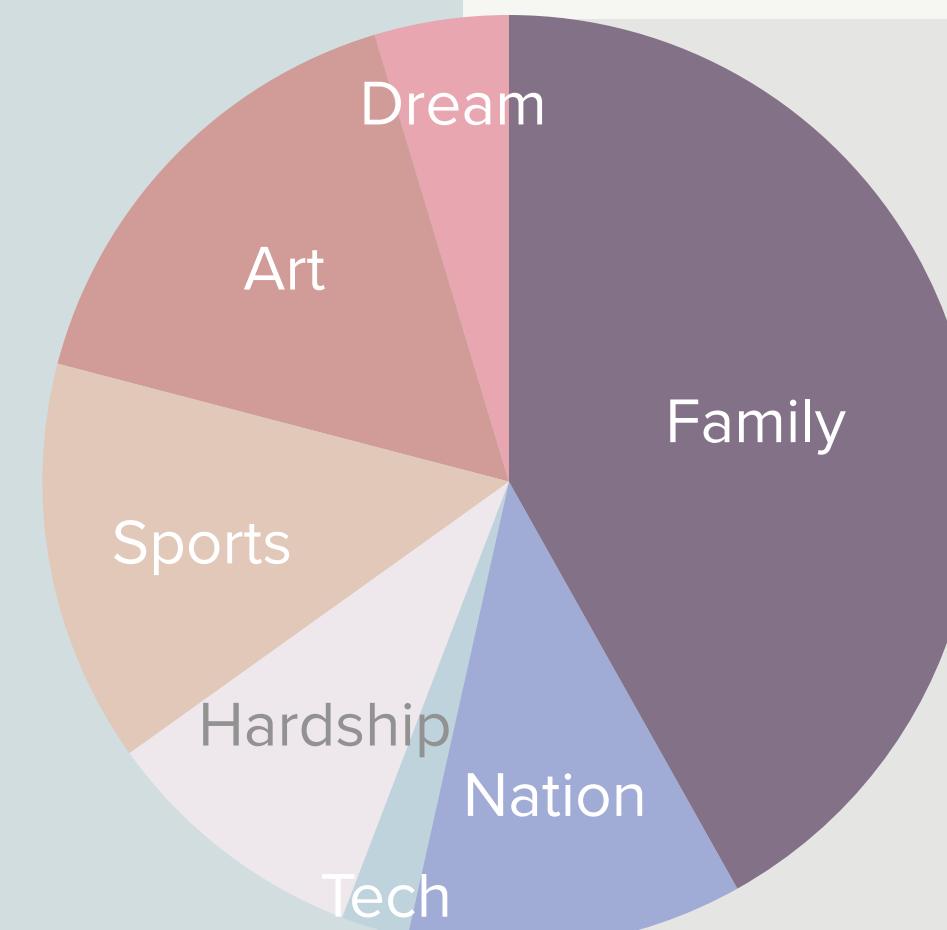


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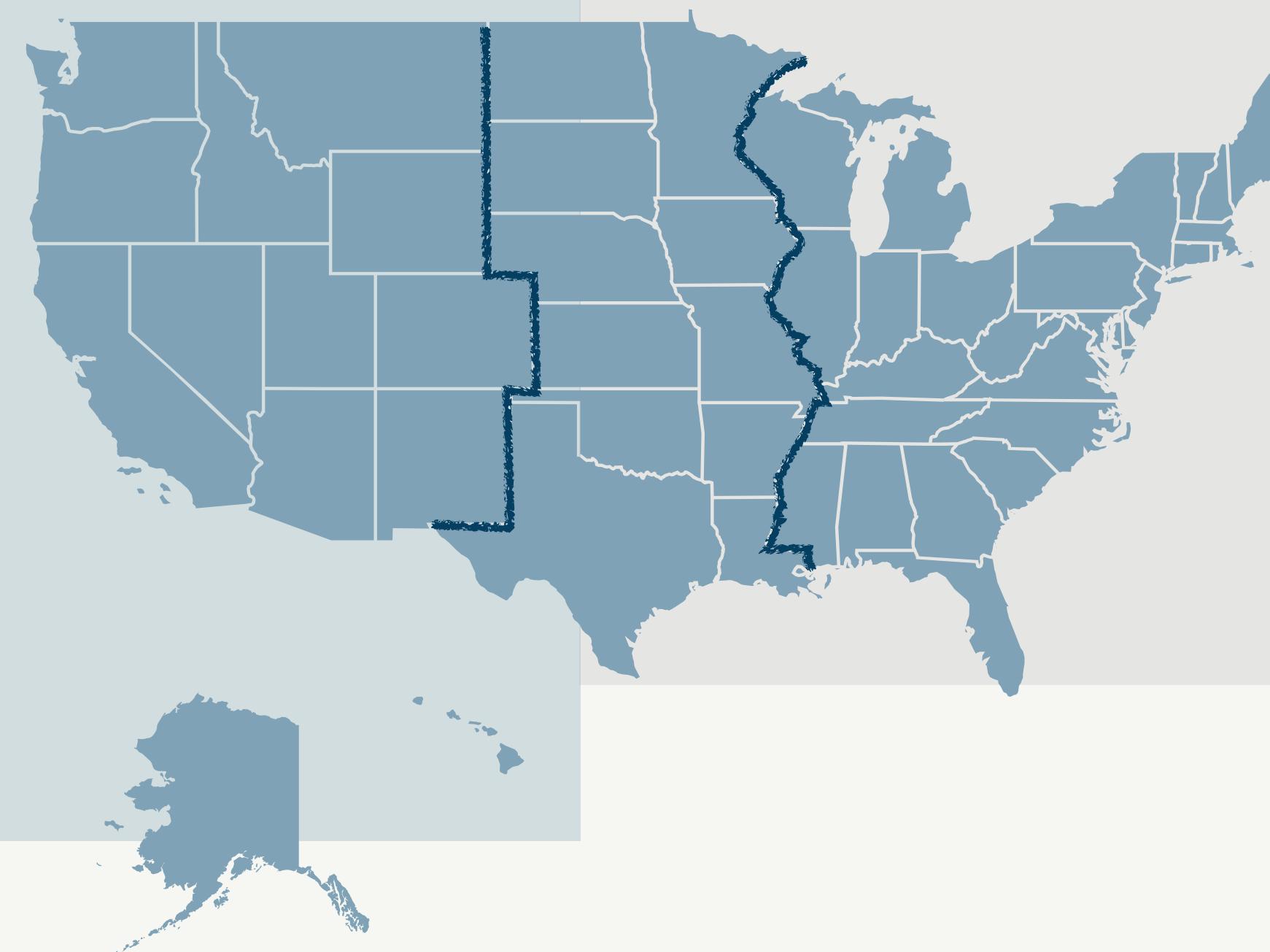
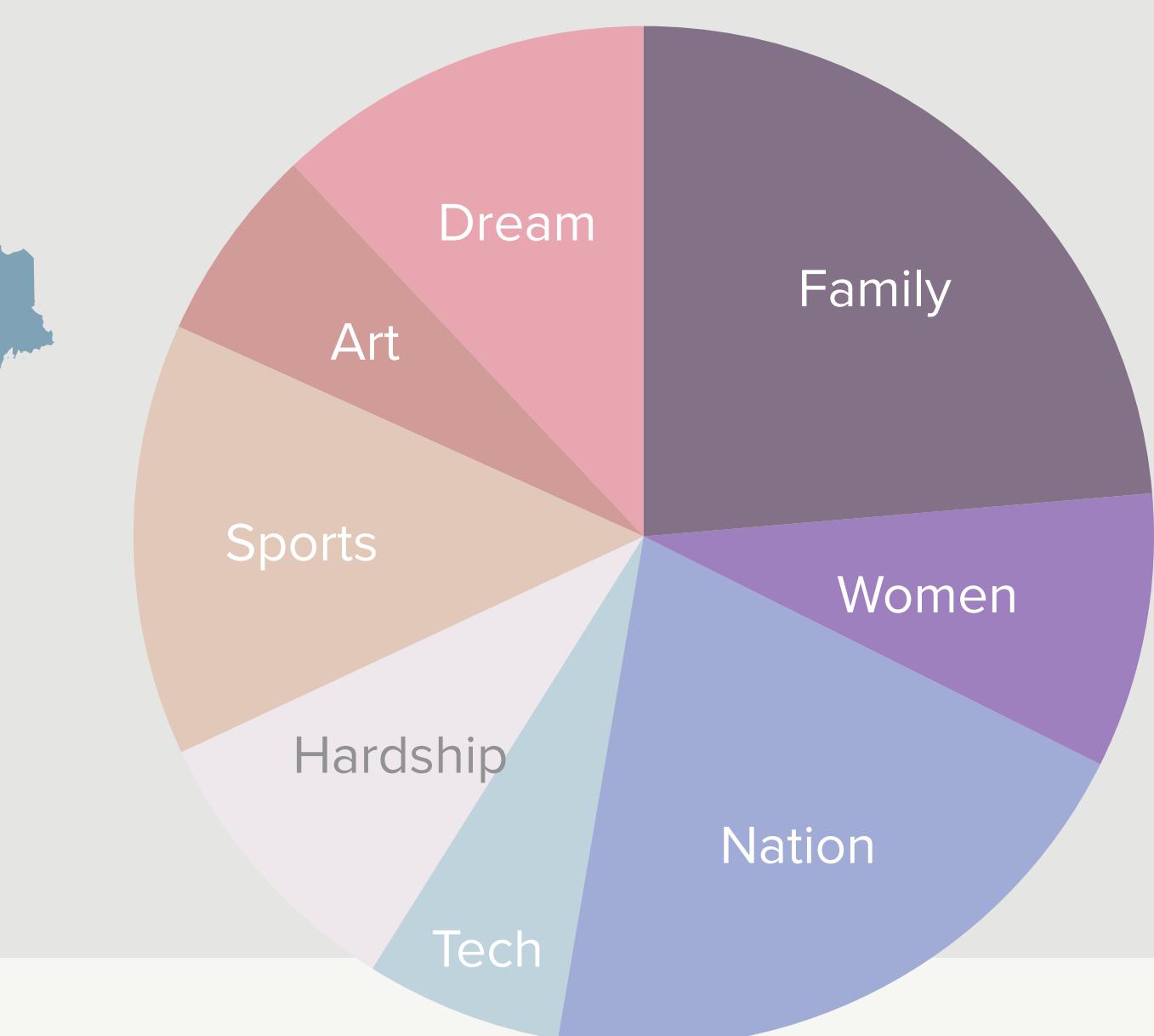
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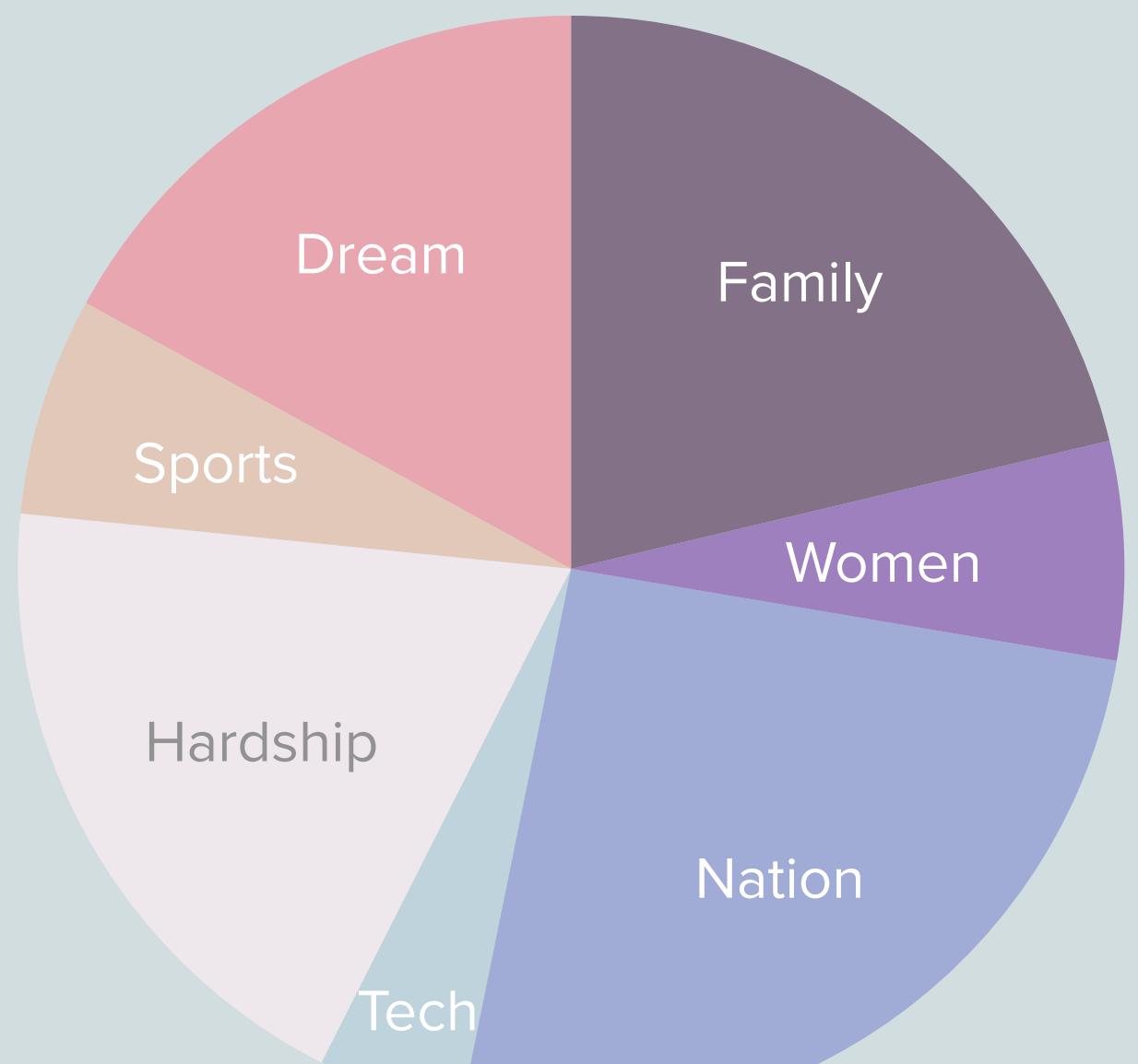


