

Narrative Paths and Negotiation of Power in Birth Stories

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Content Warning

We're about to look at medical data that discusses **pregnancy** and **childbirth**.

These stories are sometimes graphic, sad, and/or traumatic.

For the privacy of the authors, all examples have been **paraphrased**.

Birth Stories

- Detailed personal narratives of giving birth
- Shared throughout history, now very popular (but under-studied) online
- Through stories, as a community, postpartum people can
 - share information
 - re-work trauma
 - resist surveillance
 - re-negotiate power
 - make sense of how their story fits into a common narrative structure

Why birth stories?

- In the U.S., rates of pregnancy-related deaths and complications are rising but many of these are **potentially preventable**.
- Postpartum depression affects 6-13% of people after childbirth, but it can be **prevented or mitigated** by early diagnosis and emotional support during and after pregnancy.



Reddit Birth Stories: Post Titles

- ❖ Fiona's Birth Story: The best laid plans go awry? Long read
- ❖ Thomas Berry Birth Story (Planned C-Section w/Complications)
- ❖ Joseph Jones Birth Story - (planned for natural birth, got an ER c-section)
- ❖ Emily Rose's Birth Story
- ❖ My birth story! [home, unmedicated, midwife-assisted water-birth]
- ❖ I gave birth! Here's a very long birth story for anyone interested: pitocin + epi, and a few unexpected things pp
- ❖ Damian's Homebirth Story!
- ❖ Alice's birth story. (long, didn't go as planned)
- ❖ Finally wrote my birth story. Hello to Jonathon!
- ❖ Crystal's birth story... With the funniest ending!
- ❖ DJ's birth story - severe pre-e followed by early induction



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"I'll begin just by saying that this subreddit has taught me so much in preparation for my first birth. I gained a lot of insight into other people's experiences, and I loved reading all the stories, whether positive or negative. I hope that sharing my story helps someone in the same way.

"It was 1AM, April 5th. I was experiencing some light cramping and couldn't fall asleep. This was pretty normal since 39 weeks, so I wasn't worried. My husband woke up and was rubbing my back when I felt a pop. I told my husband, and he thought it was just my back cracking, but I realized that it was my water breaking. I told my husband that it looks like it's time to go to the hospital! It was 3:30AM at that point.

"We headed to the hospital and got admitted. The nurse checked me, which was extremely painful, to the point that I wanted to cry. She said that I wasn't even one centimeter dilated, which didn't surprise me because I was supposed to be induced on April 8th. They got me started on pitocin to help start contractions and moved me to the delivery room at 4:45AM..."

Research Questions

Using the stories shared in this community:

1. Is it possible to model this community's shared understanding of *normal* and *outlier* sequences of events and **narrative patterns**?
2. Is it possible to model this community's shared understanding of **power hierarchies**?

Reddit Birth Stories: Limitations

- Only “happy endings” with no lost pregnancies
- Skew towards **home** births and **unmedicated** births
- No explicit/verified demographic information...
- ...but the authors generally
 - write in **English**
 - describe experiences in the **U.S.** and **U.K.**
 - have access to **Reddit**

Reddit Birth Stories: Ethical Tensions

- Research utility and reproducibility **vs** privacy
- Author privacy **vs** author credit
- Personal information **vs** public forum
- Bringing attention to undervalued voices **vs** respecting original intent
- Rights of author **vs** rights of baby

Our decisions for this dataset

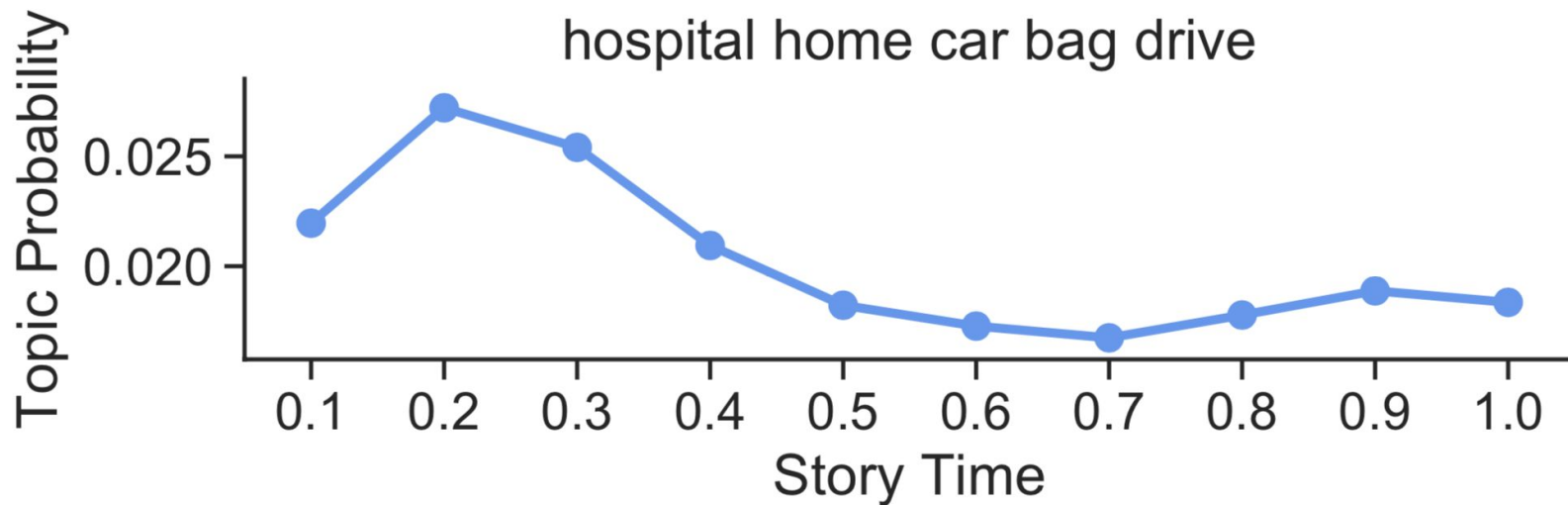
- Paraphrase all examples
- Release collection processes but do not release raw data

