

Masculine Defaults via Gendered Discourse in Podcasts and Large Language Models

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The way we speak and write are different.

The way we **speak and **write** are different.**

So he calls me up, and he's like, 'I still love you,' and I'm like, I'm just, I mean, this is exhausting, you know – like we are never getting back together. Like, ever.

- TAYLOR SWIFT

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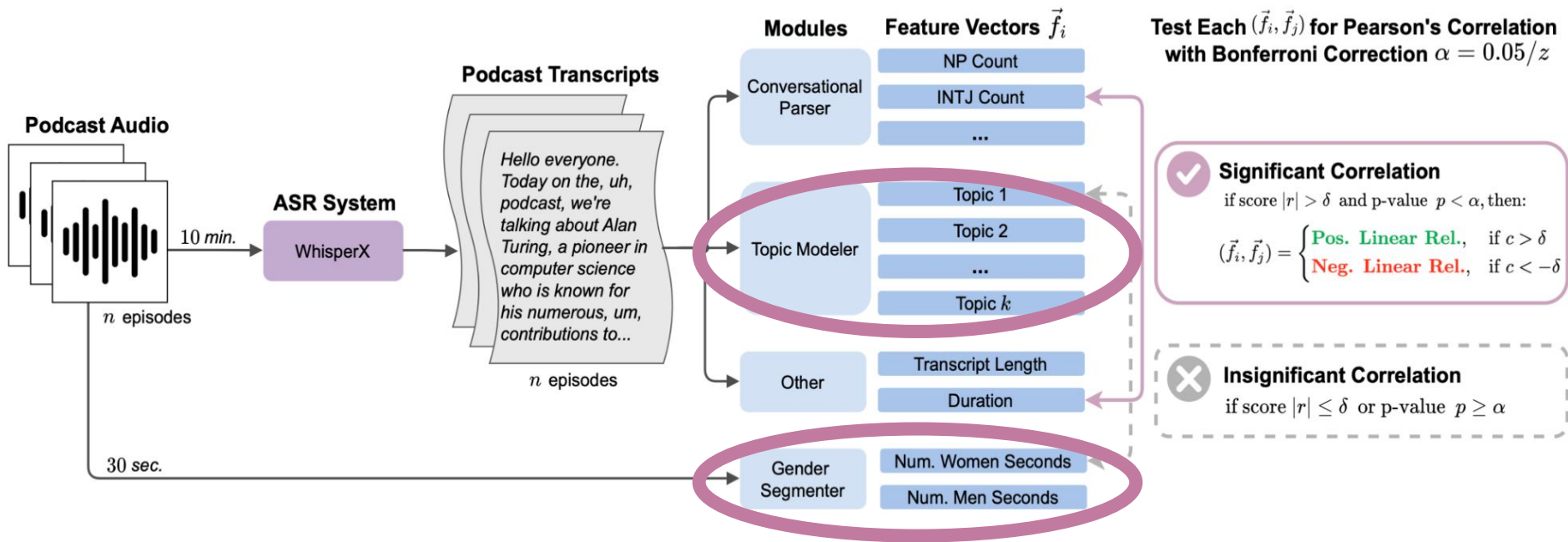
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- TAYLOR SWIFT

We ask...

- How can we monitor & identify **discourse terms at scale** ?
- Are discourse terms **meaningful in LLMs** that are trained over this data?

We propose the **Gendered* Discourse Correlation Framework (GDCF)** to monitor & identify discourse terms at scale.



*** we use binary gender due to speech tool limitations - this is an important direction for future work.**

We find that women & men's speaking patterns are different.