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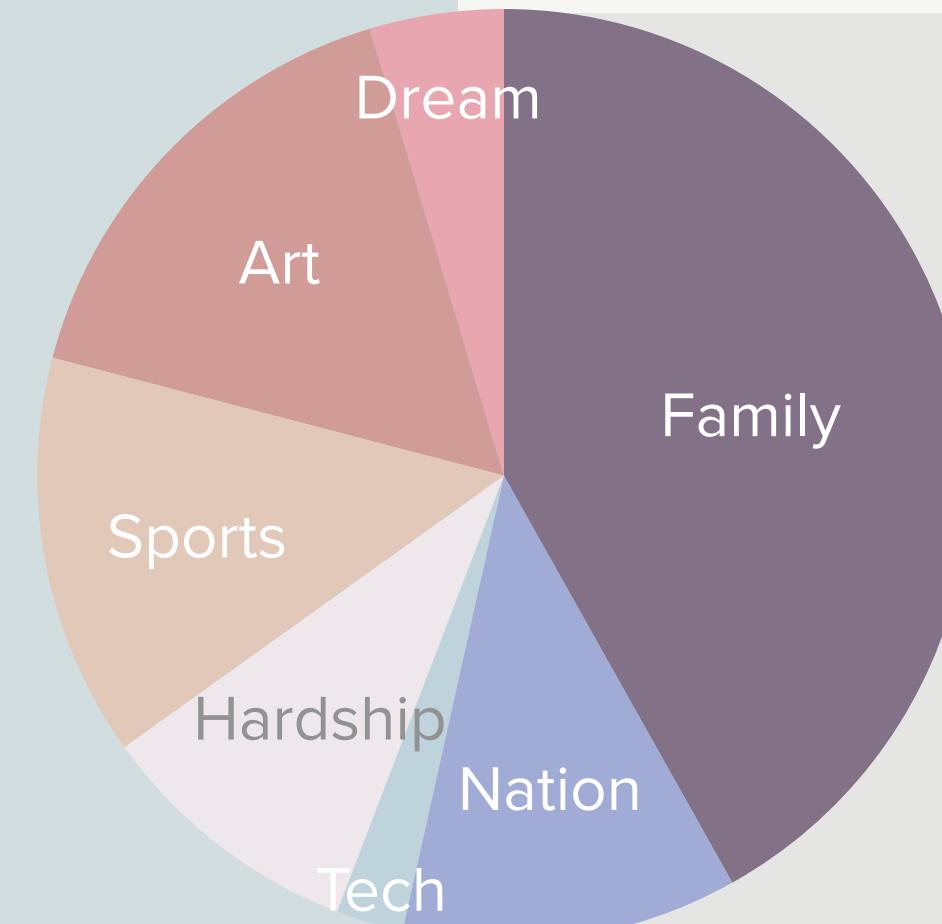


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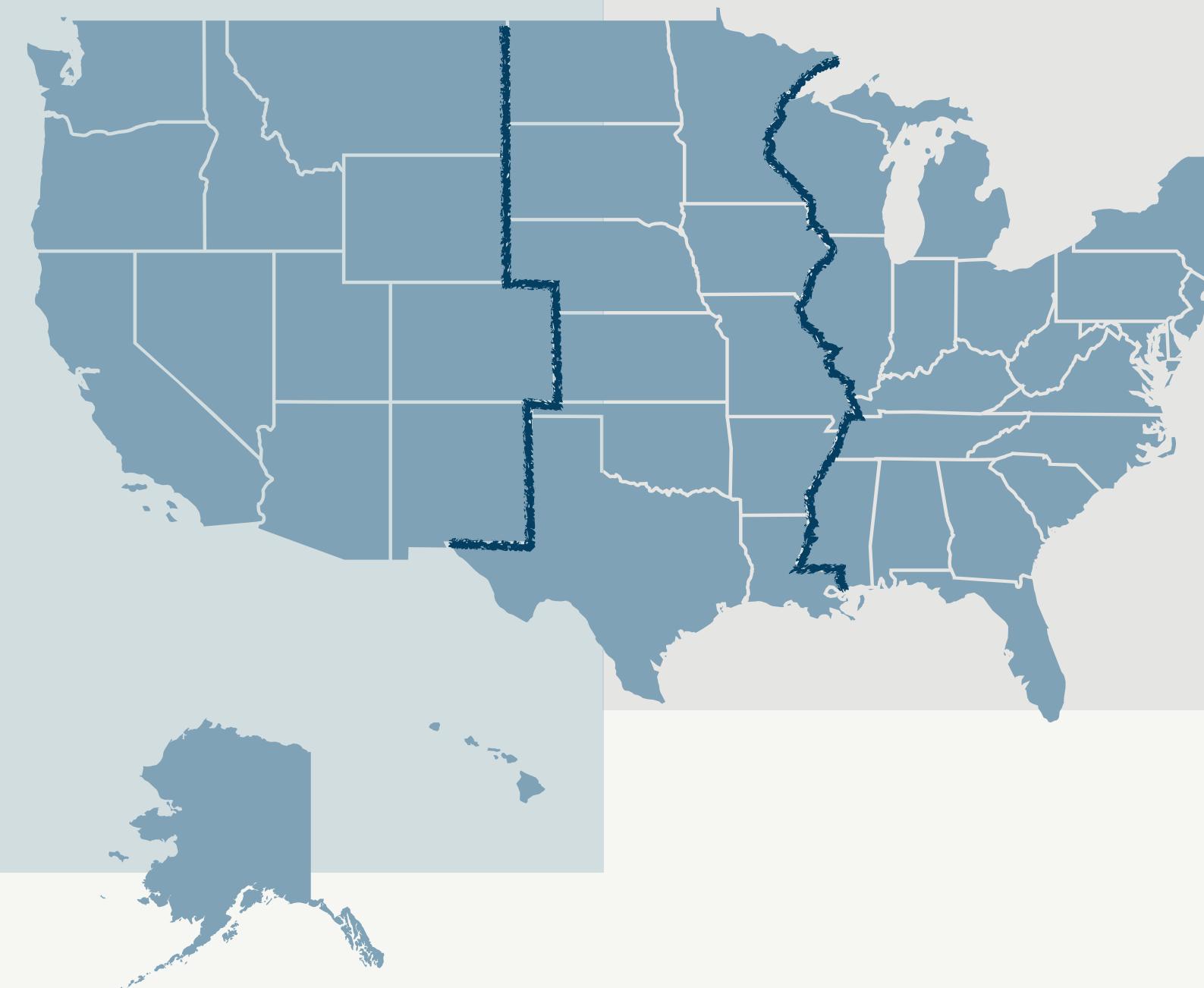
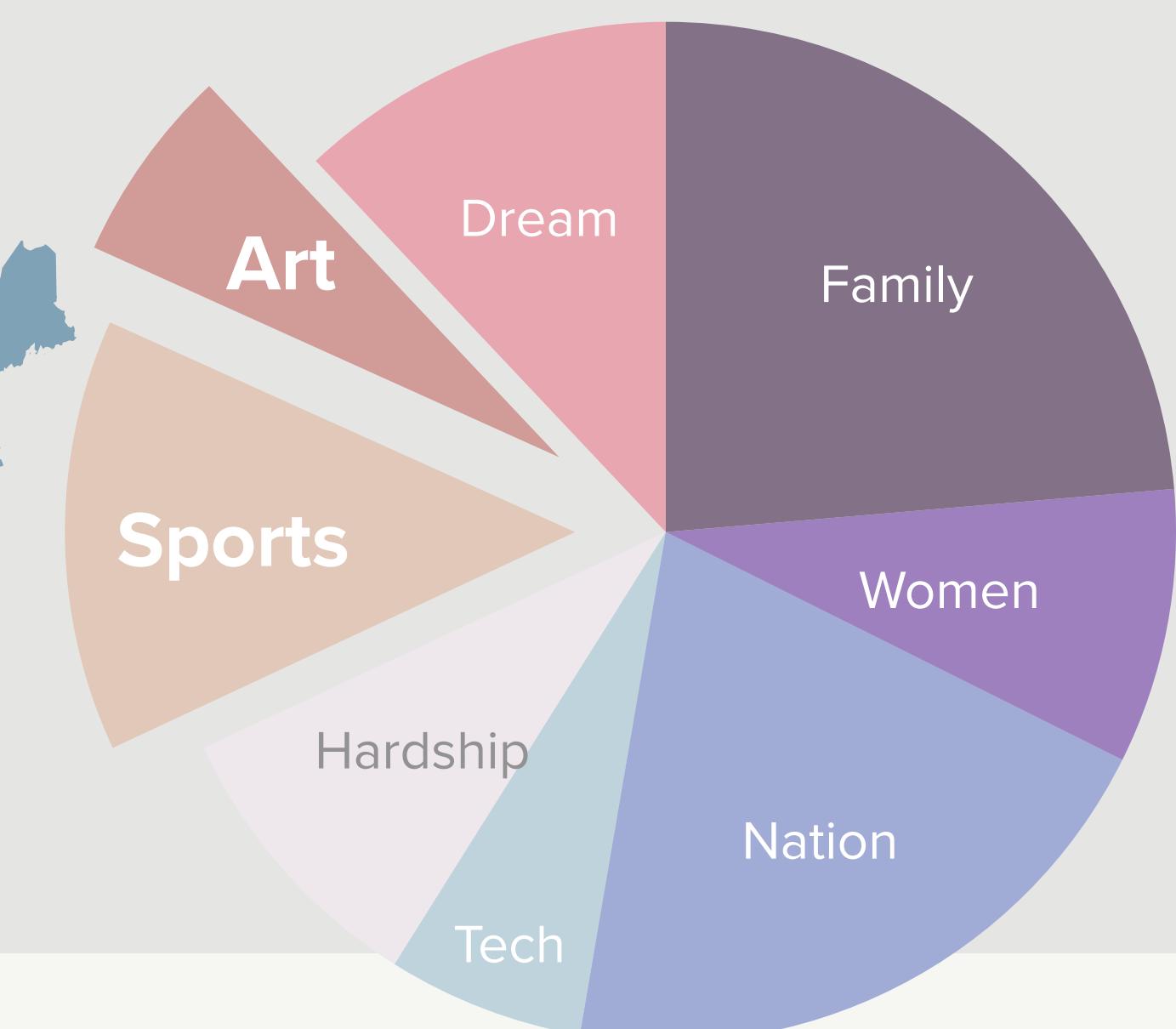
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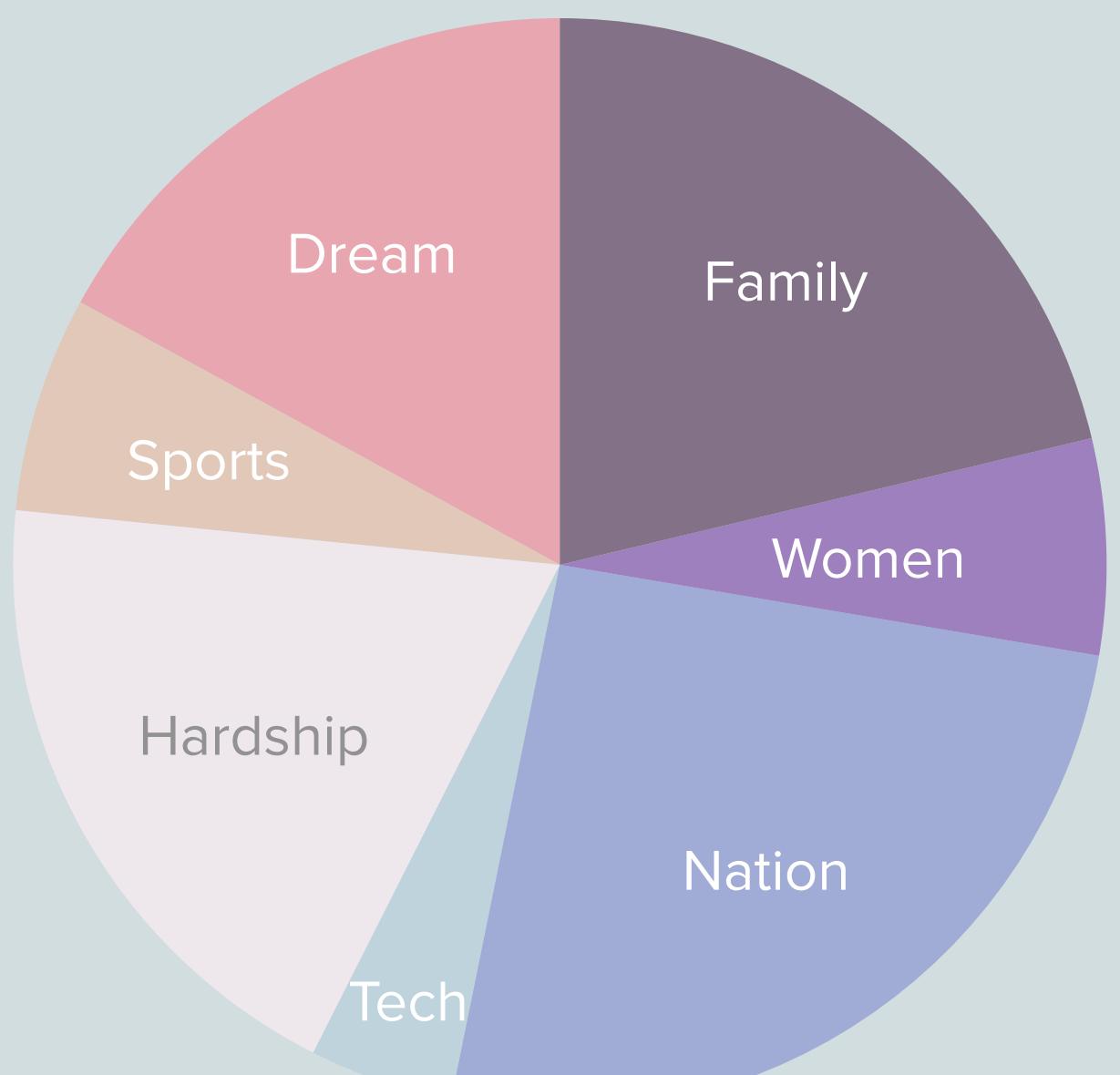


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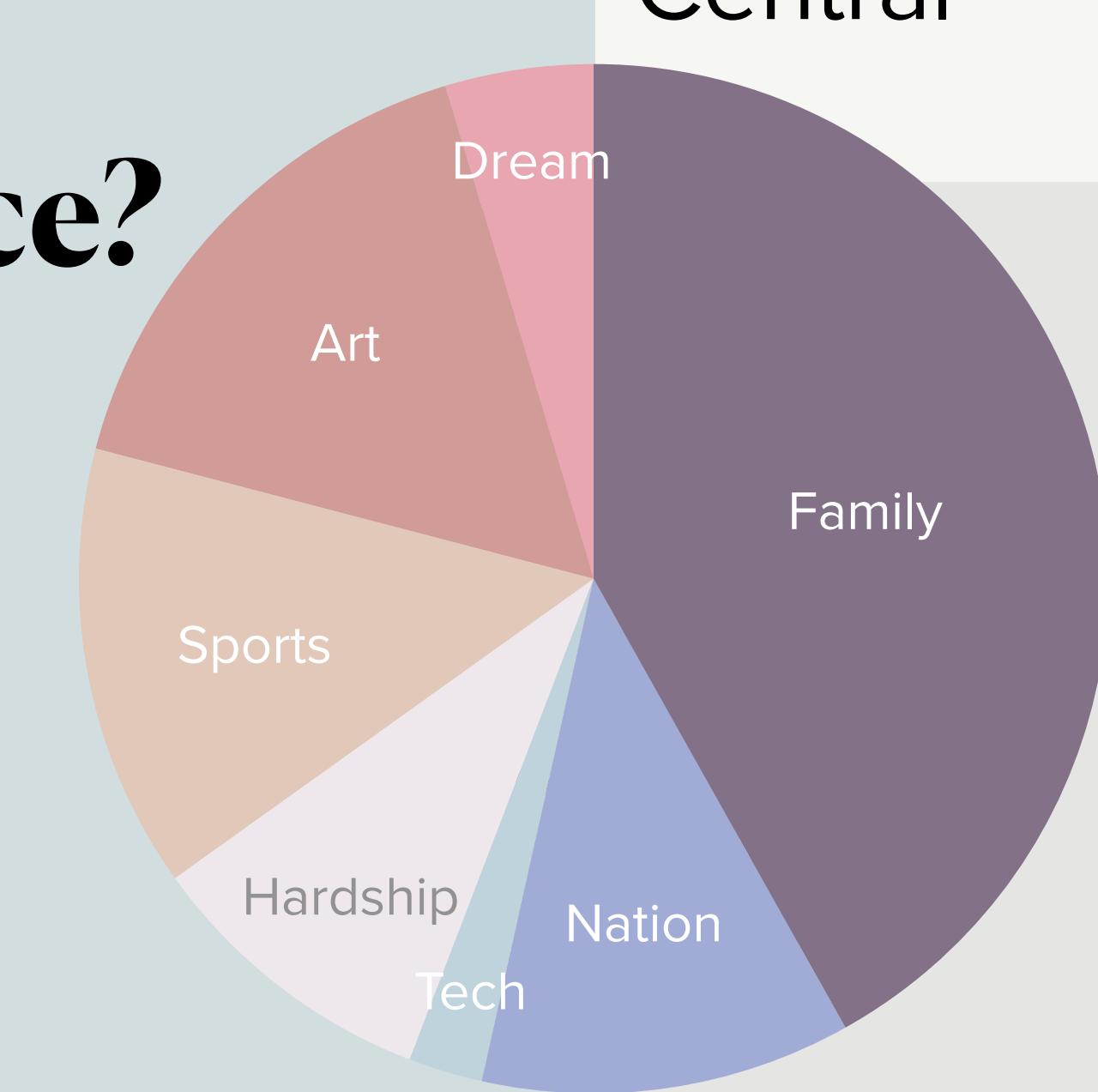


Who is the audience?