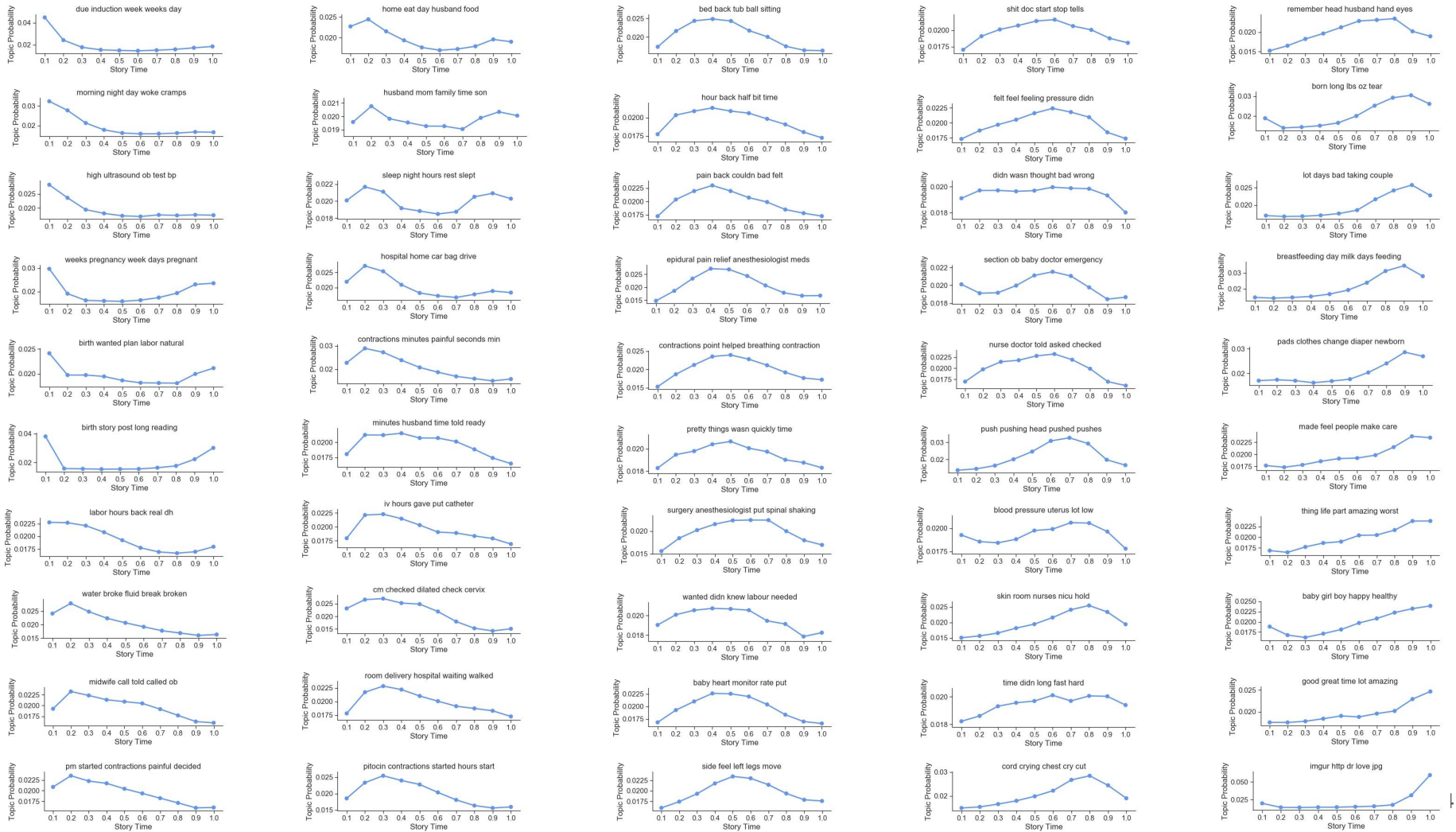
Narrative Patterns: Topics Over Time

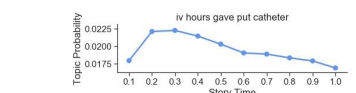
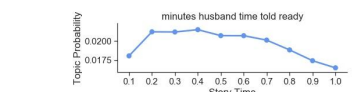
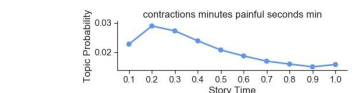
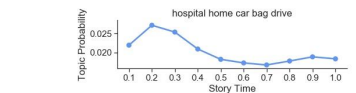
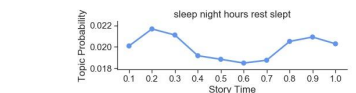
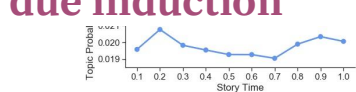
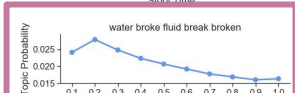
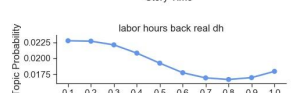
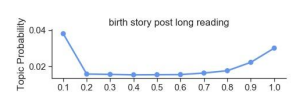
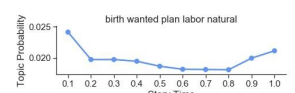
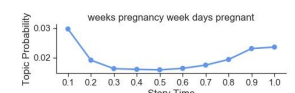
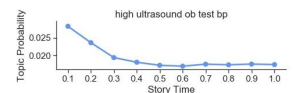
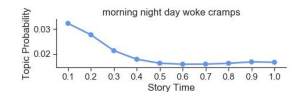
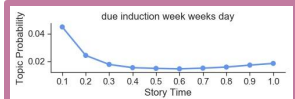
Learning Topics

- Train a latent Dirichlet allocation (LDA) topic model on the stories
- “Topics” can be thought of as themes, discourses, or events
- Each “topic” is represented by a probability distribution over words
- Each section of text is represented by a probability distribution over topics

Narrative Patterns: Topics Over Time



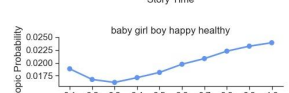
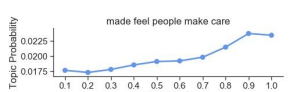
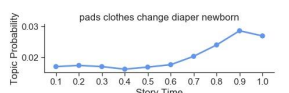
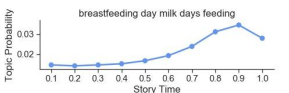
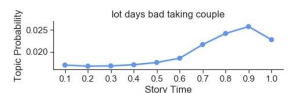
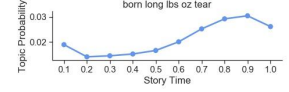
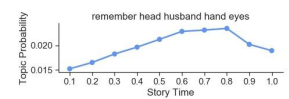
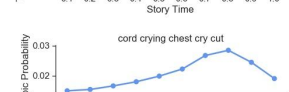
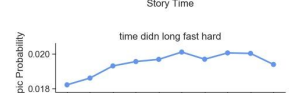
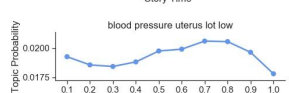
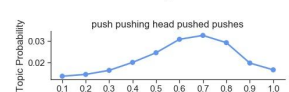
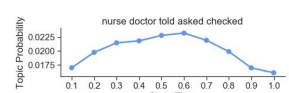
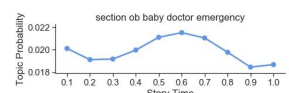
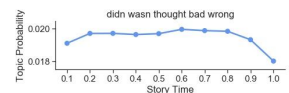
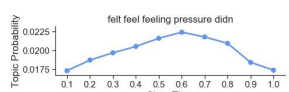
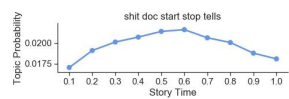
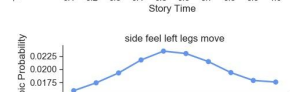
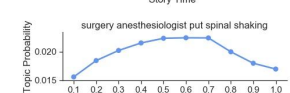
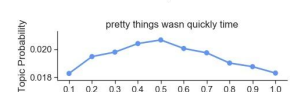
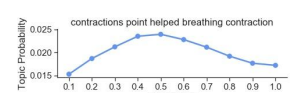
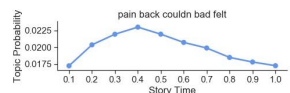
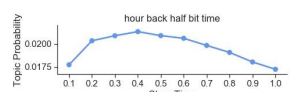
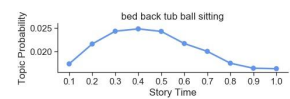


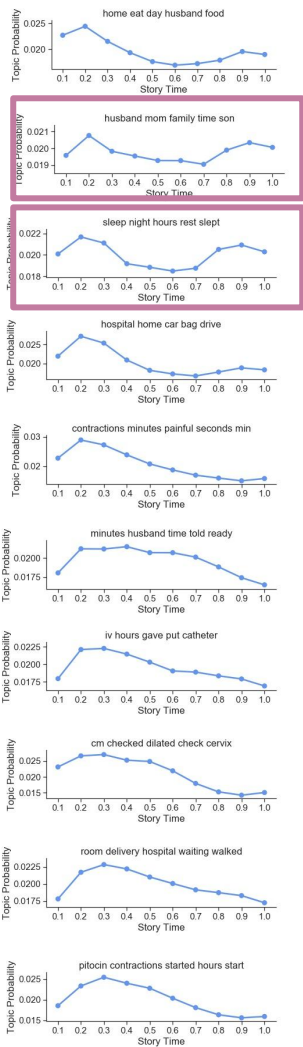
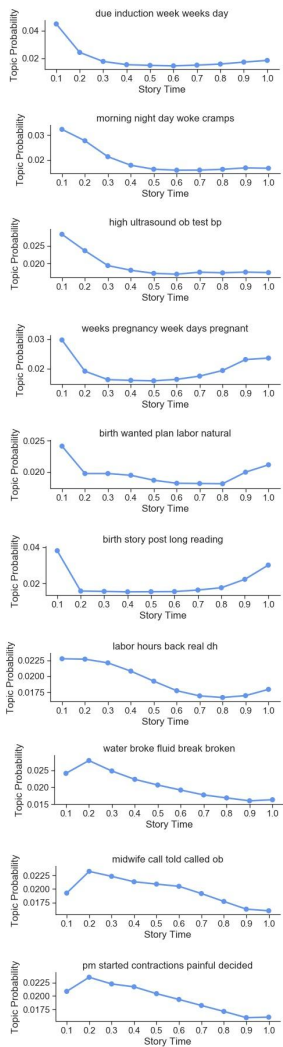