Topic N	Gender	r	Topic N Word List	Topic N Categories	Topic N Gender
Topic 3	Women Men	0.15 -0.14	women, woman, men, baby, pregnant, girls, male, doctor, health, birth	Content - Pregnancy	Women
Topic 10	Women Men	0.10 -0.12	energy, body, feel, mind, space, yoga, love, beautiful, feeling, meditation	Content - Yoga	Women
Topic 49	Women Men	-0.21 0.17	game, know, think, team, going, mean, play, year, one, good	Content - Sports	Men
Topic 71	Women Men	0.14 -0.14	christmas, sex, girl, hair, love, get, date, girls, let, wear	Content - Dating	Women
Topic 54	Women Men	– 0.12	get, like, know, right, people, going, podcast, make, want, one	Discourse	Men
Topic 60	Women Men	-0.27 0.20	going, know, think, get, got, one, really, good, well, yeah	Discourse	Men
Topic 62	Women Men	0.33 -0.28	like, know, really, going, people, want, think, get, things, life	Discourse	Women

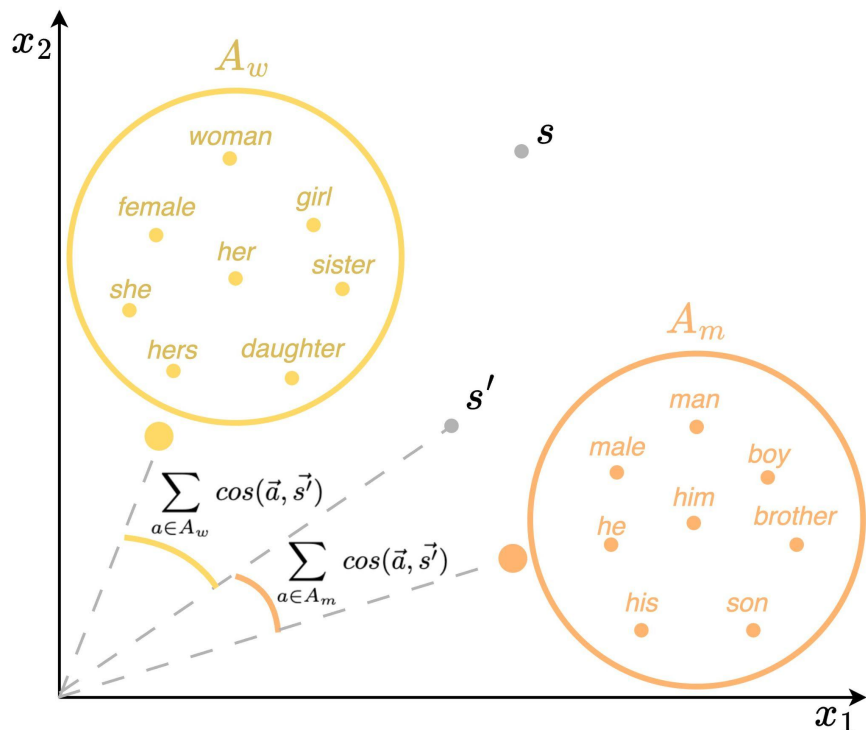
Men:

*s = And I was **going**, hey, it's cold outside...*

Women:

*s' = And I was **like**, hey, it's cold outside...*

Is this difference reflected in LLM embeddings?