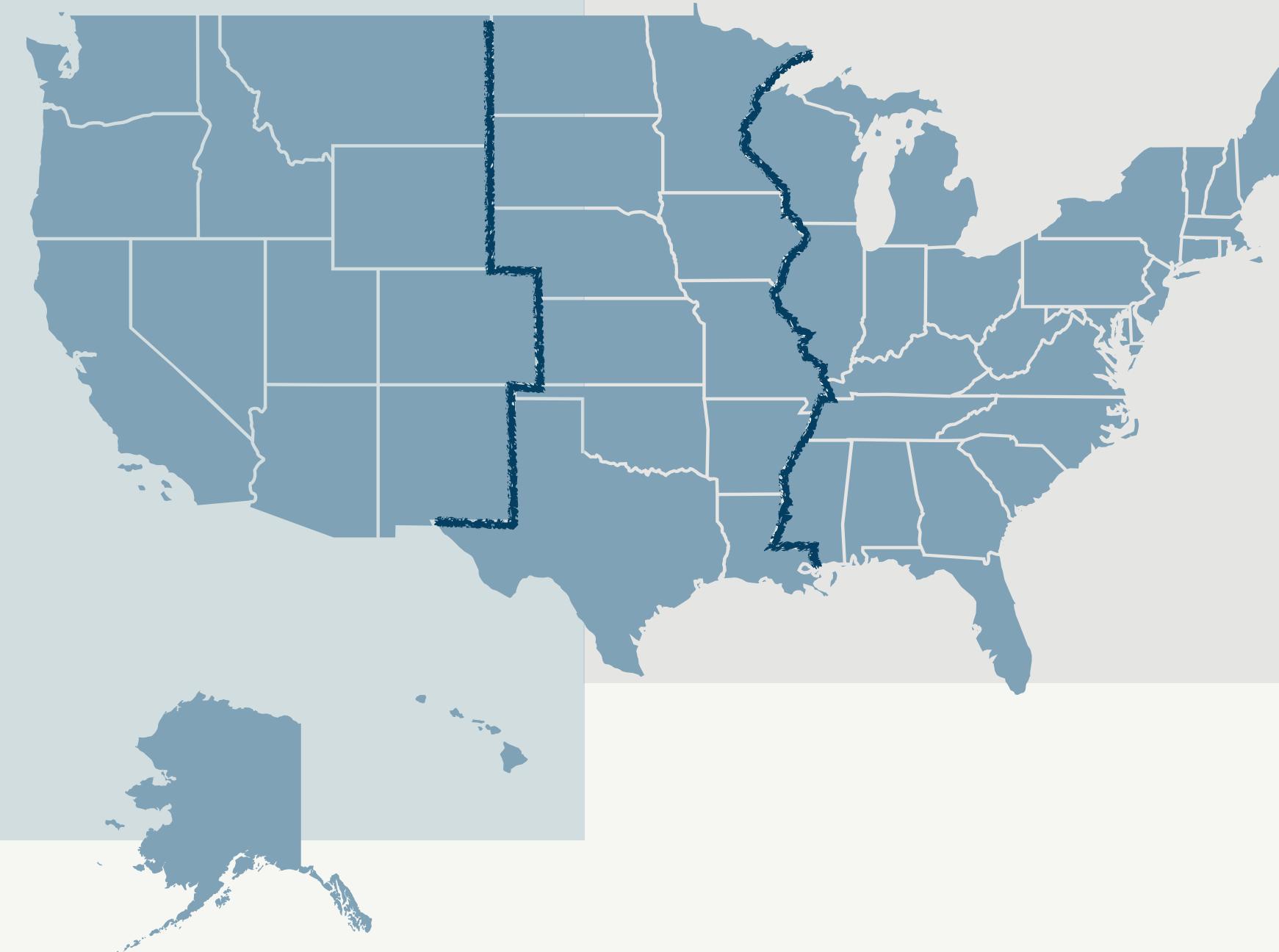
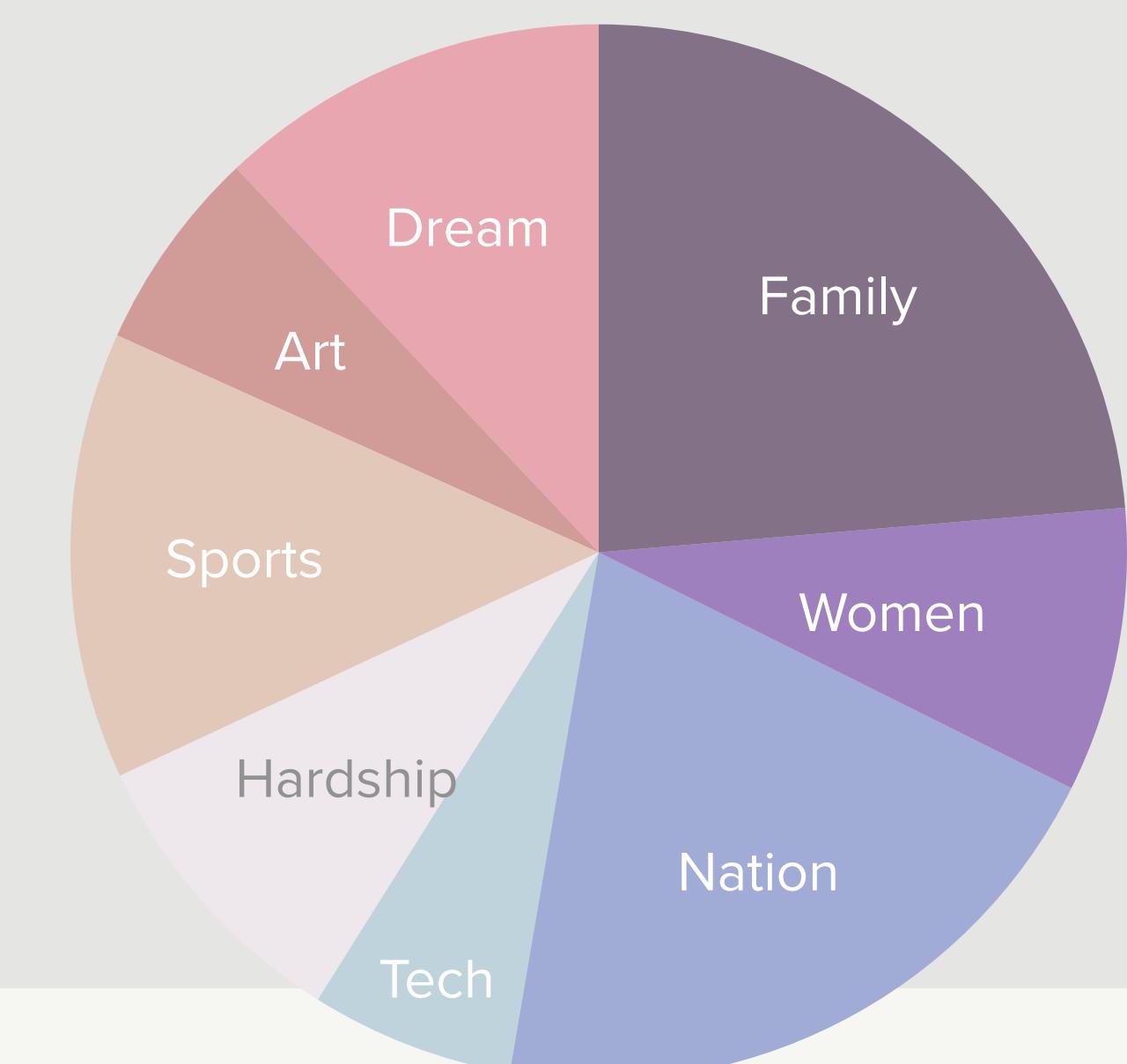
West



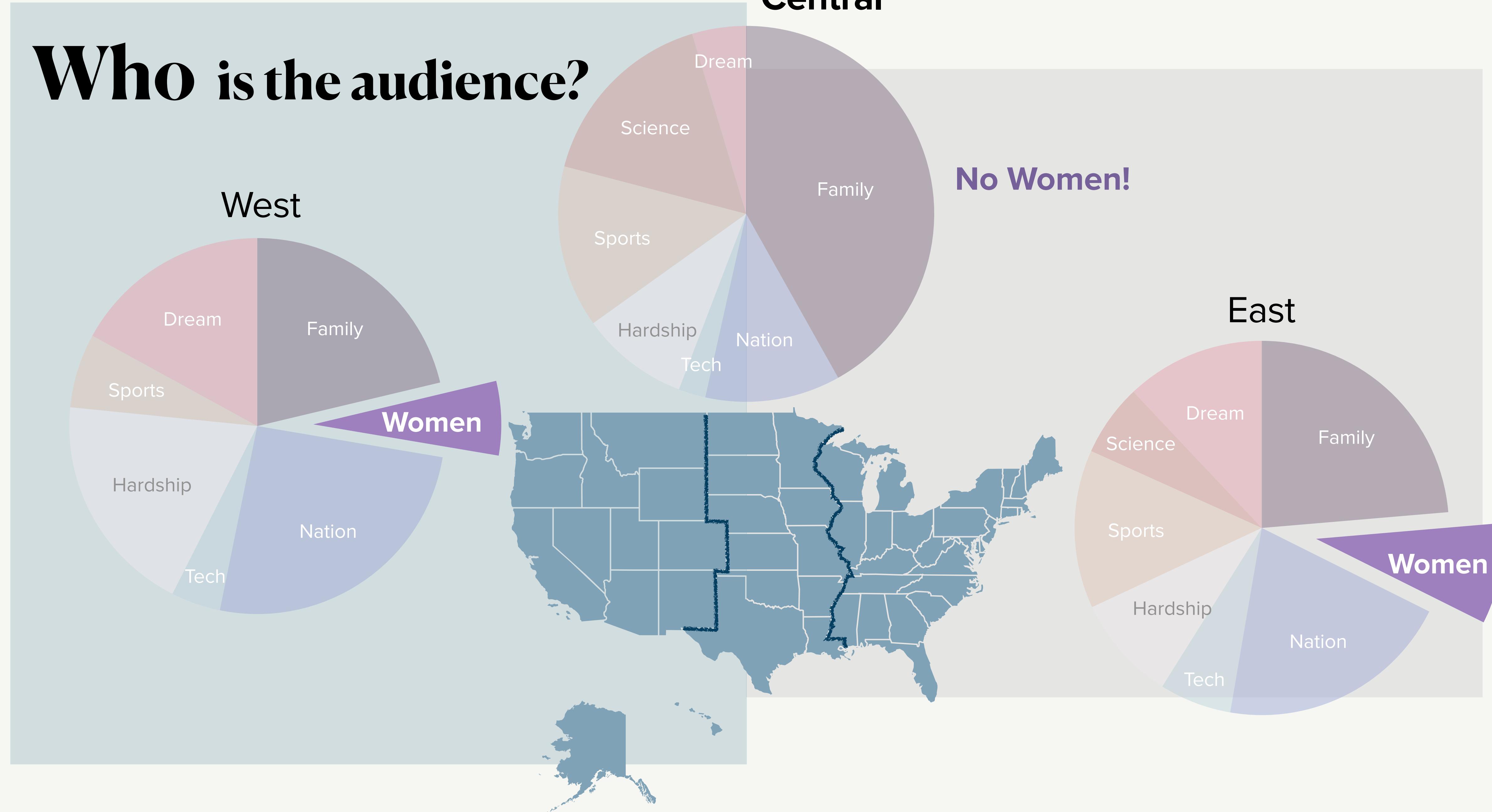
Central



East

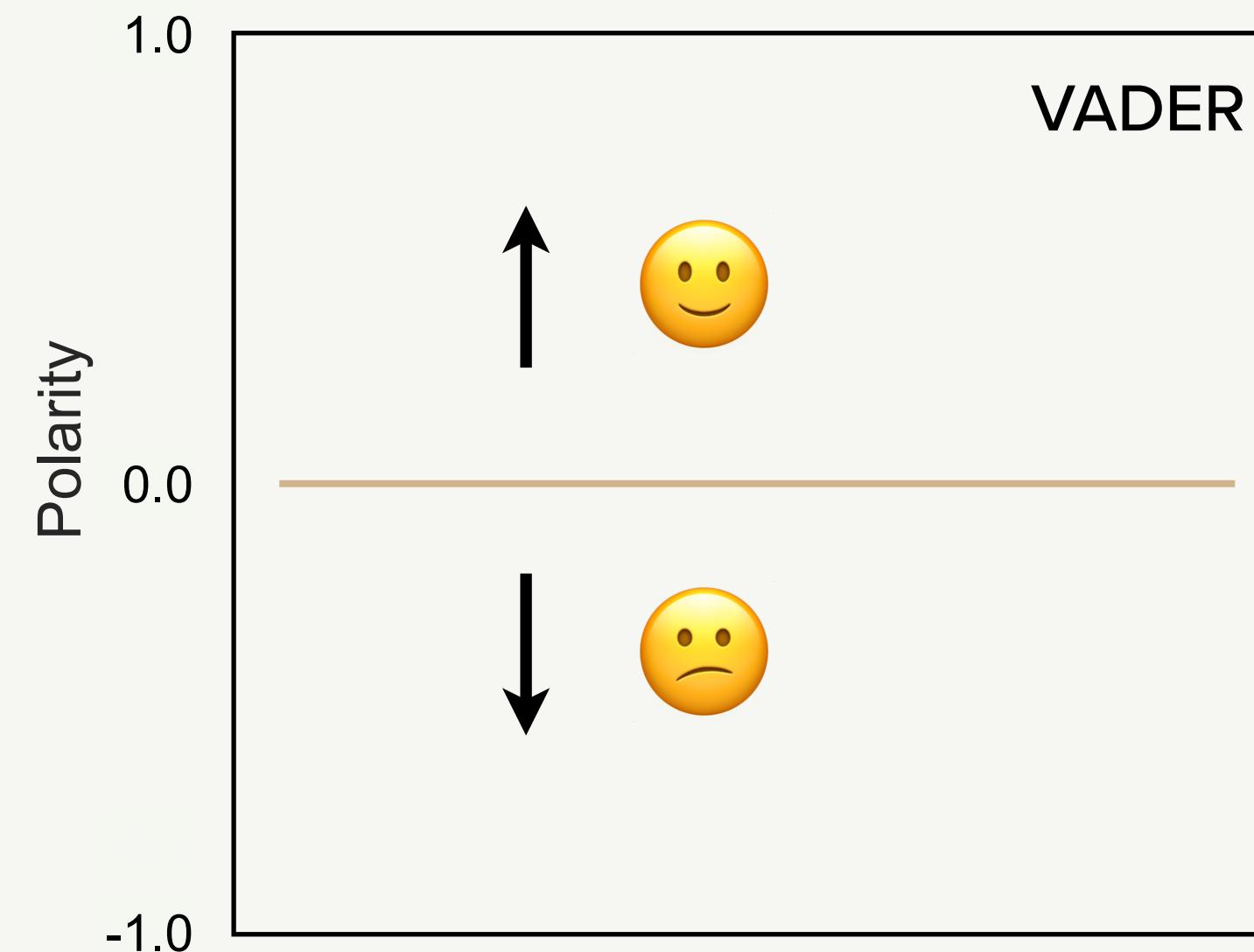


Who is the audience?