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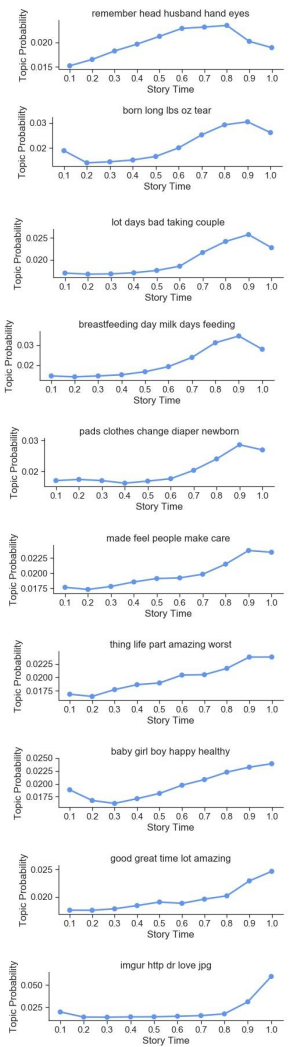
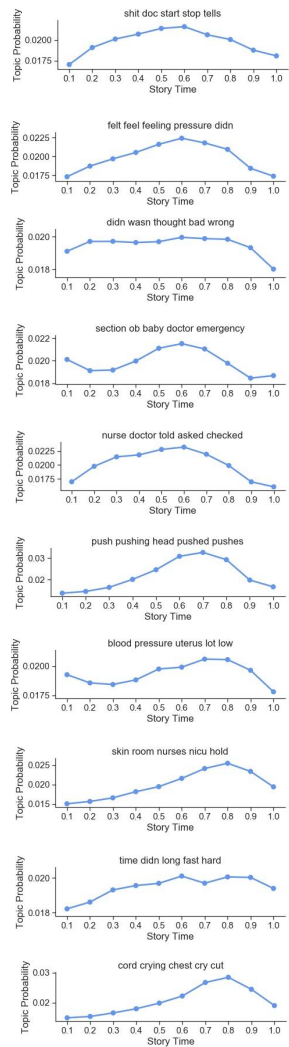
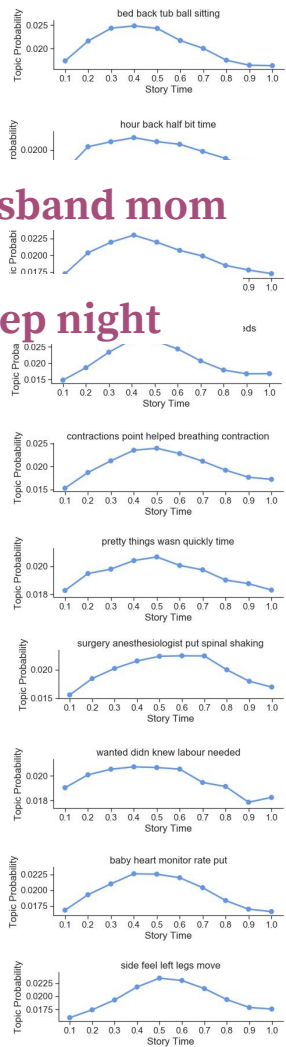
water broke

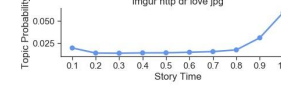
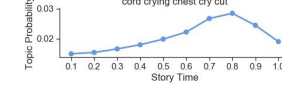
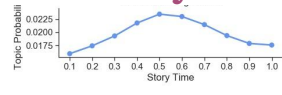
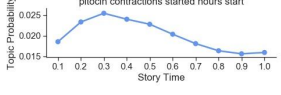
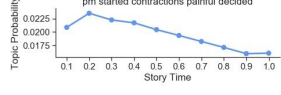
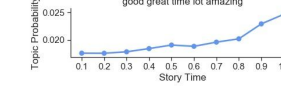
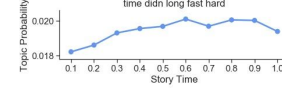
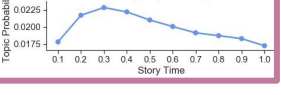
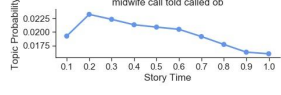
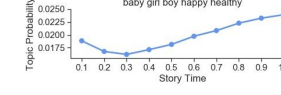
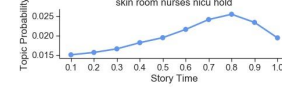
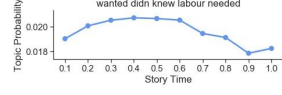
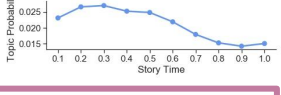
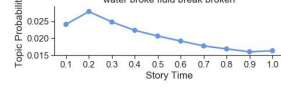
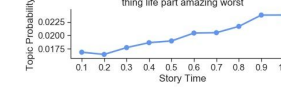
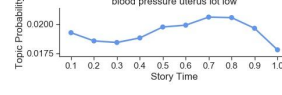
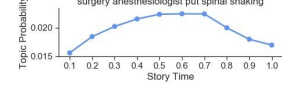
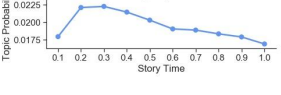
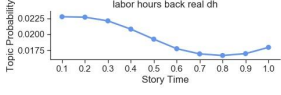
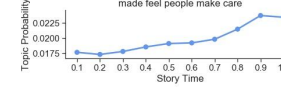
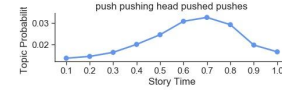
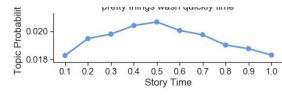
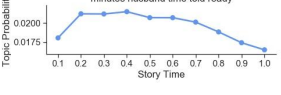
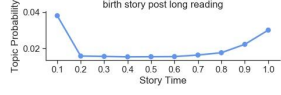
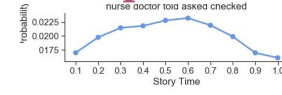
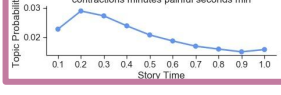
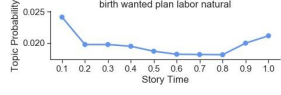
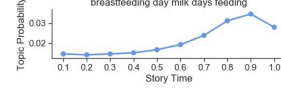
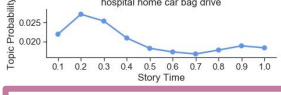
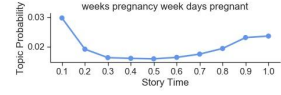
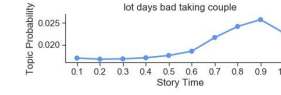
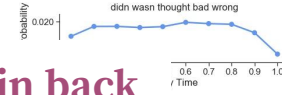
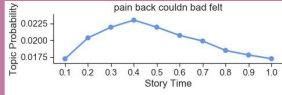
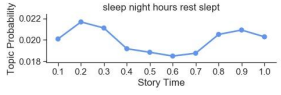
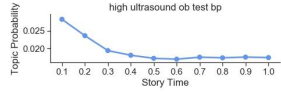
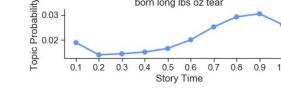
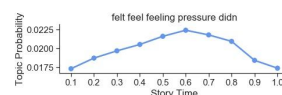
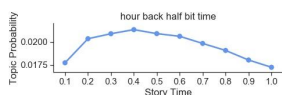
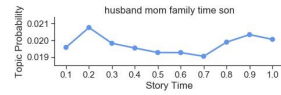
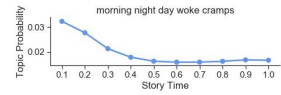
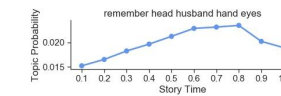
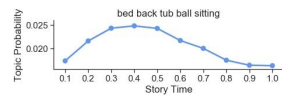
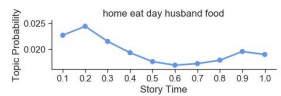
midwife call





