

Discovering Changes in Birthing Narratives During COVID-19

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Research Question:

RQ: How has the COVID-19 pandemic affected parents’ birthing experiences as reflected by birthing narratives posted to Reddit?

Motivation for the RQs

- COVID-19 led to restrictions on hospital procedures, affecting who could be present in the delivery room
- Applying Antoniak et al. (CSCW 2019)’s research on birthing narratives to pre/during pandemic datasets to discover changes between the two time periods

Data/Corpus Collection

- All posts (2009-2021) from 9 subreddits
- Subreddits: r/BabyBumps, r/beyondthebump, r/BirthStories, r/daddit, r/predaddit, r/Mommit, r/NewParents, r/InfertilityBabies

Data Statistics

- **5,397 stories, 4,484 pre- and 913 during COVID-19.**
- **Average story length** pre-COVID-19: **1427** words during COVID-19: **1182** words
- Number of words in **longest story: 6817**

Persona	N-Grams
Author	['i', 'me', 'myself']
We	['we', 'us', 'ourselves']
Baby	['baby', 'son', 'daughter']
Doctor	['doctor', 'dr', 'doc', 'ob', 'obgyn', 'gynecologist', 'physician']
Partner	['partner', 'husband', 'wife']
Nurse	['nurse']
Midwife	['midwife']
Family	['mom', 'dad', 'mother', 'father', 'sister', 'brother']
Anesthesiologist	['anesthesiologist']
Doula	['doula']

Methods

Corpus Cleaning

(following Antoniak et al.)

- 500+ words
- Filtered for titles containing n-grams “birth story,” “birth stories,” & “graduat”
- Prior to topic modeling: removed stop words, numbers, emojis & split stories into chunks to train model

Topic Modeling

- Topic probabilities over time
- Determined that 50 topics was ideal number for topic coherence
- Topic forecasting per topic after March 1, 2020; compared how predicted trends differed from actual results during COVID-19