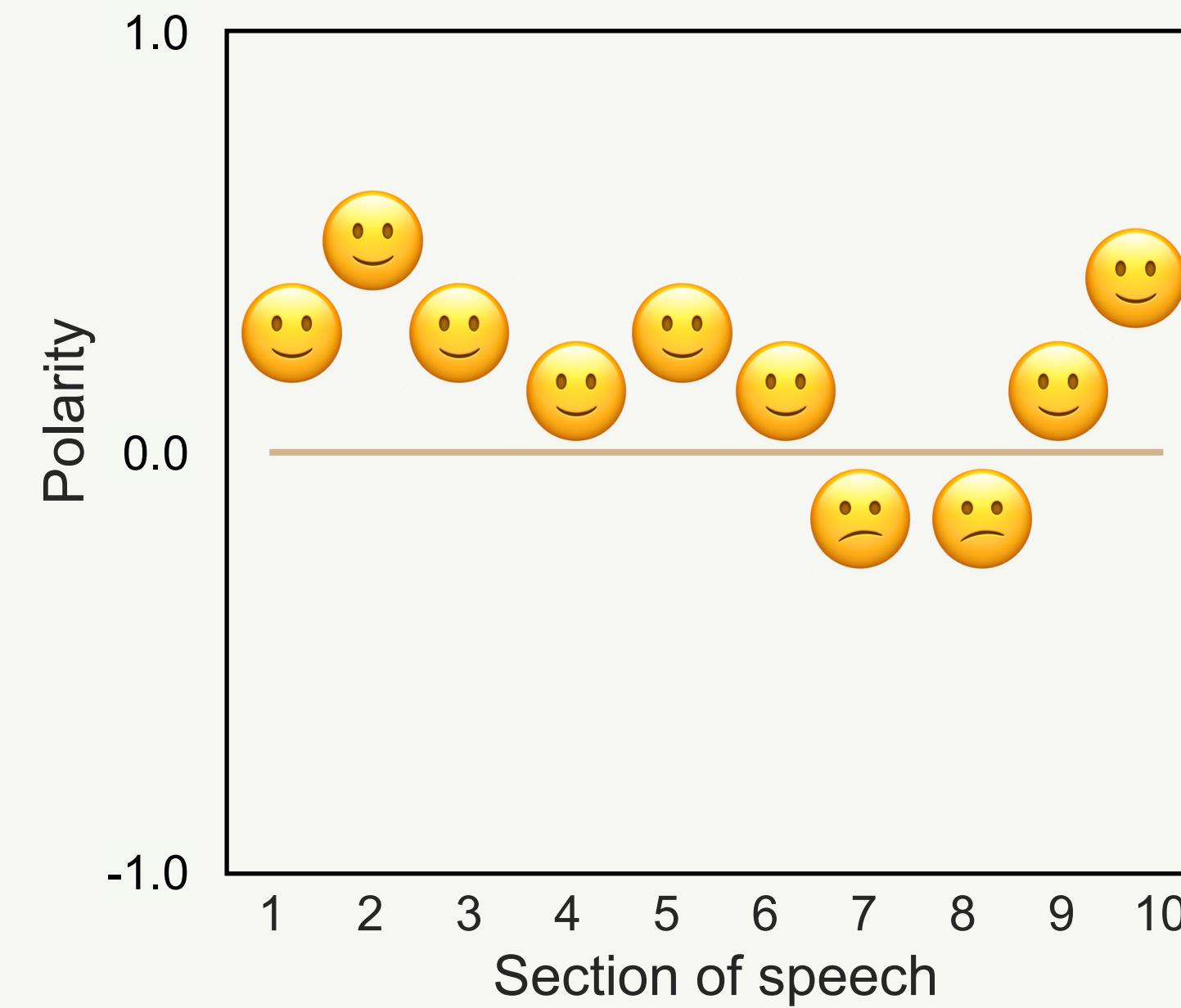
How do they talk?

Sentiment analysis



How do they talk?

Sentiment analysis

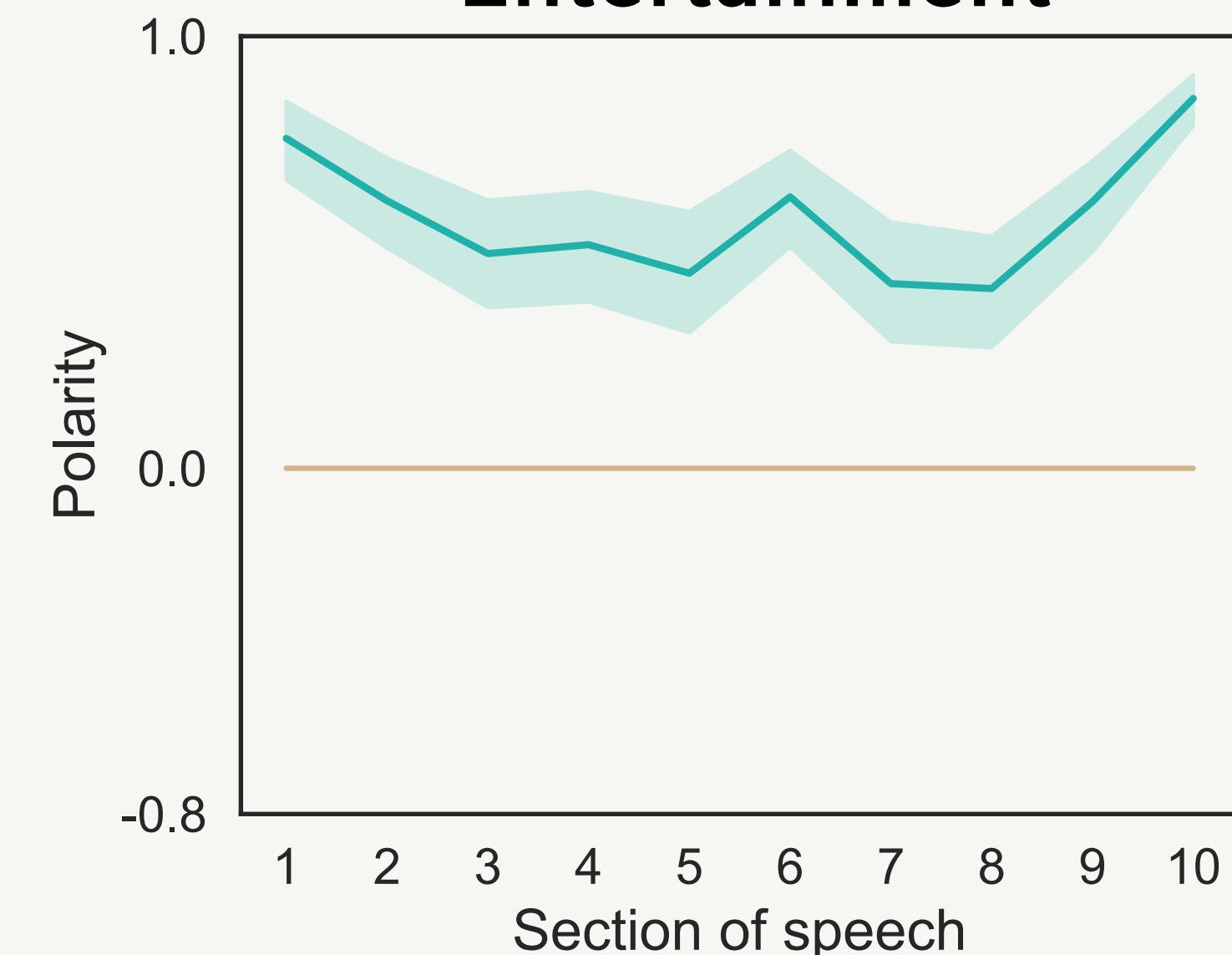


How do they talk?