husband mom sleep night

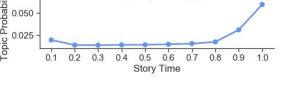
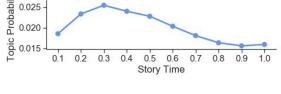
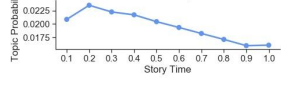
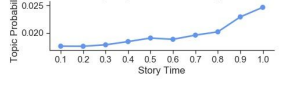
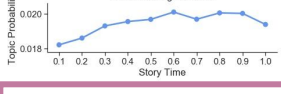
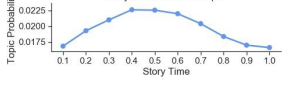
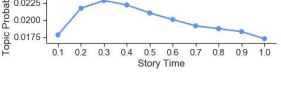
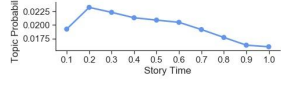
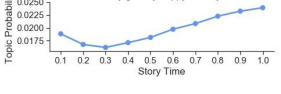
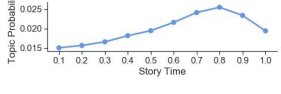
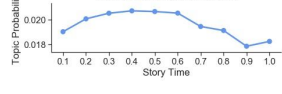
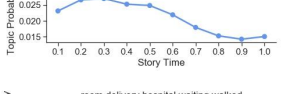
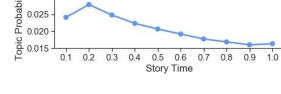
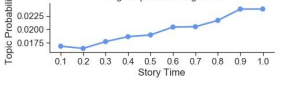
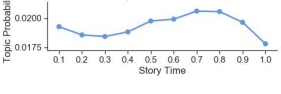
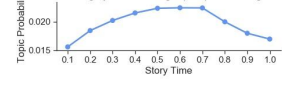
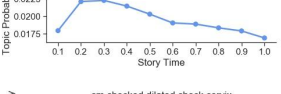
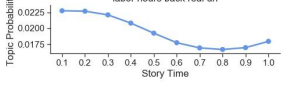
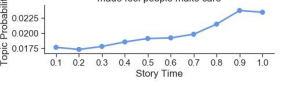
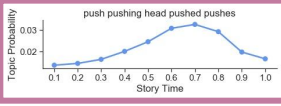
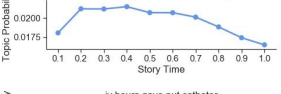
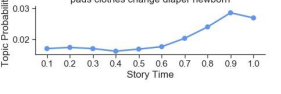
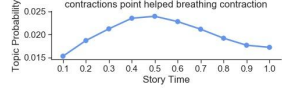
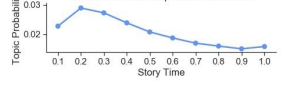
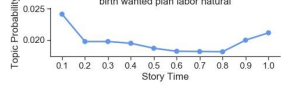
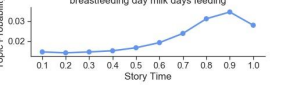
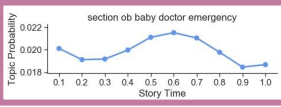
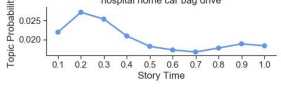
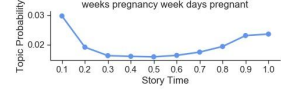
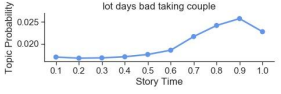
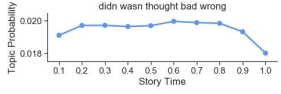
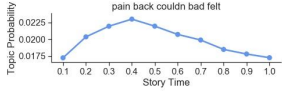
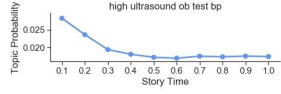
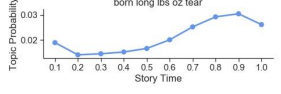
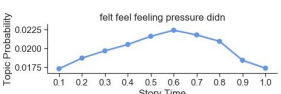
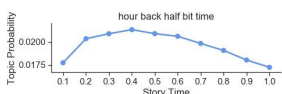
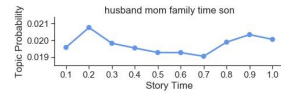
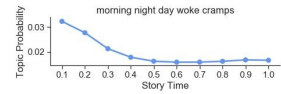
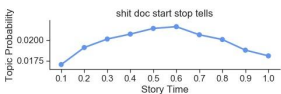
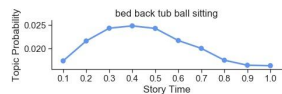
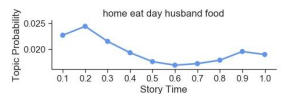
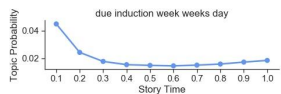




pain back
epidural pain

contractions minutes

room delivery

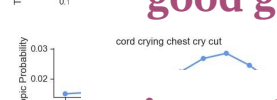
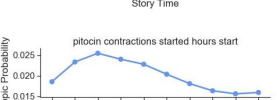
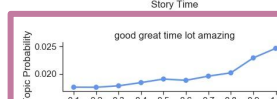
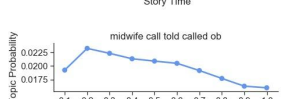
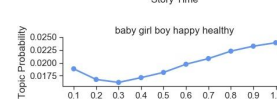
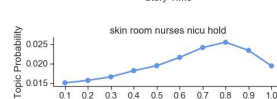
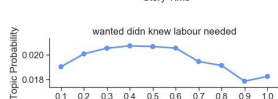
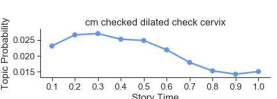
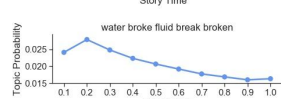
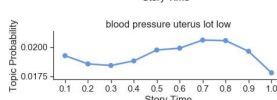
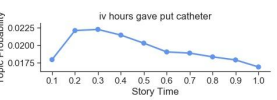
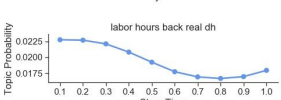
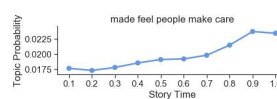
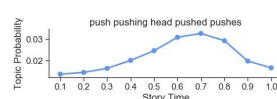
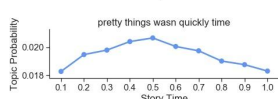
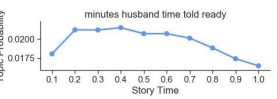
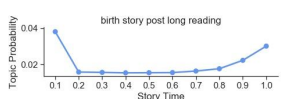
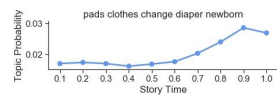
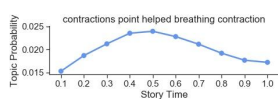
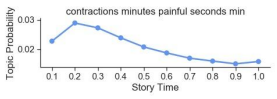
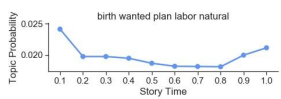
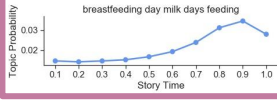
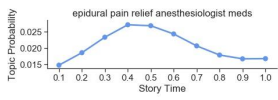
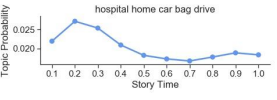
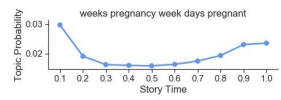
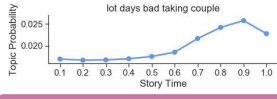
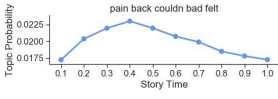
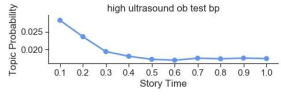
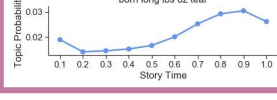
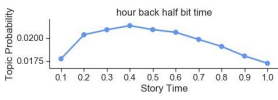
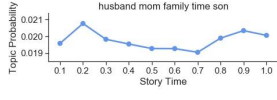
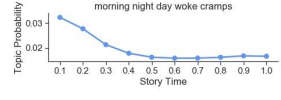
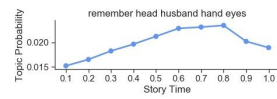
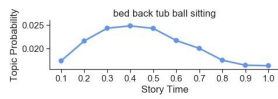
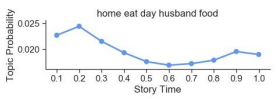


section ob

push pushing

cord crying

}



born long

breastfeeding day

good great

imgur http

I'll begin just by saying that this subreddit has taught me so much in preparation for my first birth. I gained a lot of insight into other people's experiences, and I loved reading all the stories, whether positive or negative. I hope that sharing my story helps someone in the same way.

It was 1am, April 5th. I was experiencing some light cramping and couldn't fall asleep. This was pretty normal since 39 weeks, so I wasn't worried. My husband woke up and was rubbing my back when I felt a pop. I told my husband, and he thought it was just my back cracking, but I realized that it was my water breaking. I told my husband that it looks like it's time to go to the hospital! It was 3:30am at that point.