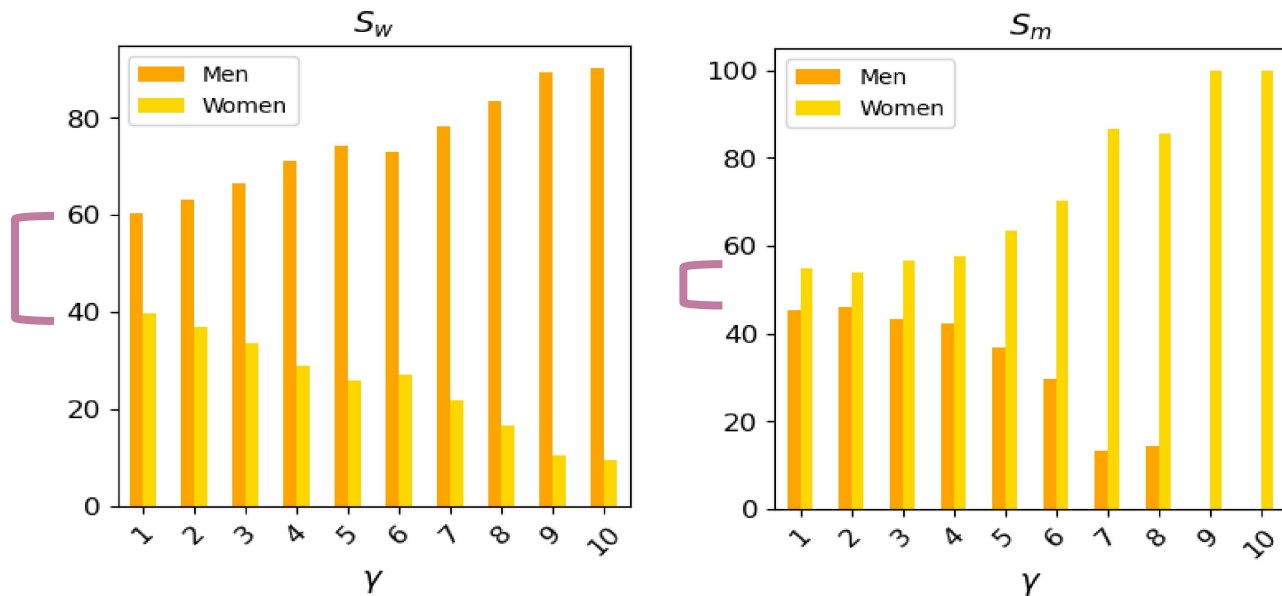
Men:

$s = \text{And I was } \textbf{going}, \text{ hey, it's cold outside...}$

Women:

$s' = \text{And I was } \textbf{like}, \text{ hey, it's cold outside...}$

Yes. Women have a **less stable/robust** embedding representation than men.



Men:

$s = \text{And I was } \textbf{going}, \text{ hey, it's cold outside...}$

Women:

$s' = \text{And I was } \textbf{like}, \text{ hey, it's cold outside...}$

The **use** of these masculine discourse terms is associated with **economic rewards**.

Topic N	Topic M	r	Topic N Word List	Topic N Categories	Topic M Word List	Topic M Categories
Topic 11	Topic 54	0.11	data, new, technology, public, bill, theory, science, system, security, article	Content - Technology/Political \$\$\$	get, like, know, right, people, going, podcast, make, want, one	Discourse (Men)
	Topic 62	-0.20			like, know, really, going, people, want, think, get, things, life	Discourse (Women)
Topic 12	Topic 54	0.24	business, money, company, market, buy, right, million, companies, pay, sell	Content - Business \$\$\$	get, like, know, right, people, going, podcast, make, want, one	Discourse (Men)
Topic 79	Topic 60	0.18	game, games, play, playing, like, played, nintendo, video, fun, switch	Content - Video Games	going, know, think, get, got, one, really, good, well, yeah	Discourse (Men)
	Topic 62	-0.13			like, know, really, going, people, want, think, get, things, life	Discourse (Women)

Men:

$s = \text{And I was } \textbf{going}, \text{ hey, it's cold outside...}$

Women:

$s' = \text{And I was } \textbf{like}, \text{ hey, it's cold outside...}$

So this is a **masculine default:**



**(i) a cultural
context**

**primarily
western,
English-
speaking
culture**



**(ii) a masculine
behavior**

**masculine
discourse
words**



**(iii) a reward for
the behavior**

**more stable
LLM
embeddings**



**better LLM
performance
on topics w/**

**economic
rewards \$\$\$**

A question for you...

**Why does it matter if you have to
“talk like a man” to get access to
information w/ economic rewards?**
\$\$\$

Men: $s = \text{And I was going, hey, it's cold outside...}$

Women: $s' = \text{And I was like, hey, it's cold outside...}$

**For all the details,
check out the paper!**

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