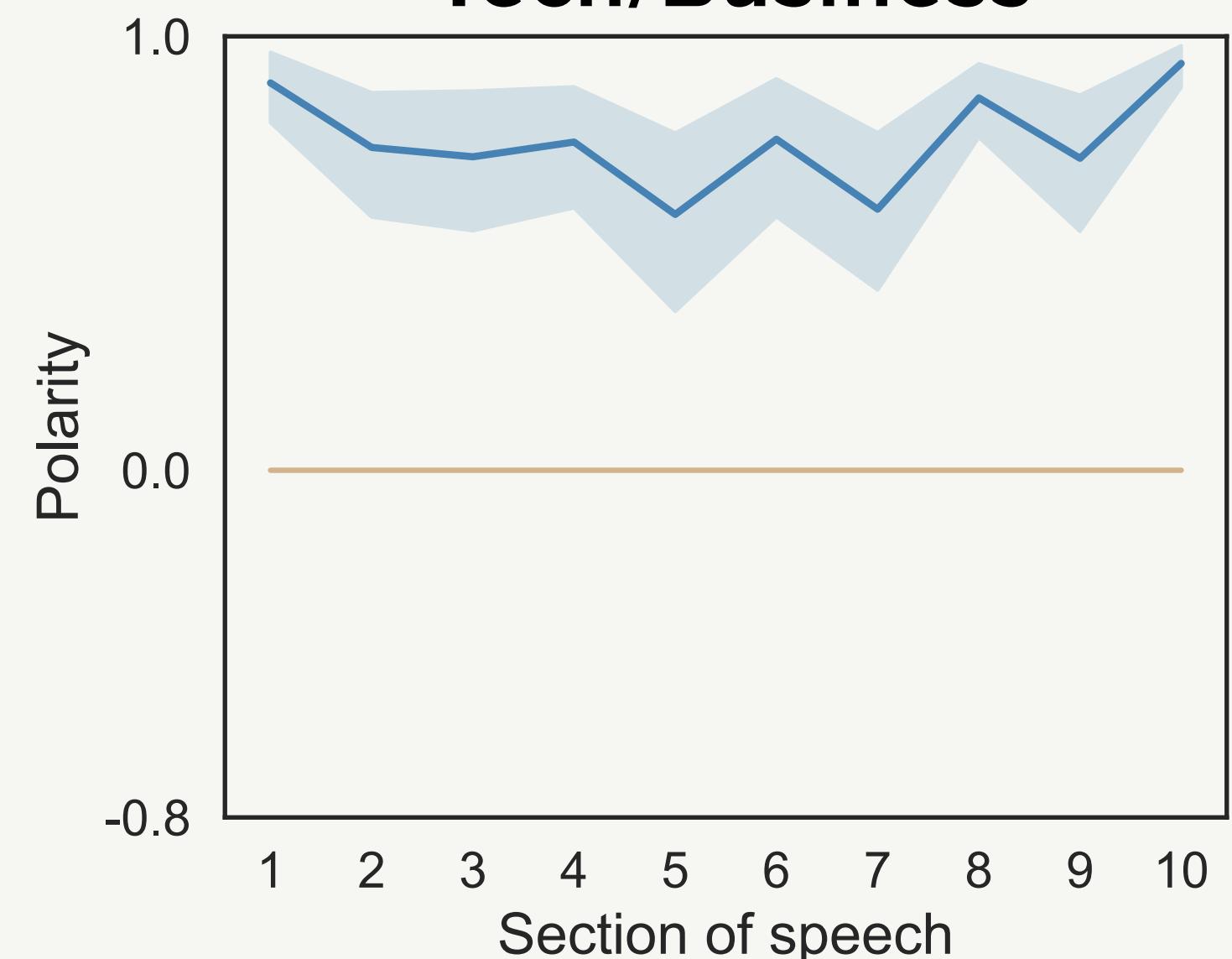
Sentiment analysis

Based on speaker's profession

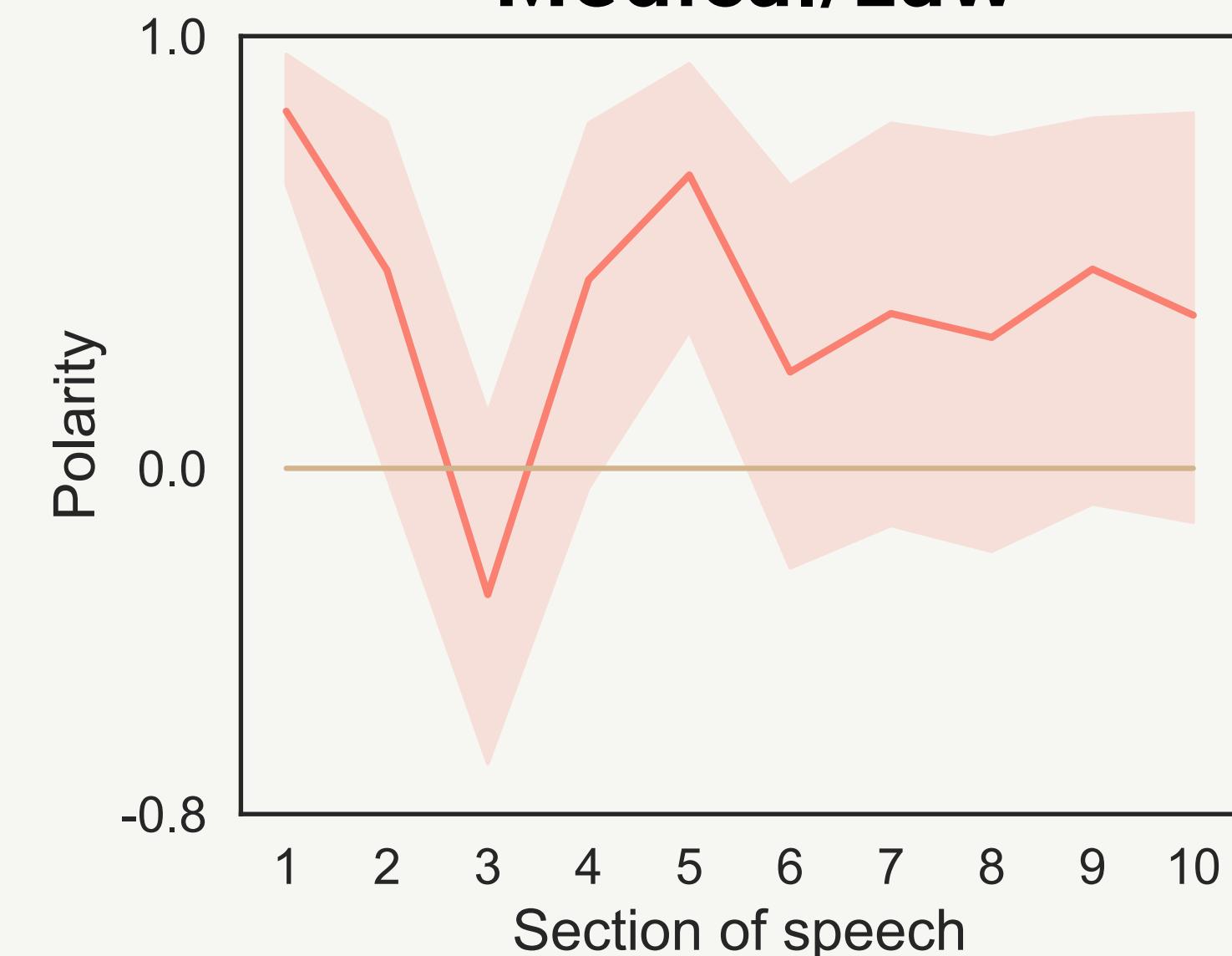
Entertainment



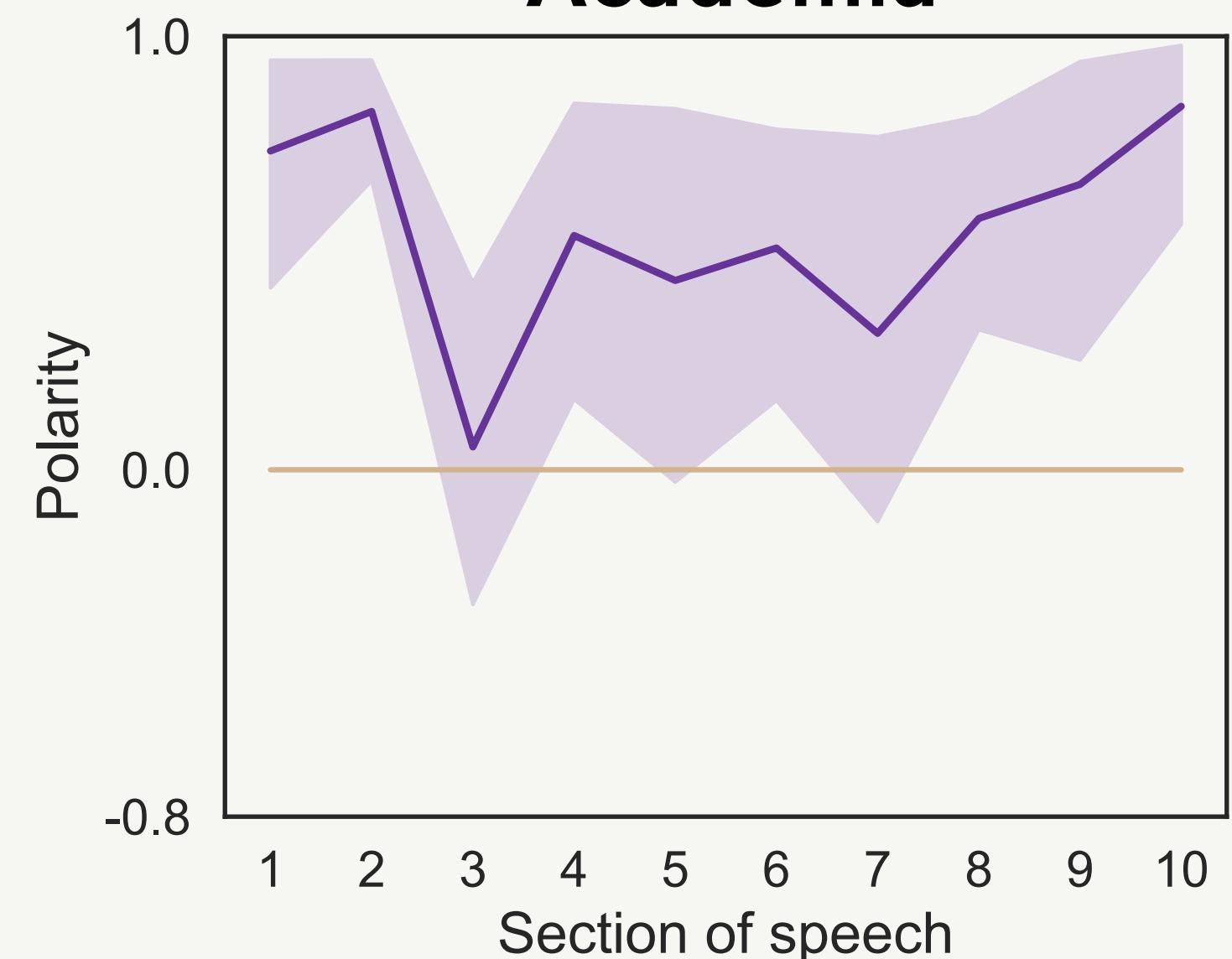
Tech/Business



Medical/Law



Academia

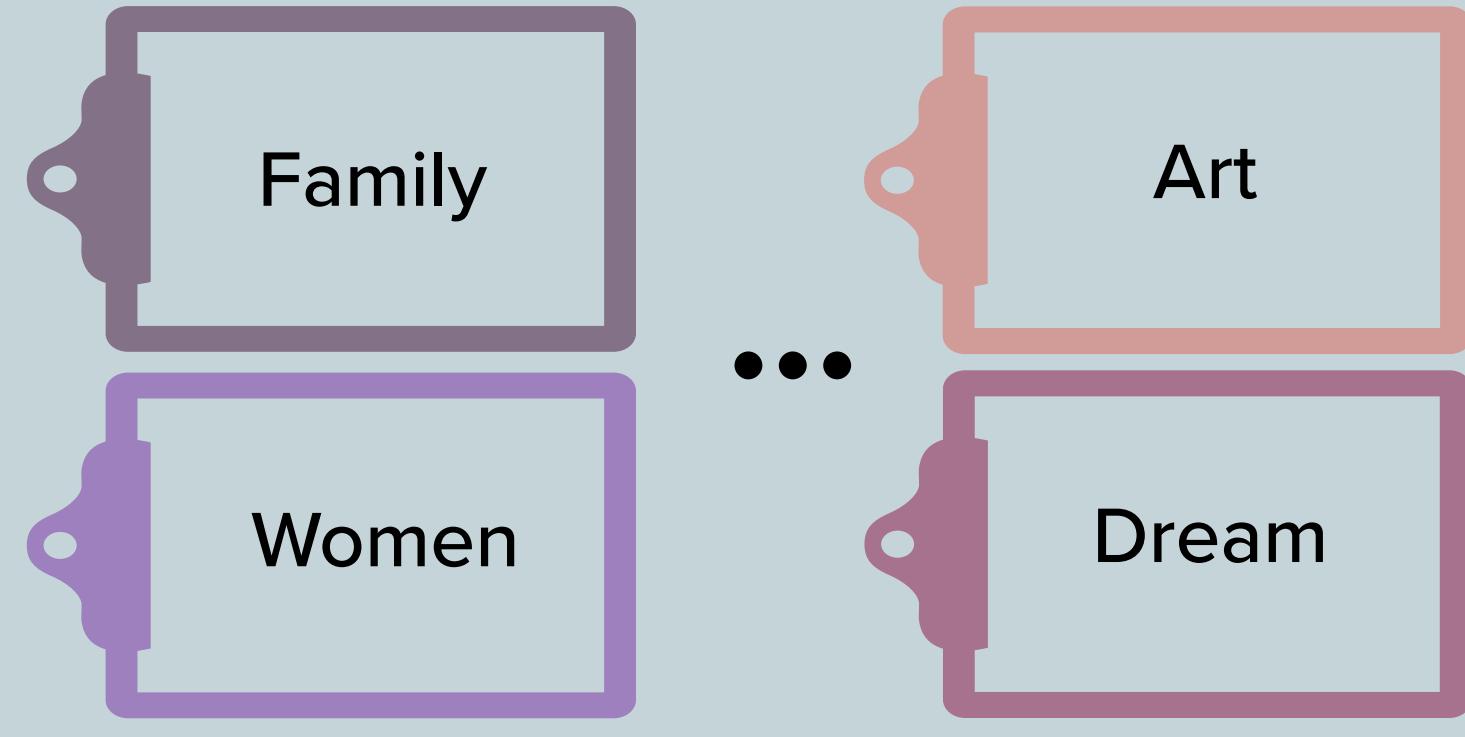


Summary



Summary

What?

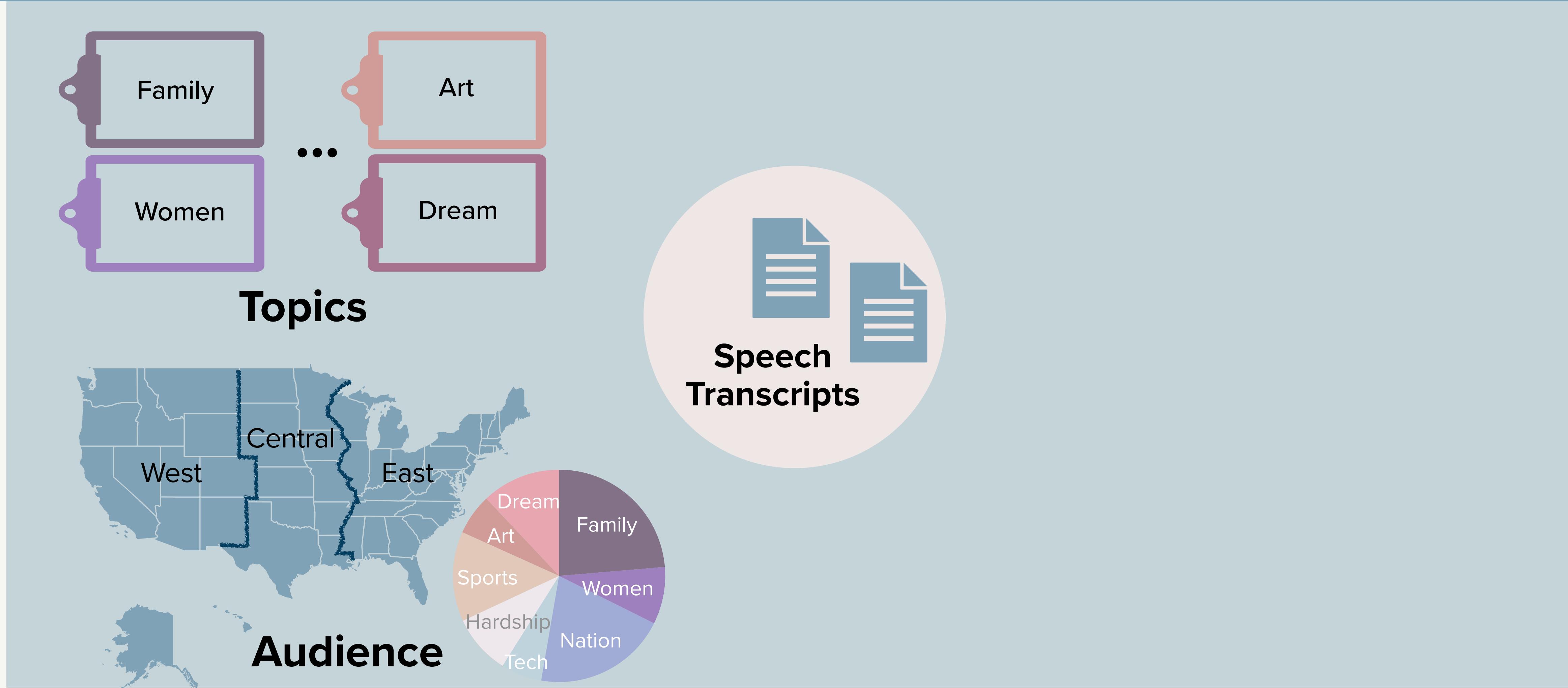


Topics



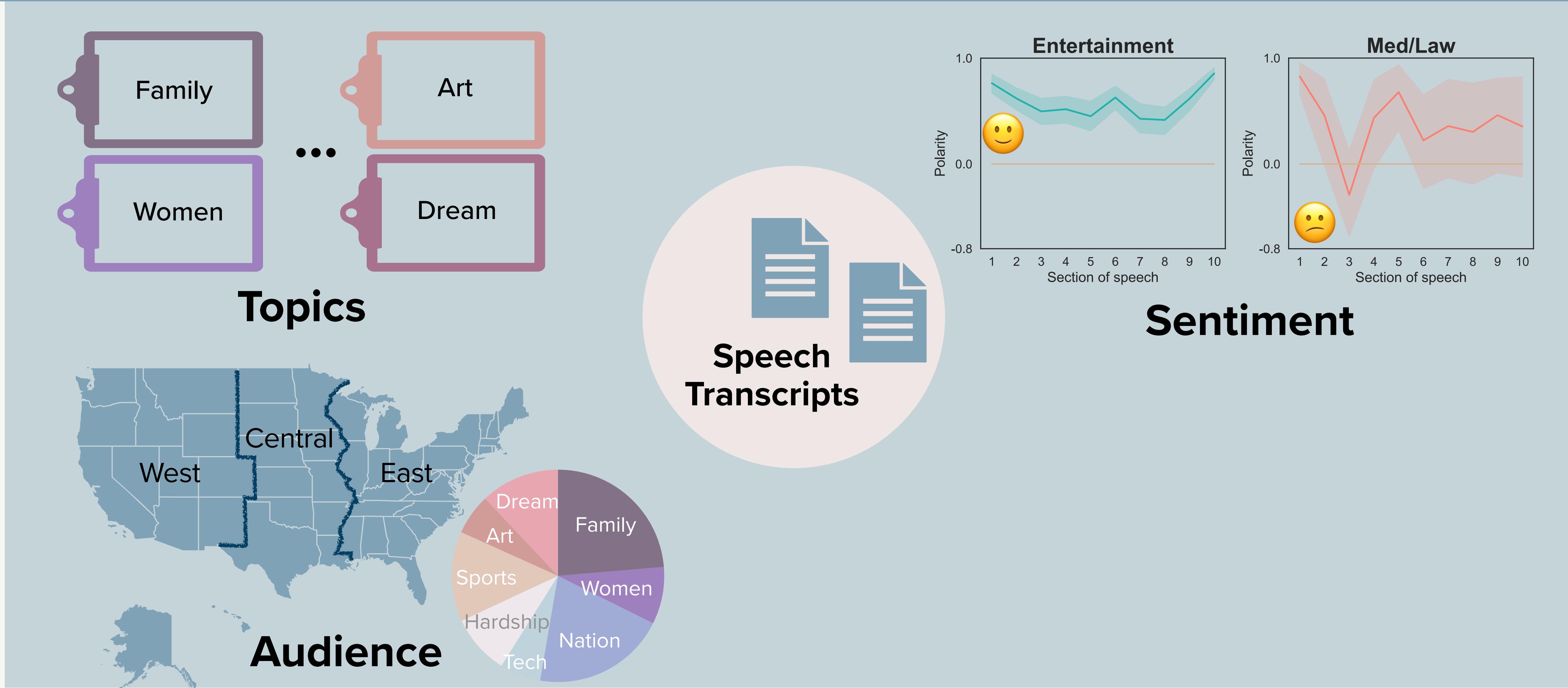
Summary

What? Who?