We headed to the hospital and got admitted. The nurse checked me, which was extremely painful, to the point that I wanted to cry. She said that I'm not even a centimeter dilated, which didn't surprise me because I was supposed to be induced on April 8th. They got me started on pitocin to begin contractions and moved me to the Labor and Delivery room at 4:45am.

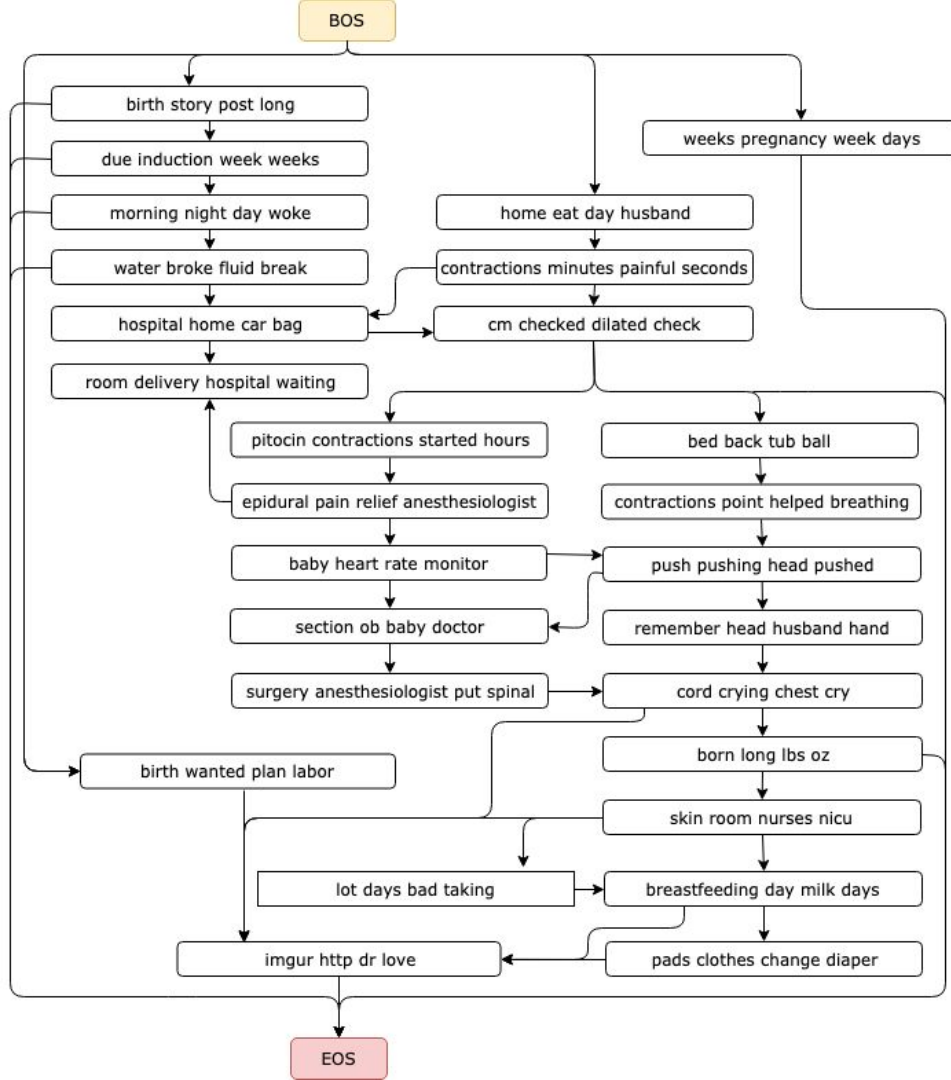
birth story post long

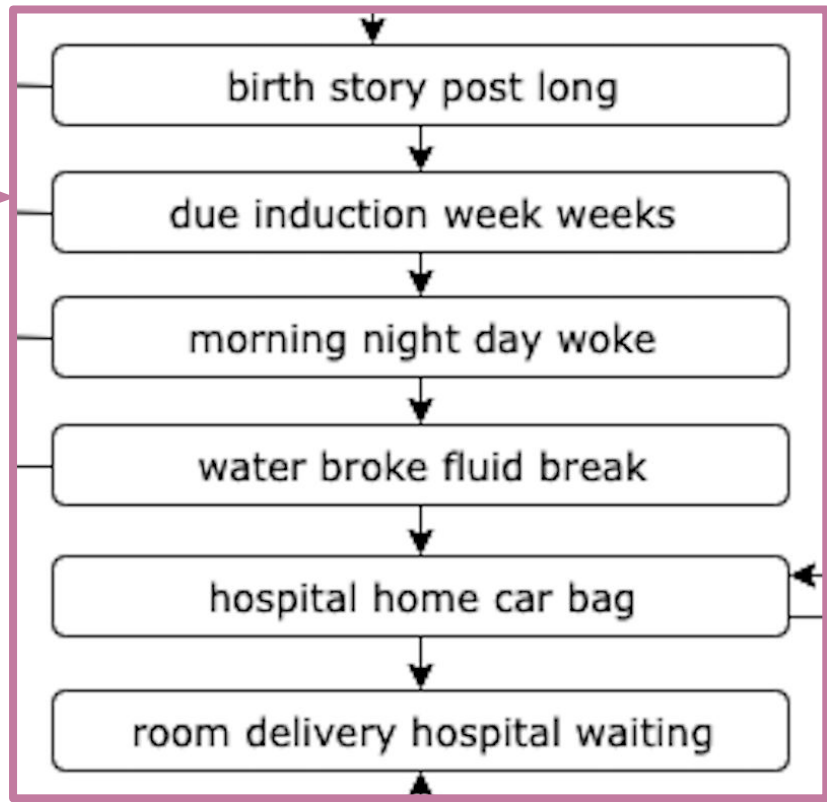
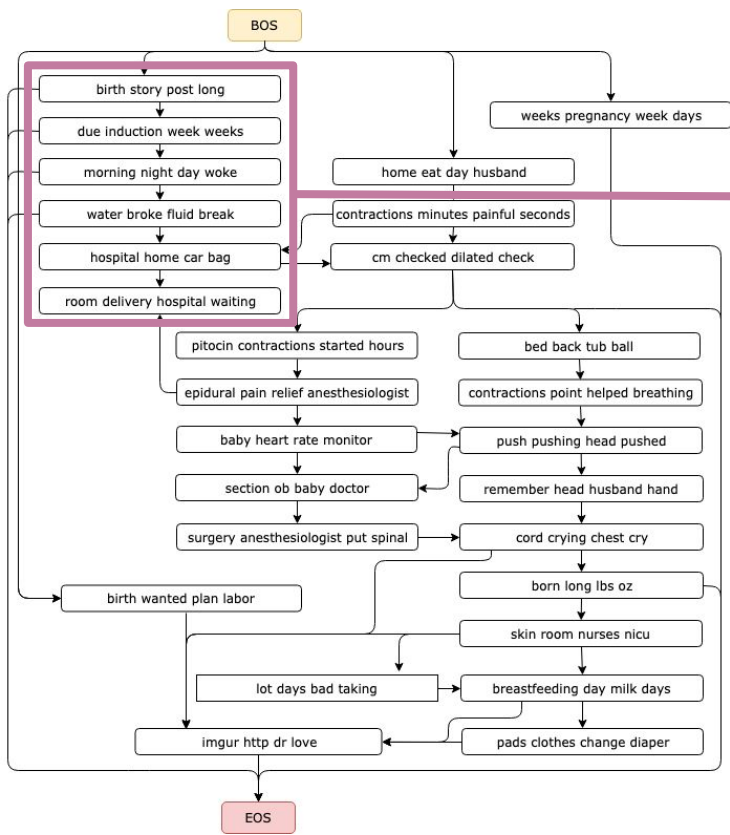