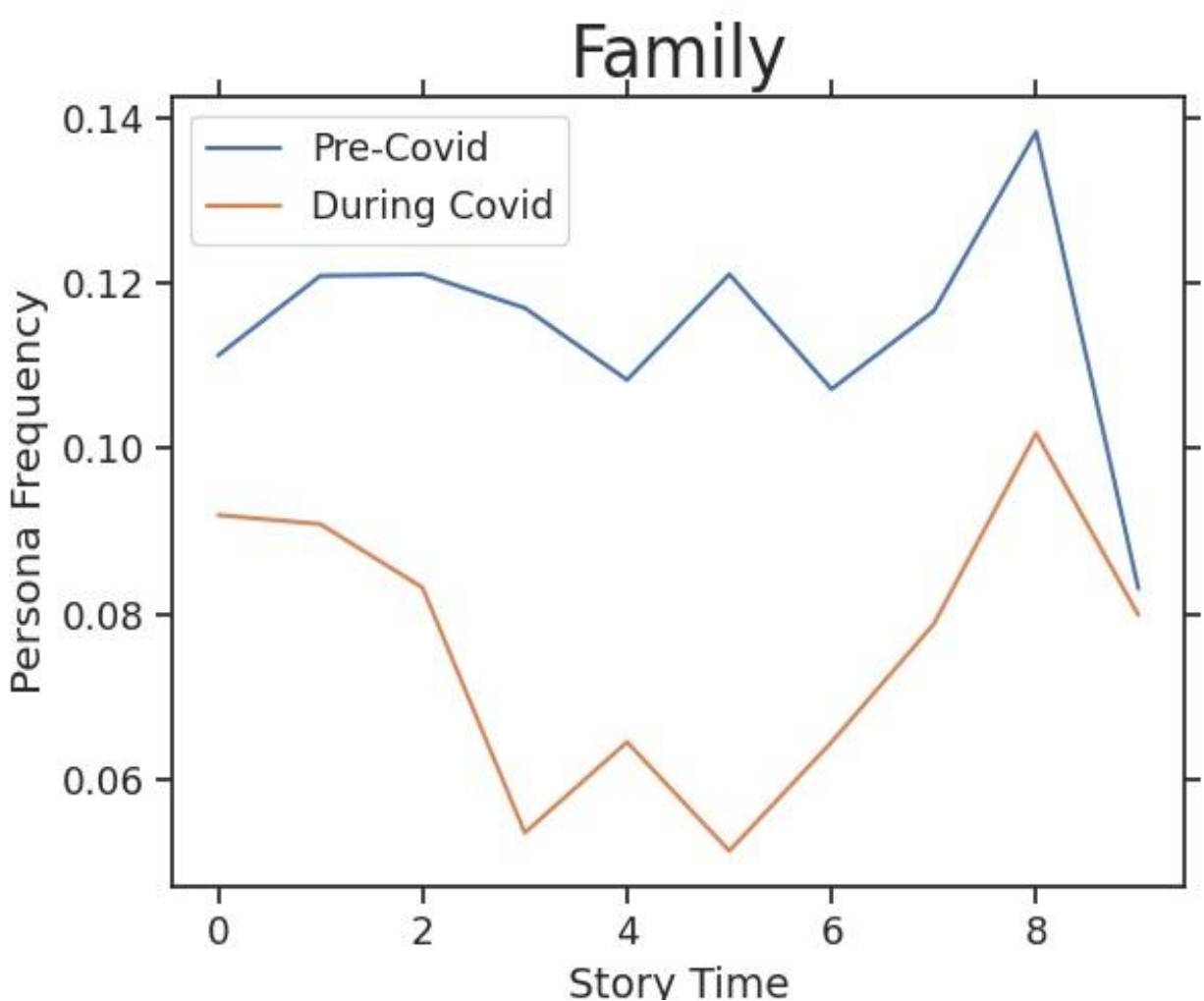
Personas

- Counted persona mentions per label
- Counted persona frequency over narrative time—average # of mentions per persona pre/during COVID-19