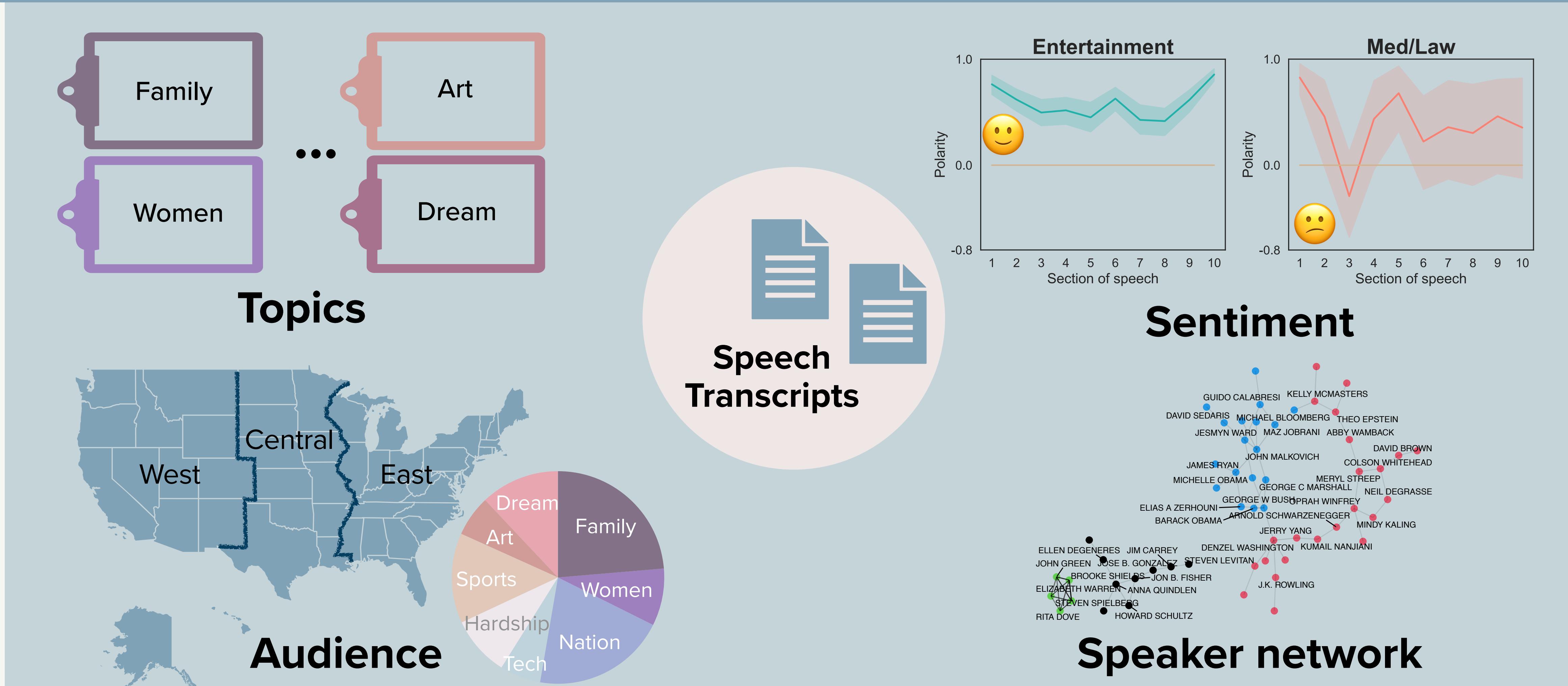
Summary

What? Who? How?



Summary

What? Who? How?