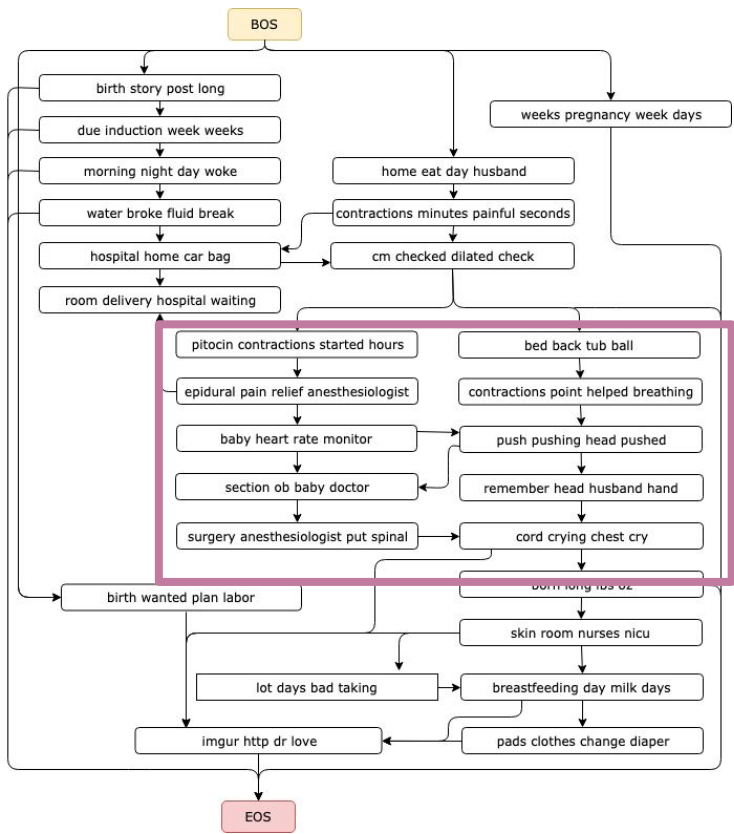
water broke fluid break

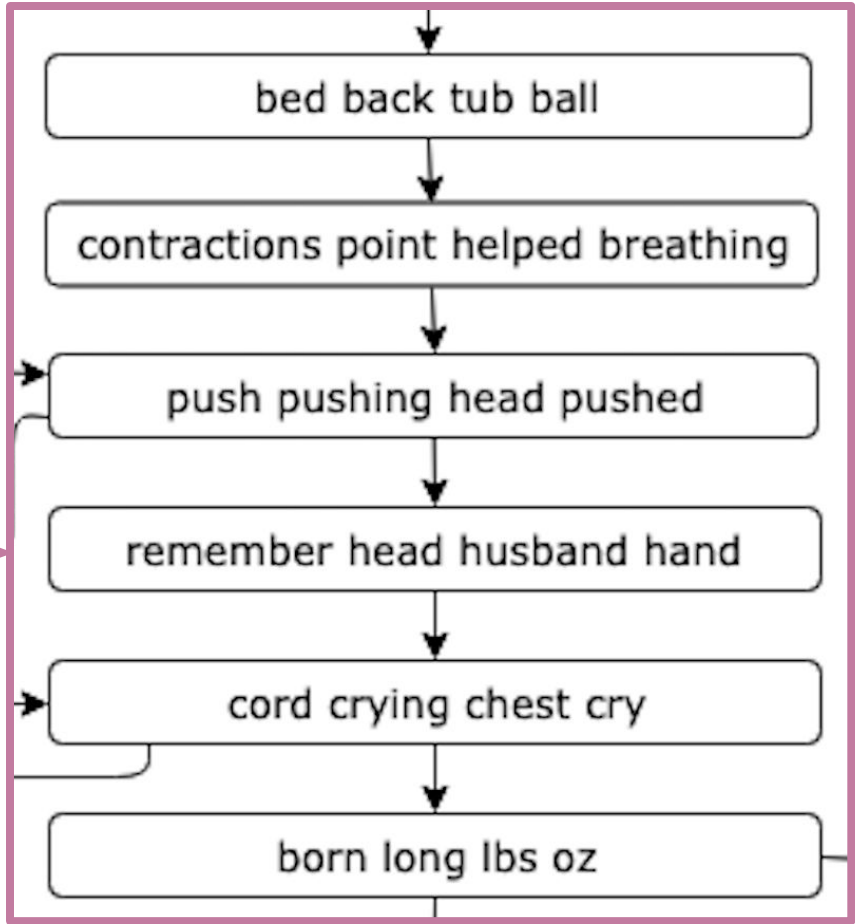
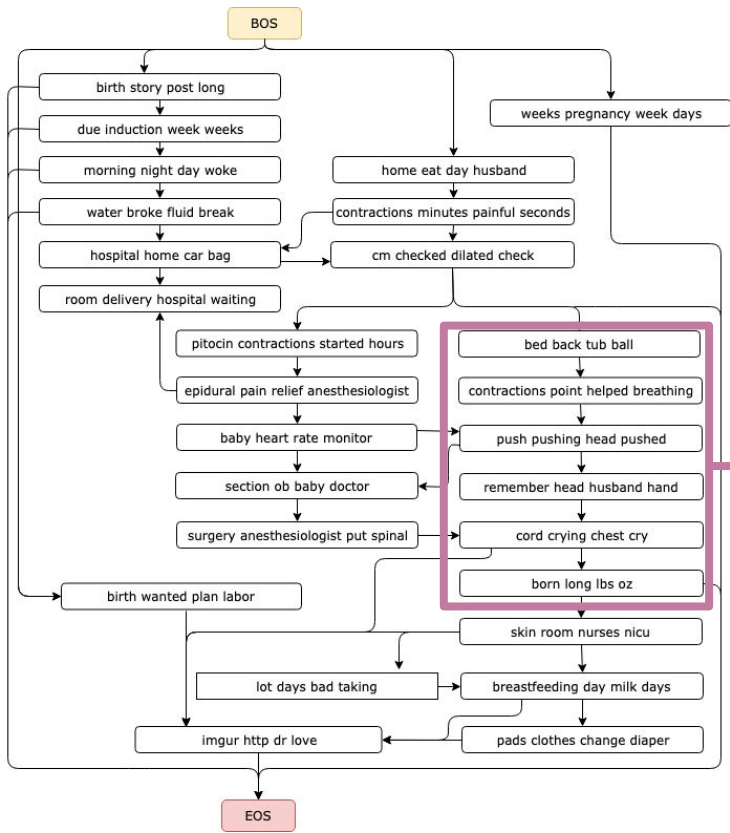


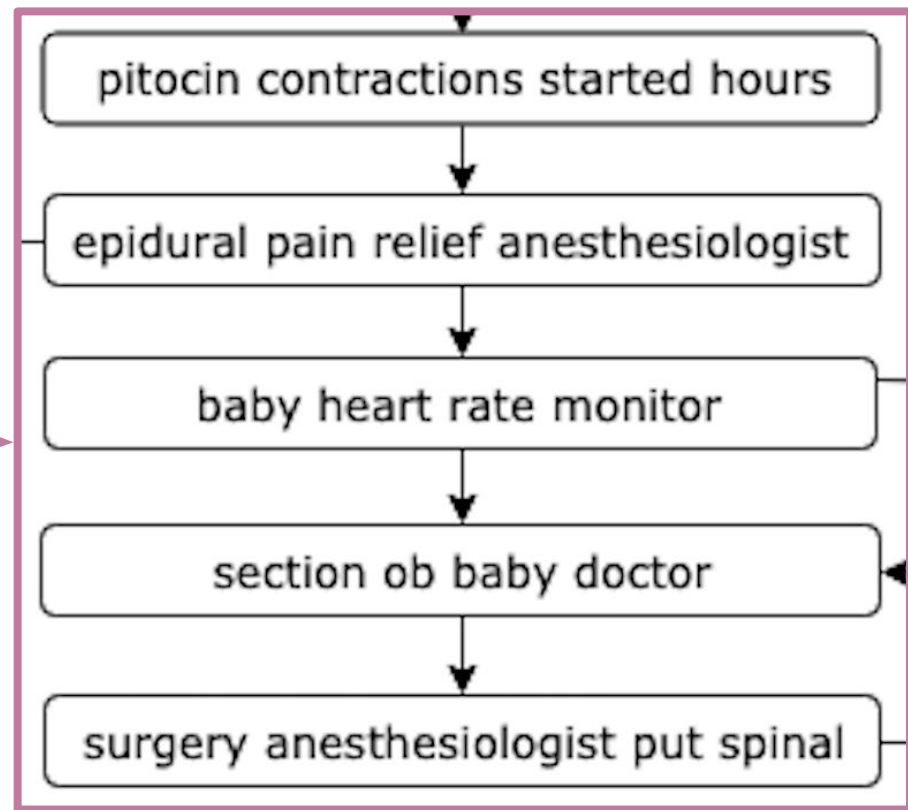
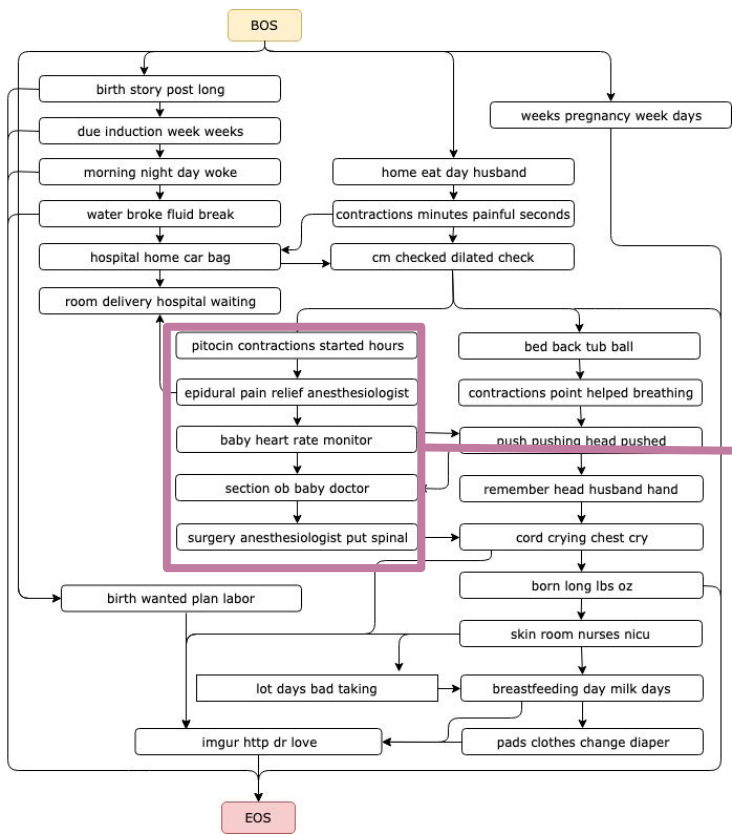
cm check dilated check