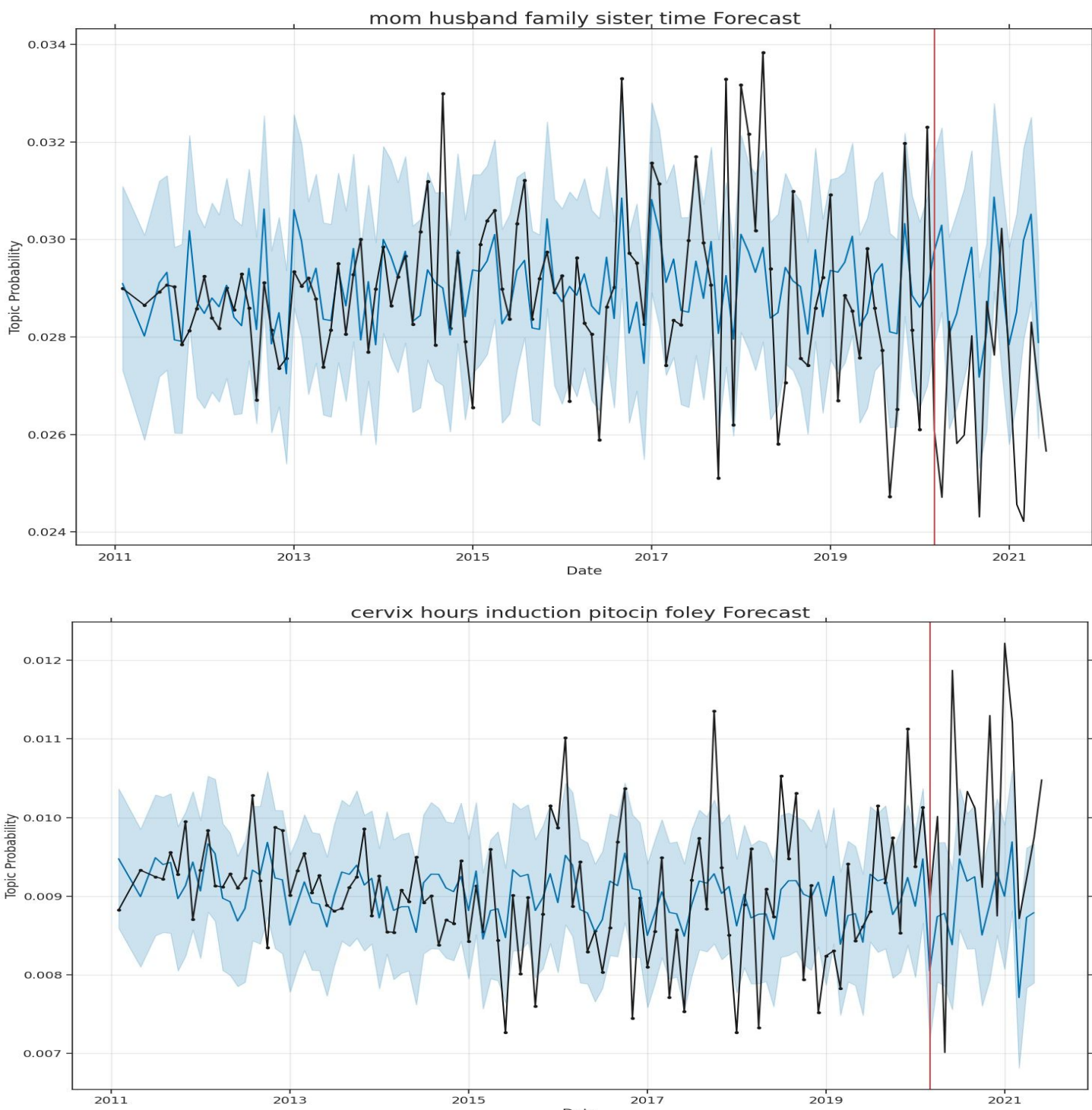
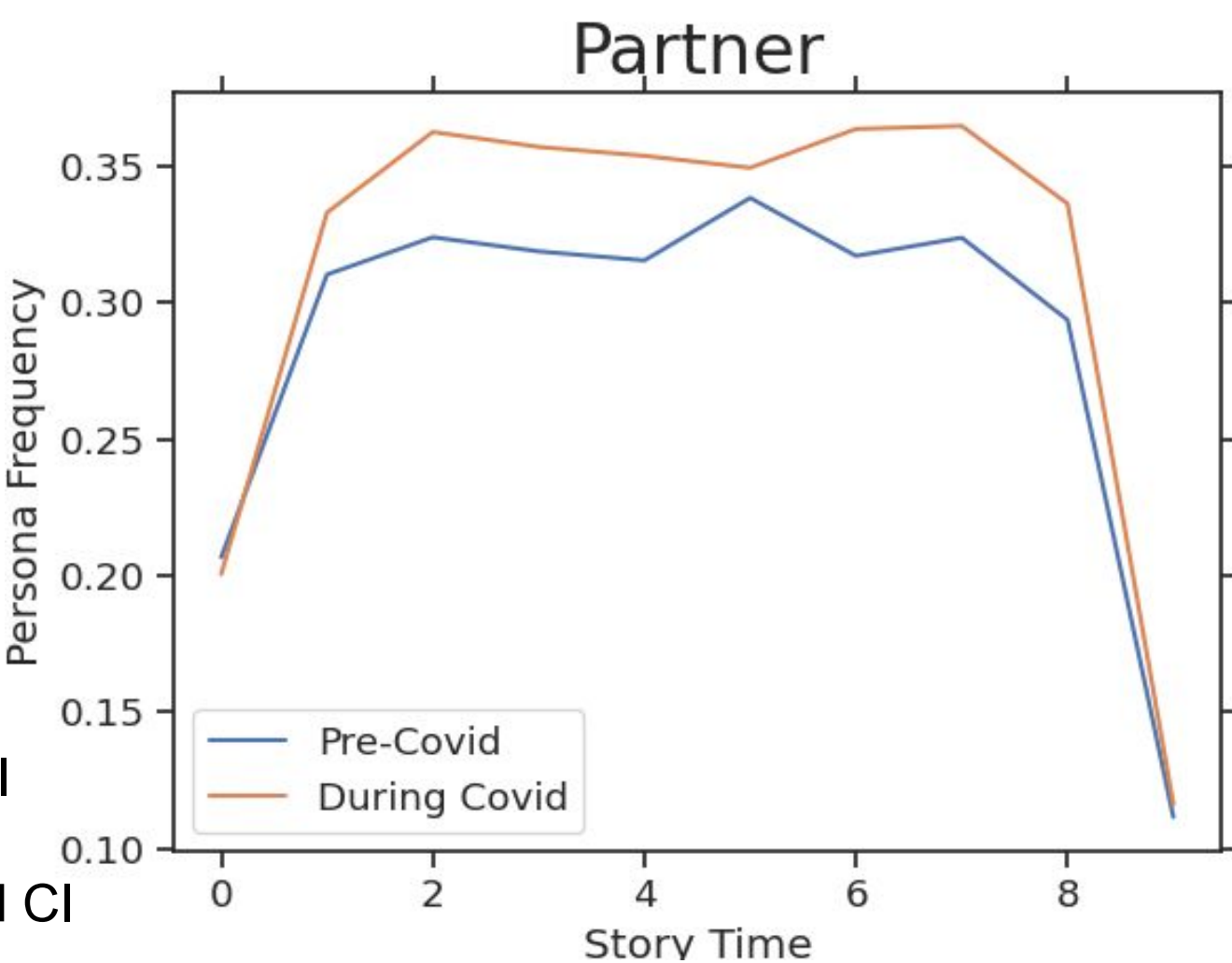
Statistical Analysis

- T-tests & Z-tests for statistical significance between pre/during COVID-19
- P-value significance cutoff of .05

Results



- Decline in “Family” persona presence
- “Family” topic actual probability below projected CI
- Increase in “Partner” persona presence
- “Induction” topic actual probability above projected CI



Conclusion

- Mentions of the “Family” persona had statistically significant differences at points in the narratives pre- vs. during COVID
- The differences between the predicted topics’ prevalence during COVID was significantly different than the topics’ observed prevalence

Next Steps

- Explore how these differences may be attributed to different hospital-related COVID-19 policies