Speaker relation

Network analysis

MARK ZUCKERBERG

TIM COOK

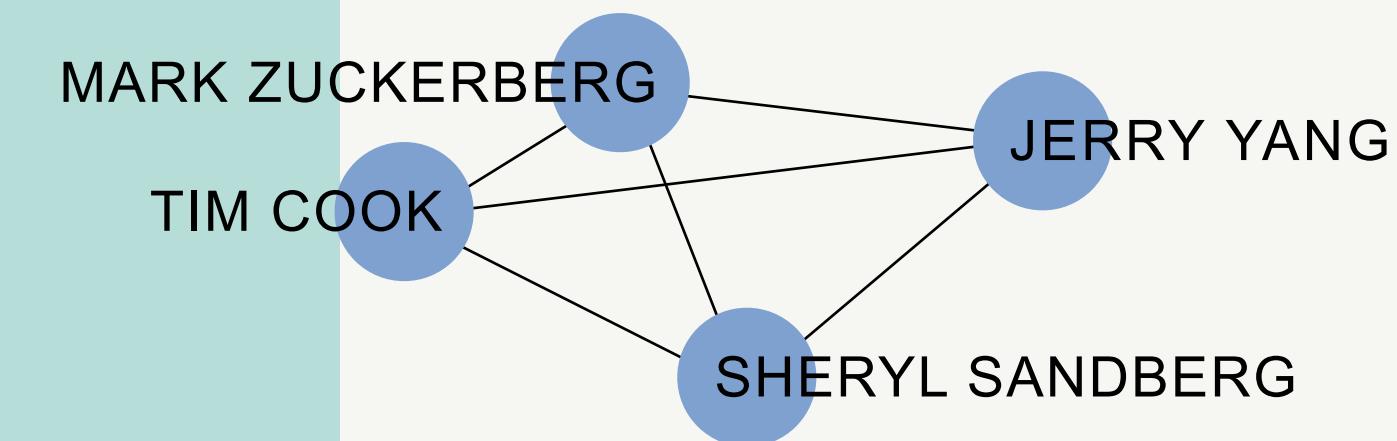
JERRY YANG

SHERYL SANDBERG

Node: speaker

Speaker relation

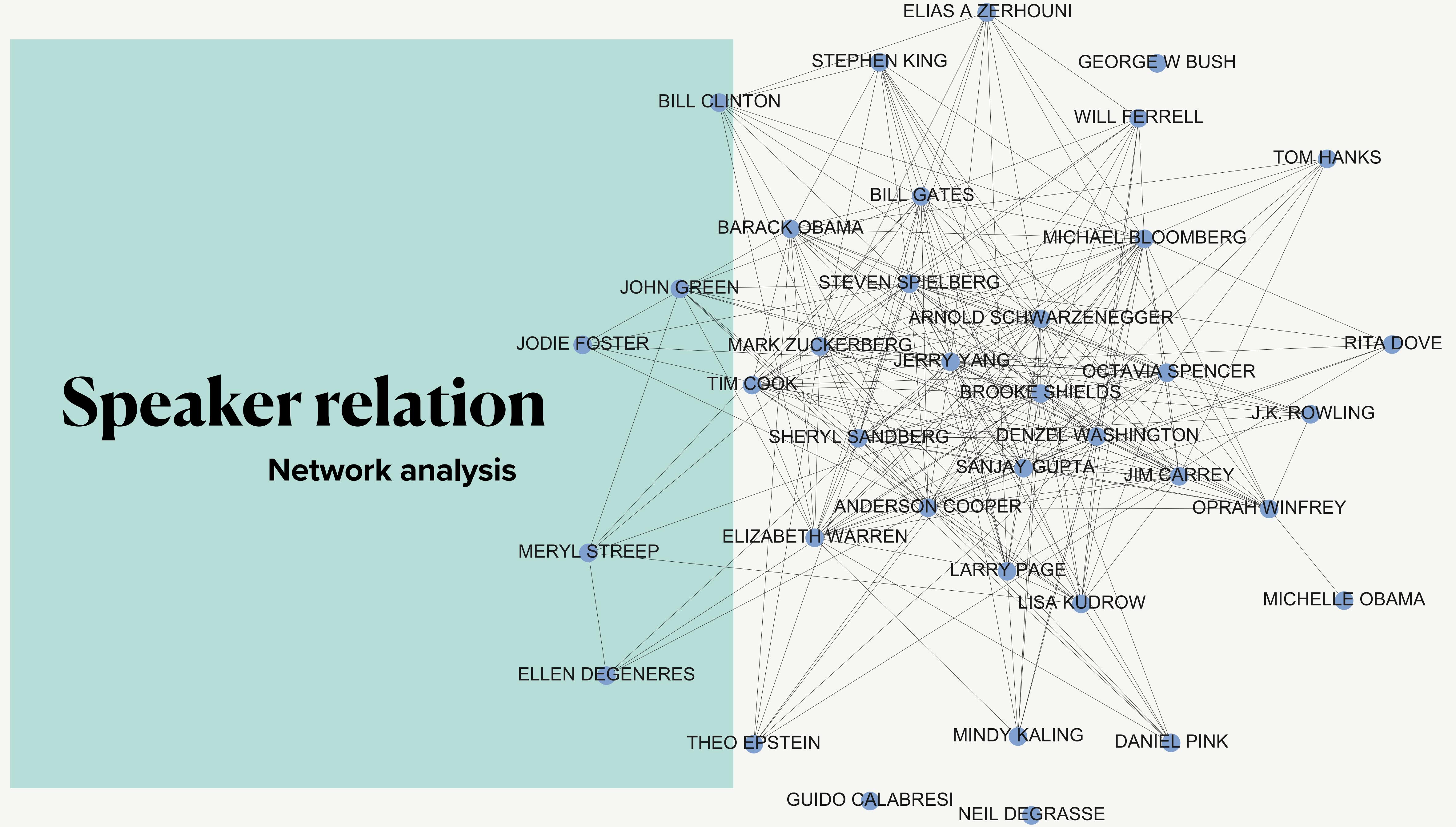
Network analysis



Node: speaker
Edge: overlap of words used in their speeches

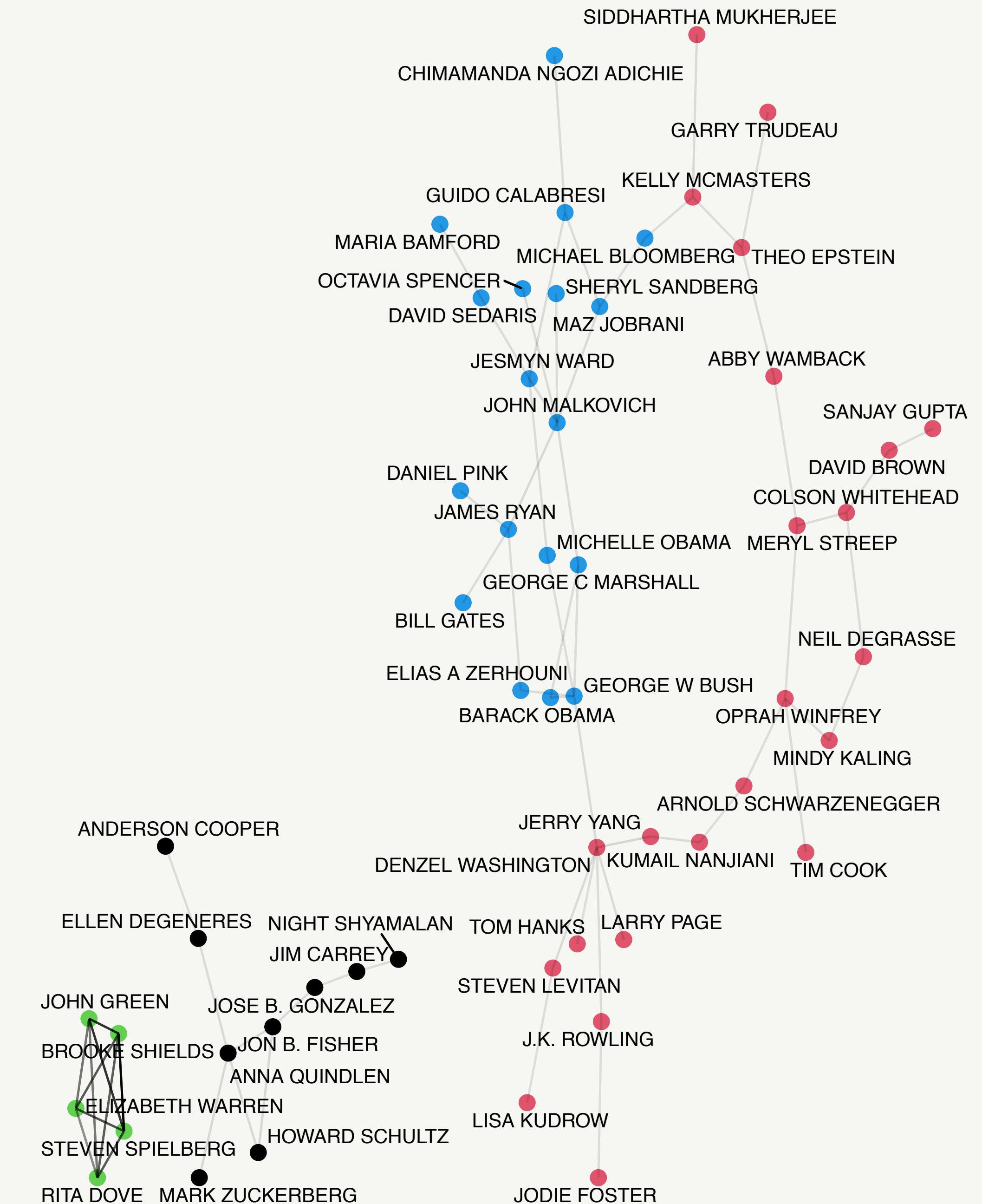
Speaker relation

Network analysis



Speaker relation

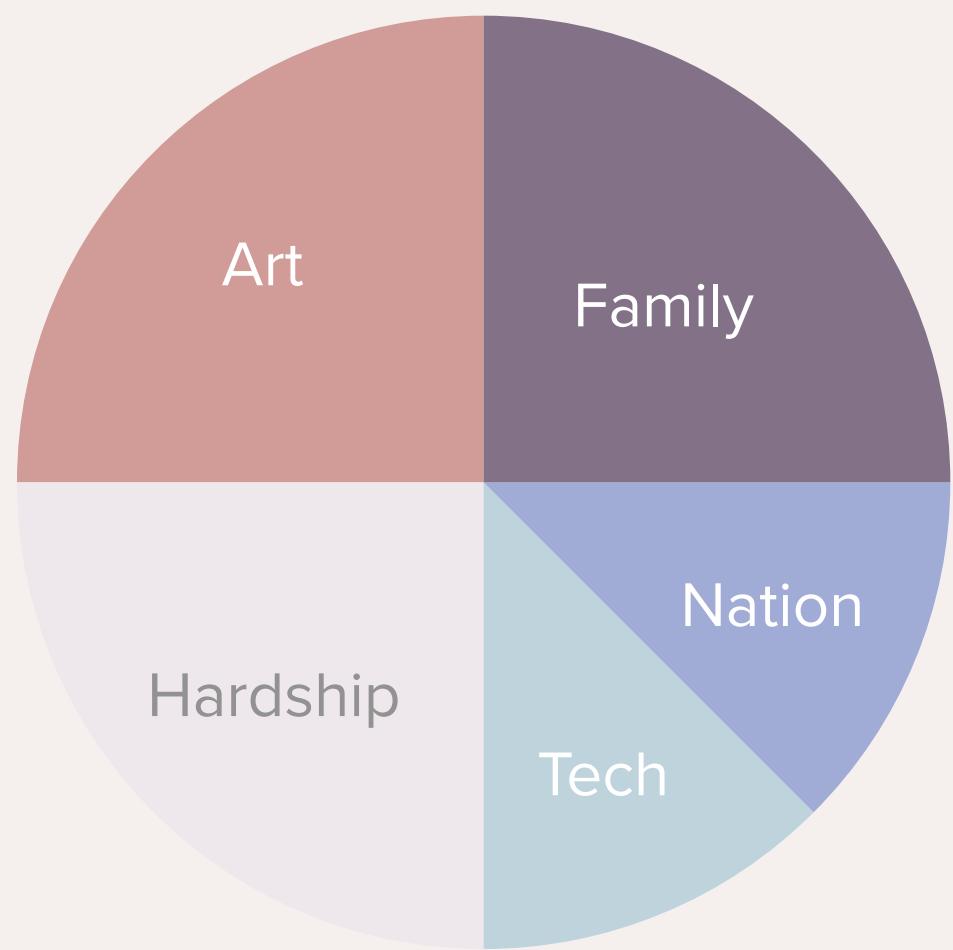
Network analysis



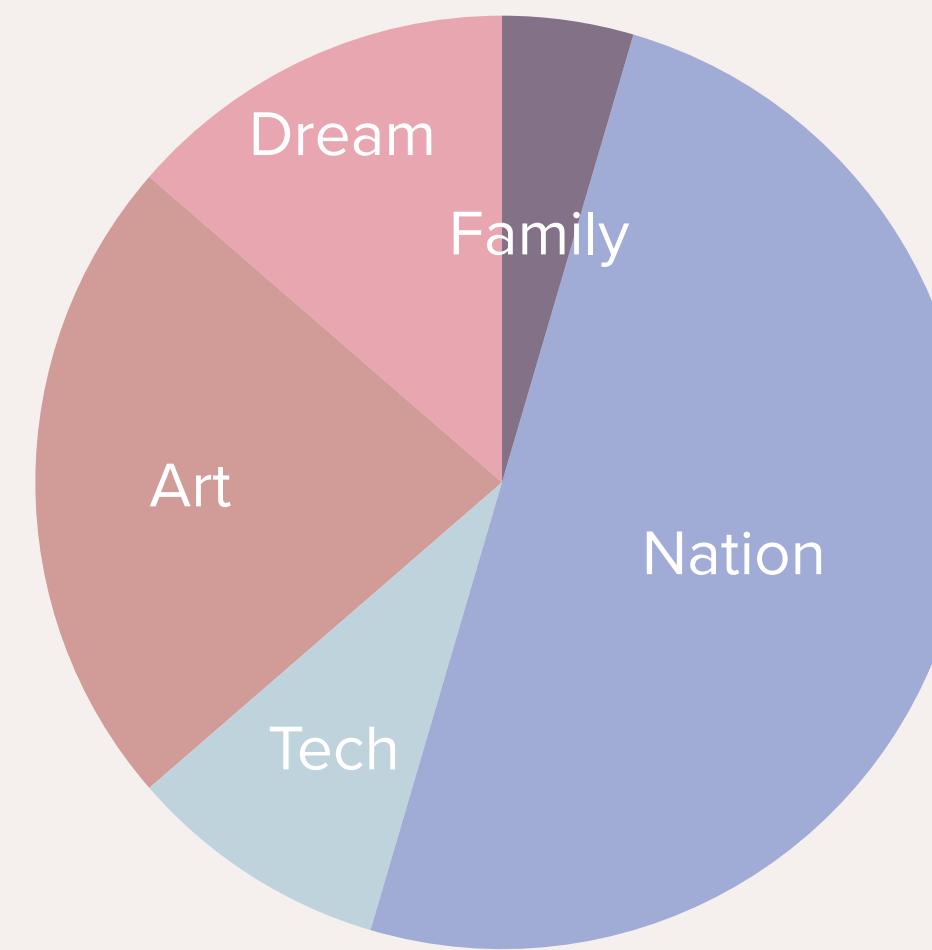
Thank you!

Appendix

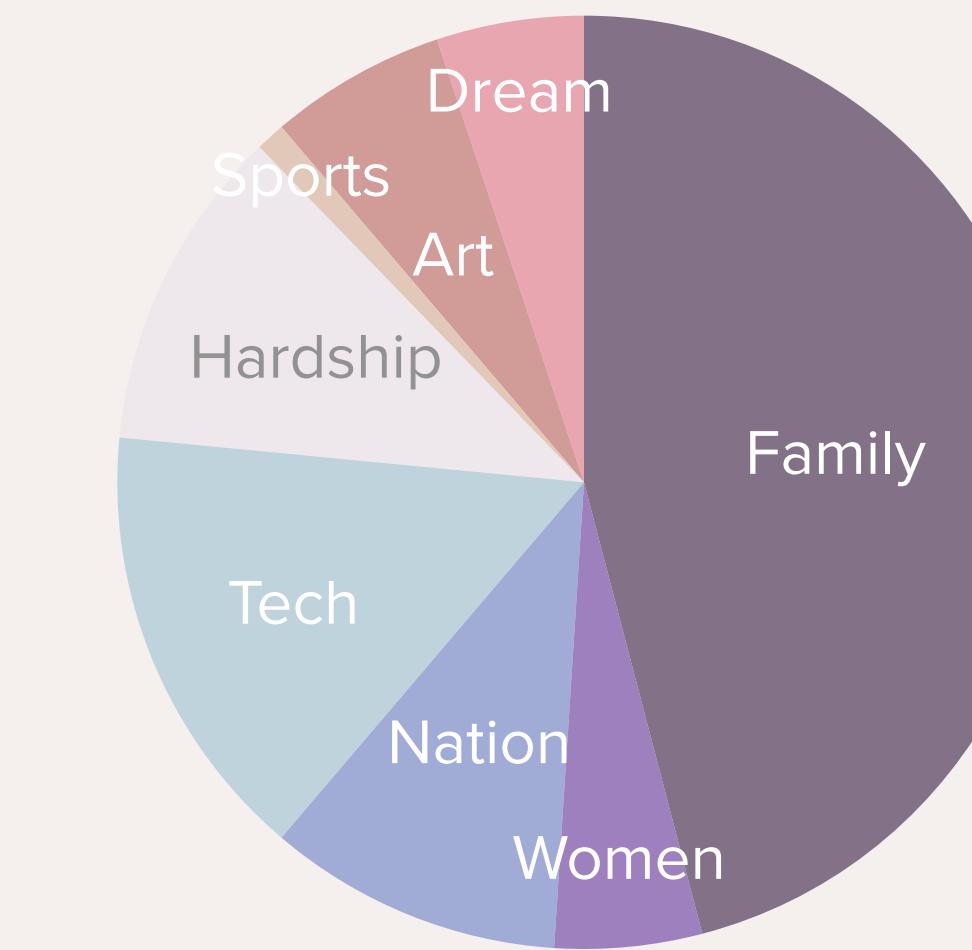
Topic distribution by speaker's profession