Highest Probability	Bigram	Lowest Probability	Bigram
-34.15	positive induction	-35.88	post partum
-34.38	positive hospital	-35.90	unplanned c
-34.51	story ftm	-35.93	baby birth
-34.53	positive medicated	-35.99	traumatic birth
-34.63	med free	-36.02	story baby
-34.67	story long	-36.04	positive birth
-34.67	story finally	-36.09	birth story
-34.71	hospital birth	-36.14	pp advice
-34.82	story weeks	-36.15	home birth
-34.83	weeks pp	-36.18	natural birth
-34.86	hour labor	-36.19	induction epidural
-34.92	failed induction	-36.23	emergency c
-34.94	vaginal delivery	-36.30	belated birth
-34.99	story hospital	-36.41	positive unmedicated
-35.03	vaginal birth	-36.42	story plus
-35.07	baby tax	-36.43	slightly traumatic
-35.07	super positive	-36.47	c section
-35.08	super long	-36.49	happy ending
-35.22	mostly positive	-36.85	trigger warning
-35.24	late birth	-36.86	long birth

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(Dis)Empowerment

- 1) "I managed to not take pitocin, and I'm glad that I felt some of the discomfort of pushing. It was kinda empowering and I'm proud of what I did!"
- 2) "Nothing about the birth was what I expected, but I felt empowered to have had a natural birth and mostly without the assistance of my doctor!"
- 3) "The nurse wanted to monitor the baby but honestly, it really felt so empowering to say no to something. She backed down after I said that and actually was a great nurse."

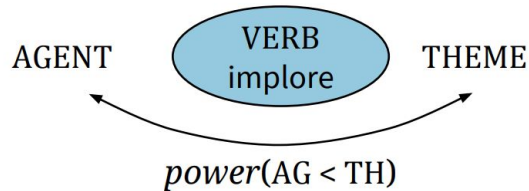
(Dis)Empowerment: Personas

Persona	Strings	Total Mentions	Stories Containing Mentions	Average Mentions per Story
Author	I, me, myself	210,795	2,846	74.0
We	we, us, ourselves	24,757	2,764	8.7
Baby	baby, son, daughter	14,309	2,668	5.0
Doctor	doctor, dr, doc, ob, obgyn, gynecologist, physician	10,025	2,262	3.5
Partner	partner, husband, wife	8,998	2,006	3.2
Nurse	nurse	7,080	2,012	2.5
Midwife	midwife	4,069	886	1.4
Family	mom, dad, mother, father, brother, sister	3,490	1,365	1.2
Anesthesiologist	anesthesiologist	1,398	876	0.5
Doula	doula	896	256	0.3

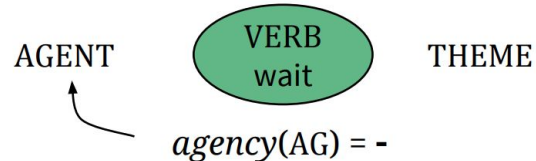
(Dis)Empowerment: Lexicon

Lexicon of verbs labeled with power and agency (Sap et al., 2017).

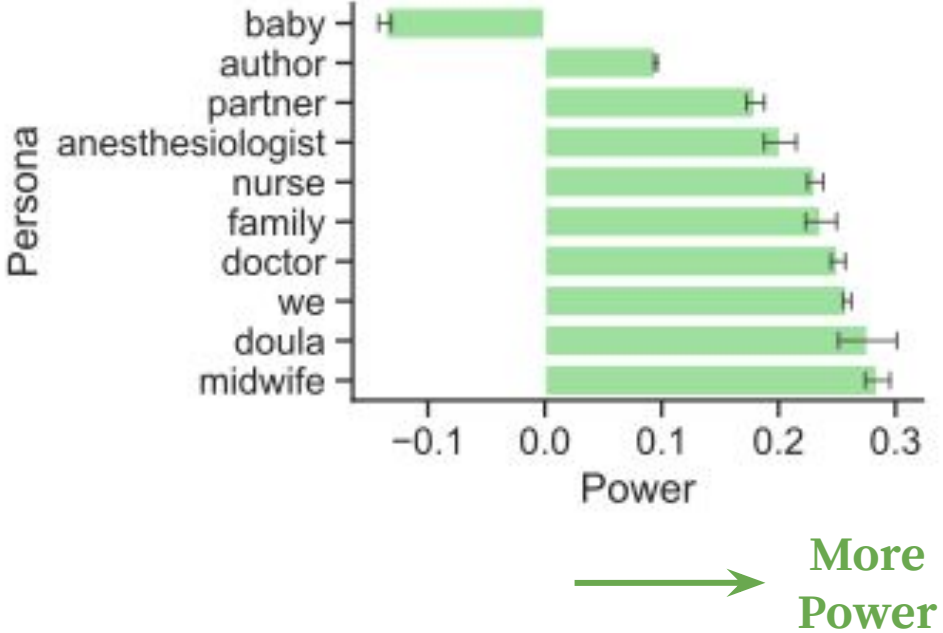
He **implored** the tribunal to show mercy.