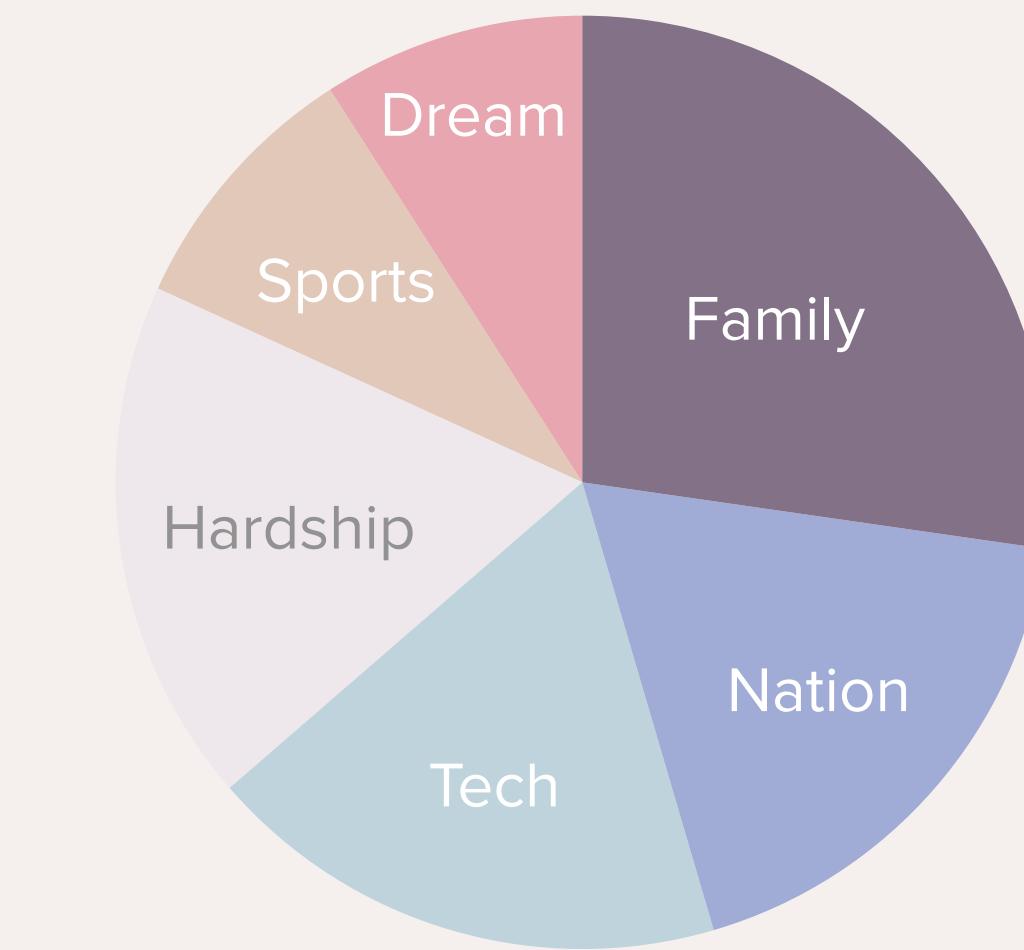
Art



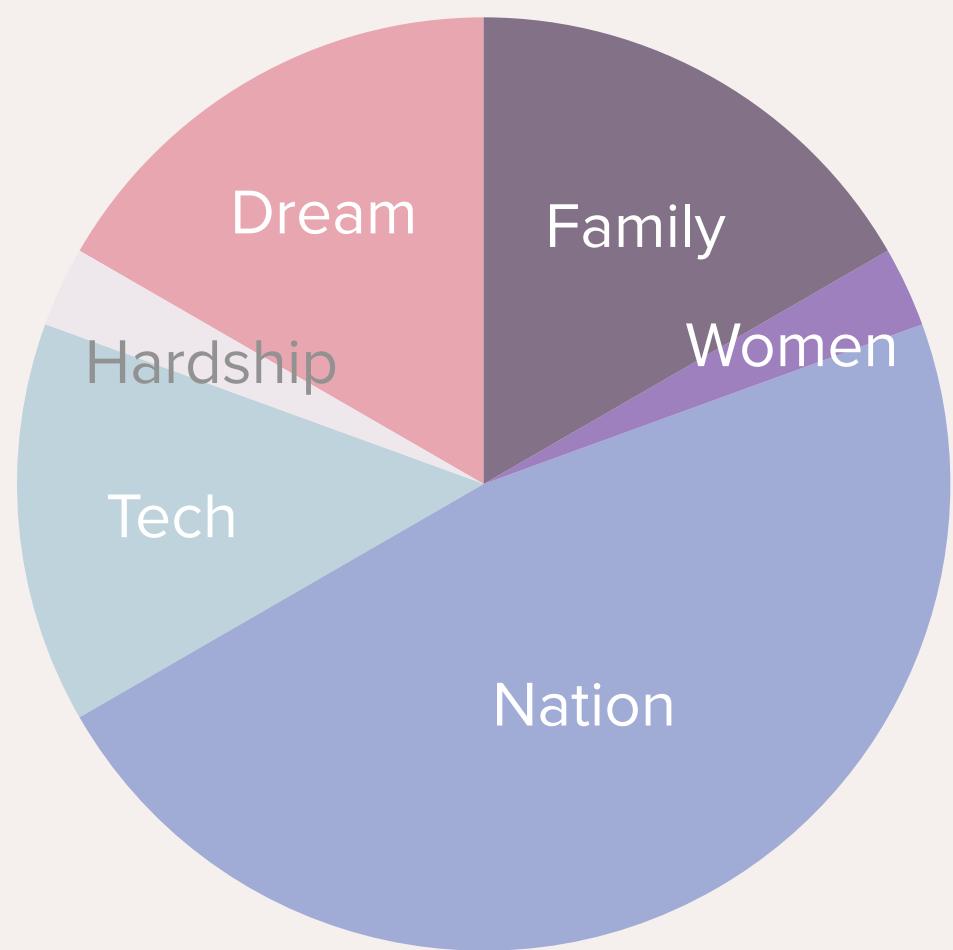
Academia



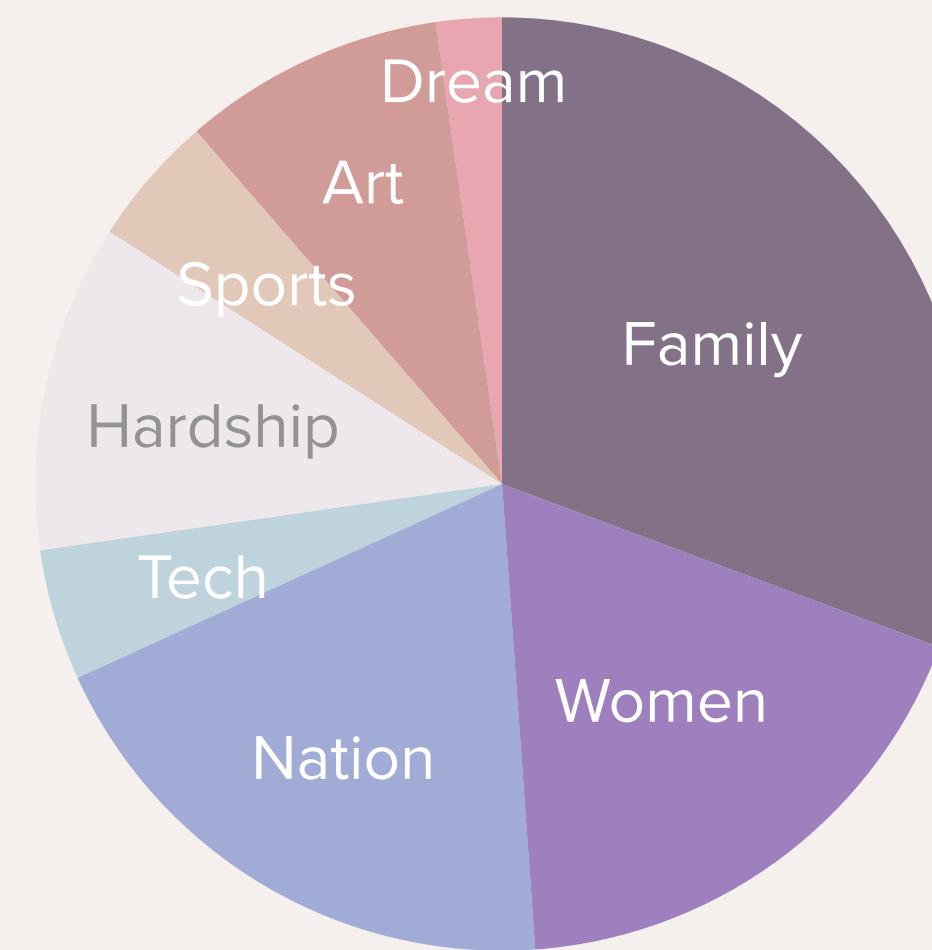
Entertainment



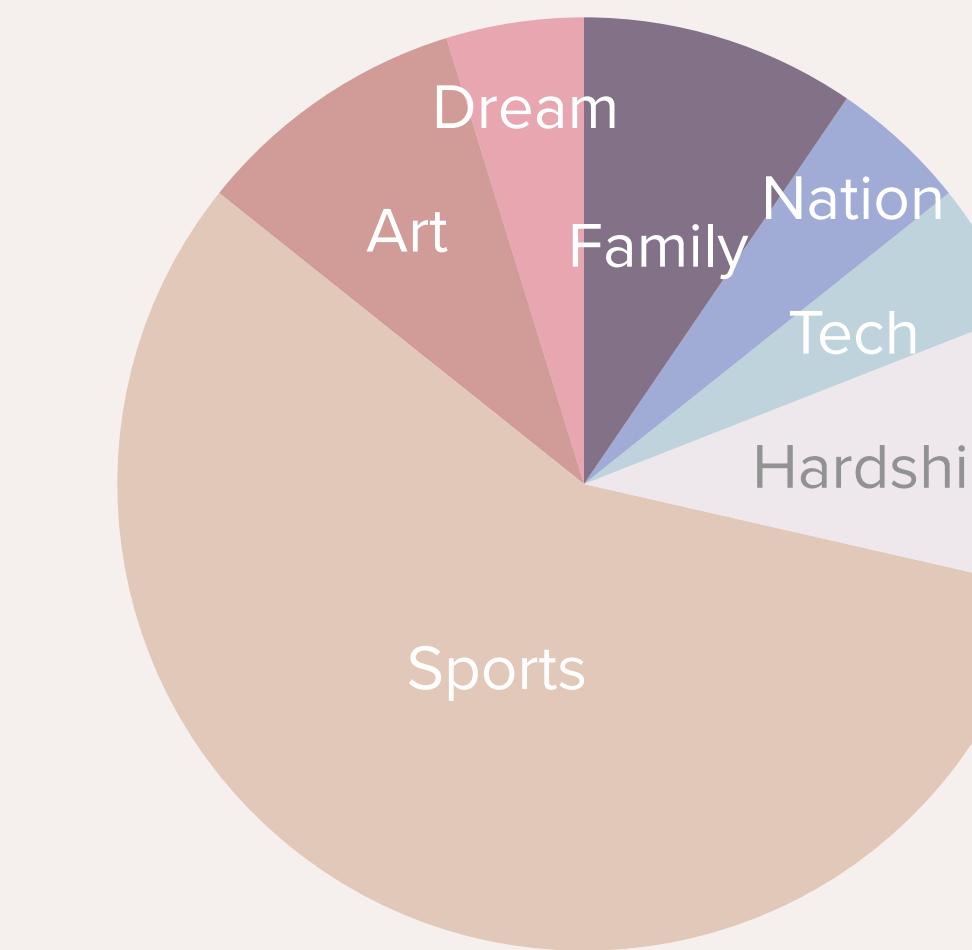
Med/Law



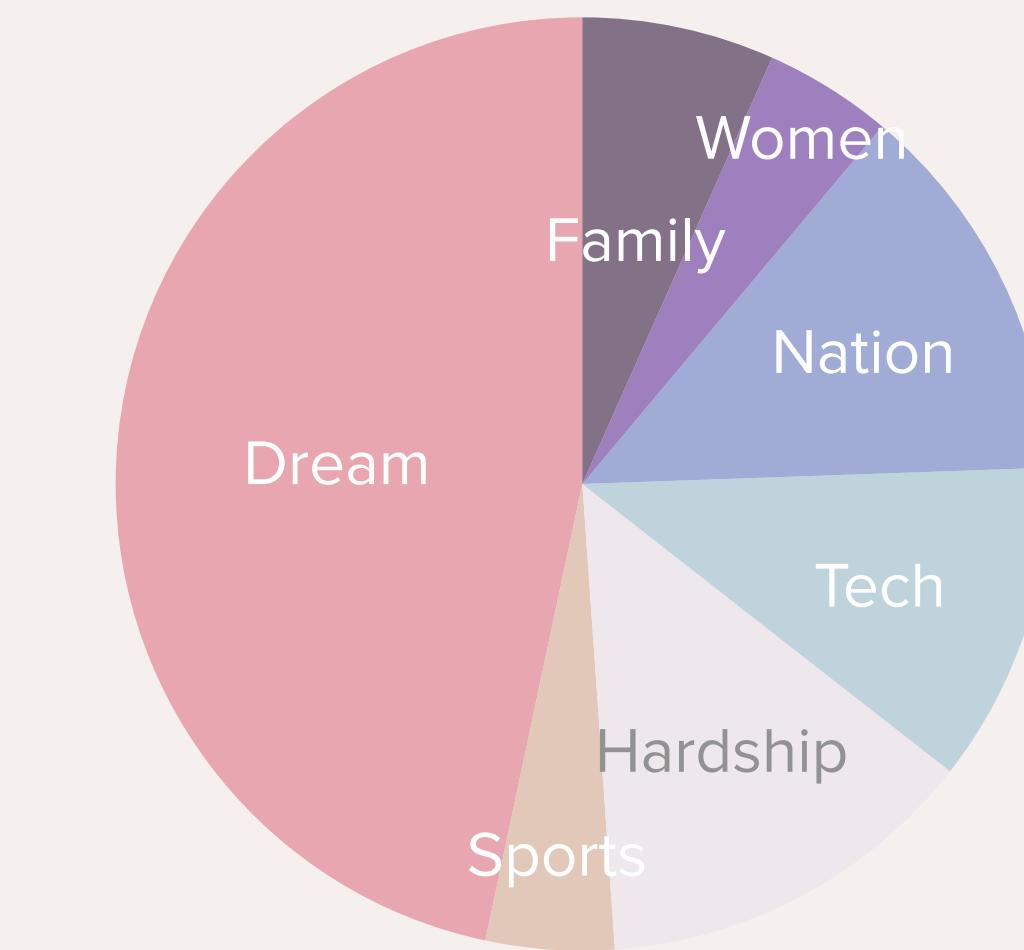
Politics



Publish



Sport

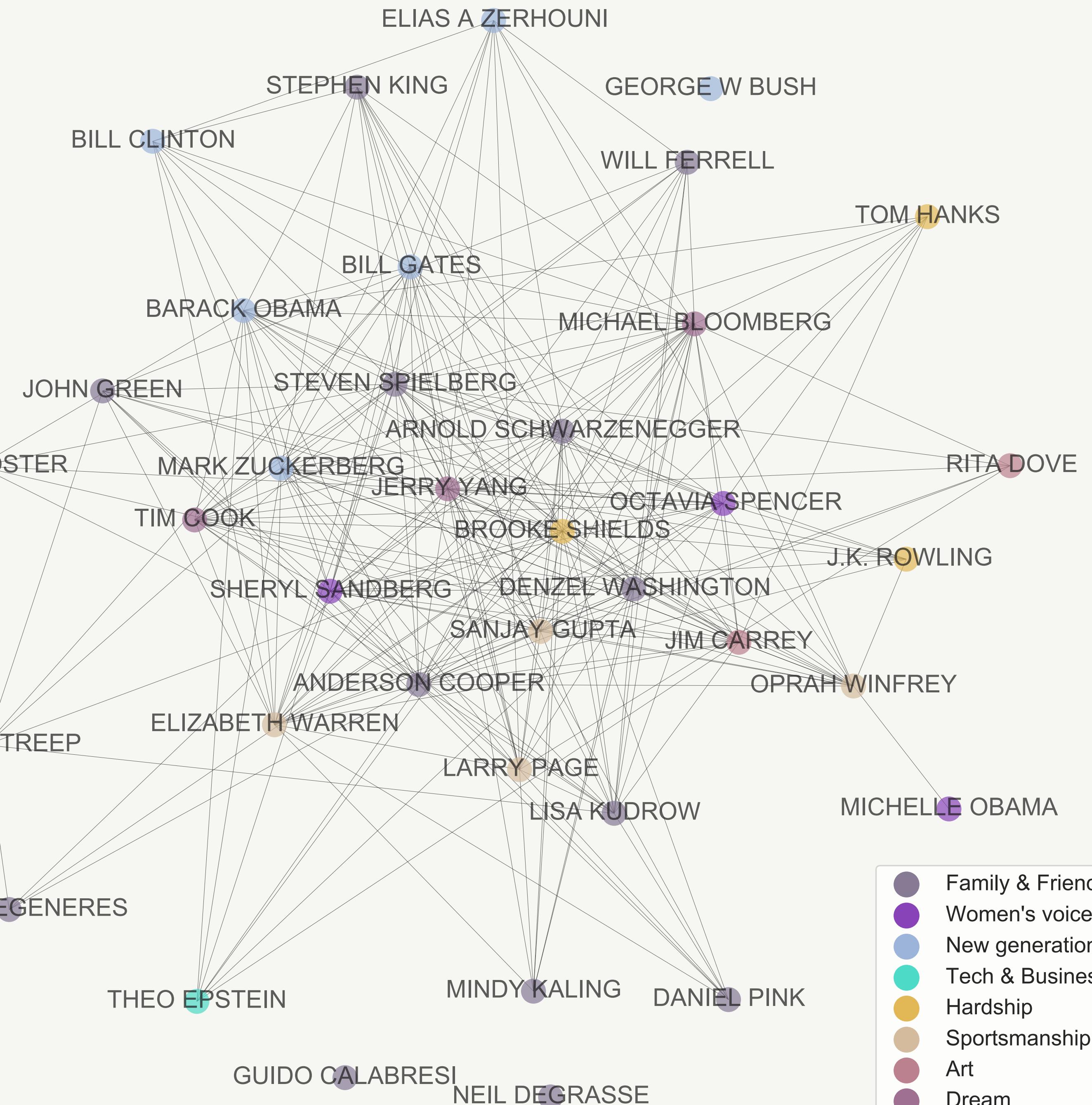


Tech/Business

Speaker relation

Network analysis

Color nodes based on speaker's speech topic

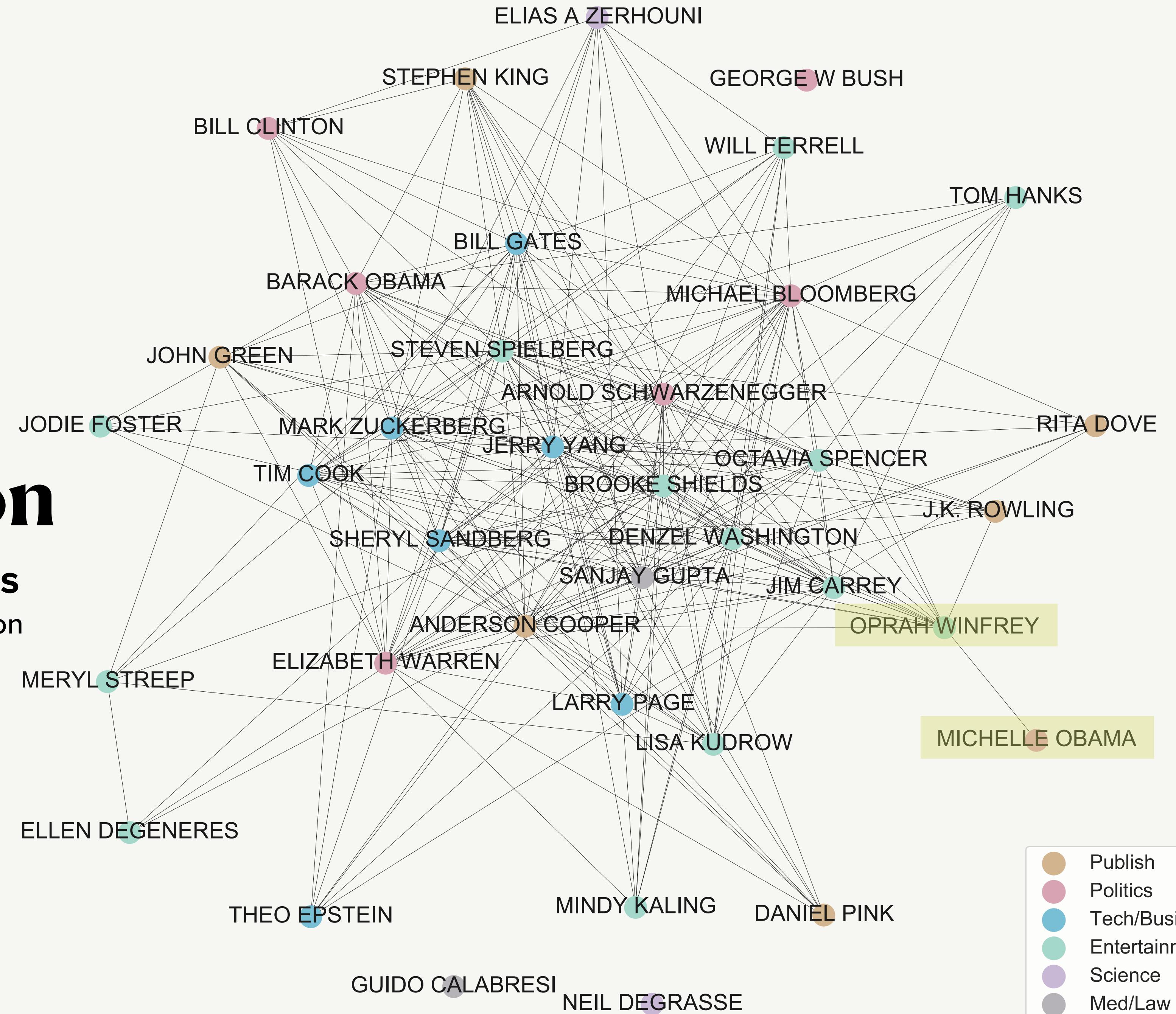


- Family & Friends
- Women's voice
- New generation & Nation
- Tech & Business
- Hardship
- Sportsmanship
- Art
- Dream

Speaker relation

Network analysis

Color nodes based on speaker's profession



Speaker relation

Network analysis

Color nodes based on speaker's age
(when giving the speech)