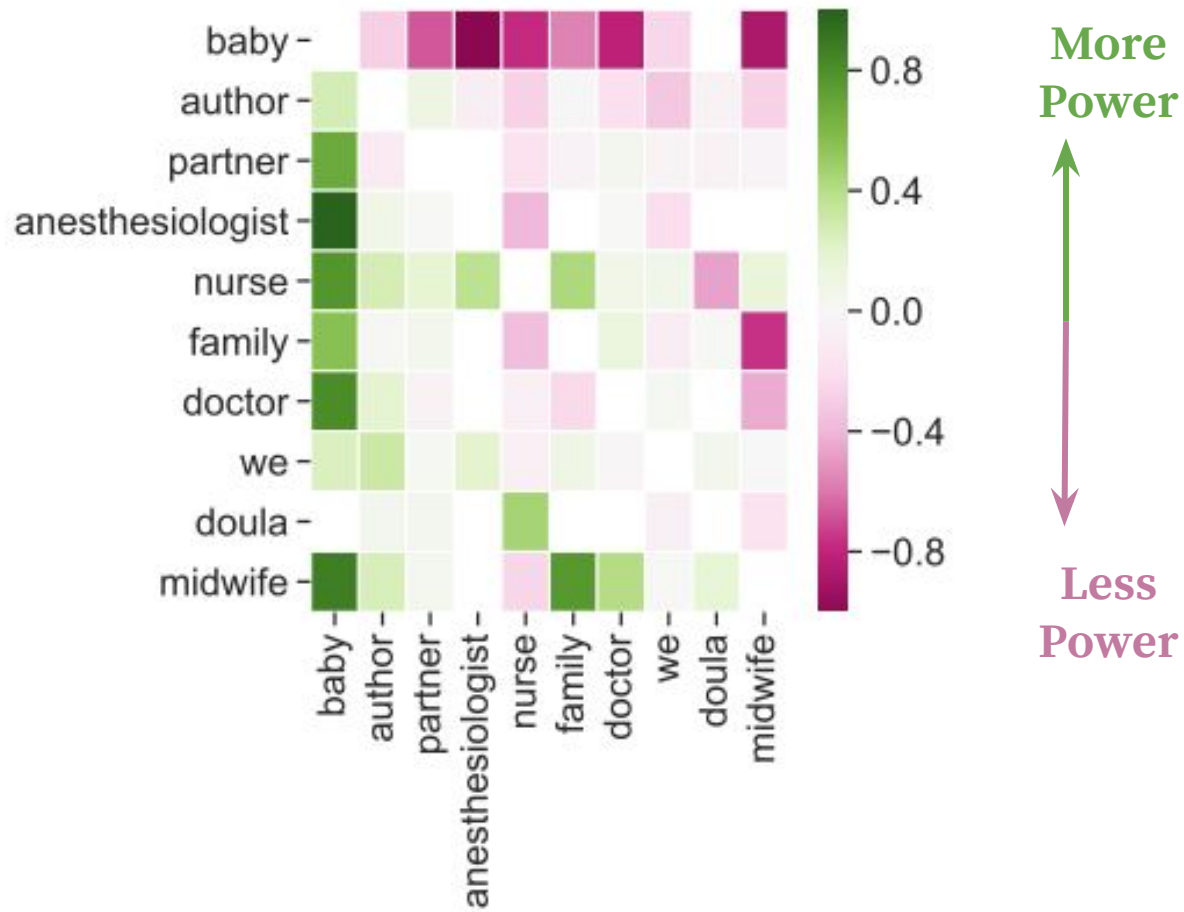


The princess **waited** for her prince.

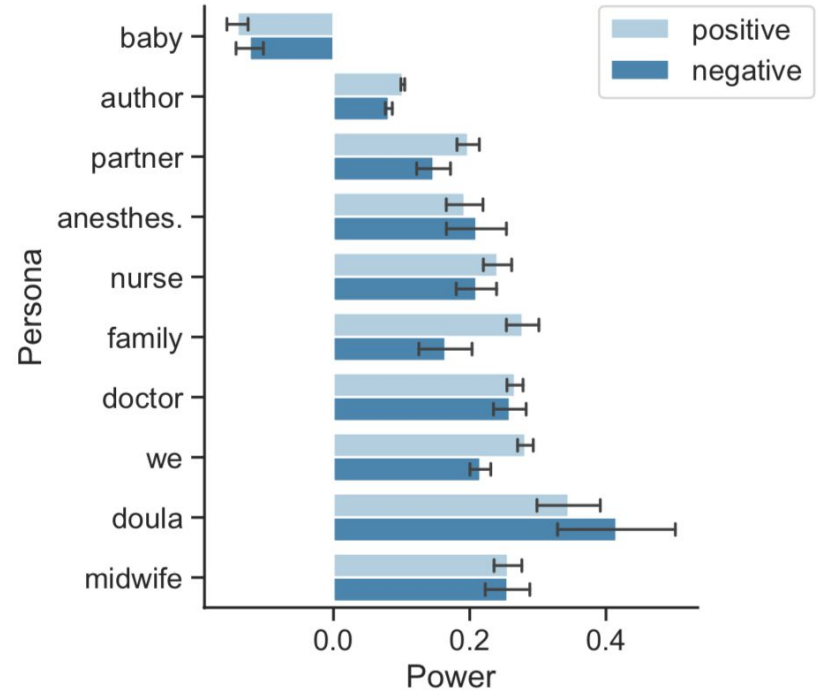
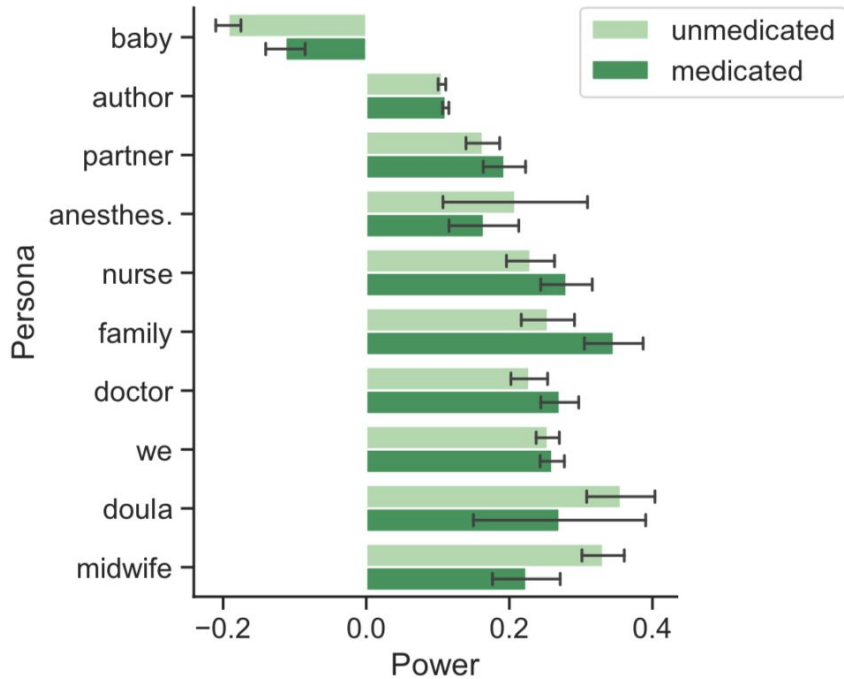


(Dis)Empowerment





(Dis)Empowerment: Narrative Framing



	Baby	Author	Doctor	Doula
do_subj	0.0129	get_subj - 0.0404	call_obj - 0.0760	call_obj - 0.1412
want_obj	0.0113	know_subj - 0.0219	check_subj - 0.0271	suggest_subj - 0.0357
get_subj	0.0110	start_subj - 0.0215	decide_subj - 0.0221	get_subj - 0.0306
start_subj	0.0081	do_subj - 0.0199	get_subj - 0.0159	hold_subj - 0.0144
drop_subj	0.0072	push_subj - 0.0123	do_subj - 0.0145	keep_subj - 0.0128
make_subj	0.0063	make_subj - 0.0070	show_subj - 0.0116	show_subj - 0.0122
turn_subj	0.0055	wake_subj - 0.0069	break_subj - 0.0105	remind_subj - 0.0117
show_subj	0.0027	keep_subj - 0.0065	give_subj - 0.0091	give_subj - 0.0101
enjoy_obj	0.0022	decide_subj - 0.0059	start_subj - 0.0091	start_subj - 0.0090
decide_subj	0.0021	end_subj - 0.0038	make_subj - 0.0088	make_subj - 0.0080
give_obj	-0.0053	get_obj - -0.0028	wait_subj - -0.0014	massage_subj - -0.0022
catch_obj	-0.0057	believe_subj - -0.0031	like_subj - -0.0014	cheer_subj - -0.0024
need_subj	-0.0072	wait_subj - -0.0034	mention_subj - -0.0026	fill_subj - -0.0025
feed_obj	-0.0076	lose_subj - -0.0035	reach_subj - -0.0029	recognize_subj - -0.0027
bring_obj	-0.0089	hear_subj - -0.0057	explain_subj - -0.0036	alarm_obj - -0.0028
put_obj	-0.0113	call_subj - -0.0069	offer_subj - -0.0039	warn_obj - -0.0028
deliver_obj	-0.0196	ask_subj - -0.0097	call_subj - -0.0089	join_subj - -0.0057
push_obj	-0.0240	need_subj - -0.0117	ask_subj - -0.0133	get_obj - -0.0141
hold_obj	-0.0306	check_obj - -0.0137	get_obj - -0.0136	ask_subj - -0.0171
get_obj	-0.0369	want_subj - -0.0266	want_subj - -0.0152	hire_obj - -0.0438

More Power



Less Power

- 1) "I had planned on a natural birth, had hired a doula, read books, all of those things. And here I was on a random Monday just going about my business when the baby decided to arrive. It took me a while to process all of it."

- 2) "The nurse said that if I wasn't more dilated by 12PM that she was going to start me on pitocin. I was scared about this happening, I had heard a lot about the cascading interventions that often happen in hospitals. That's why I hired a doula, so that I could have another point of view and someone to guide me so I could have this birth naturally."

Takeaways

We can use computational tools to model the shared **narrative patterns** and **power framing** in a community's set of birth stories.

We discovered sets of **diverging pathways**, found **outlier** stories labeled with terms of surprisal, trauma, and happy endings, and measured the authors framing of their own lack of **power** and surprising power of doulas.

