

# Belief Decay or Persistence? A Mixed-method Study on Belief Movement Over Time (Supplementary Material)

## 0.1 Pilot Studies

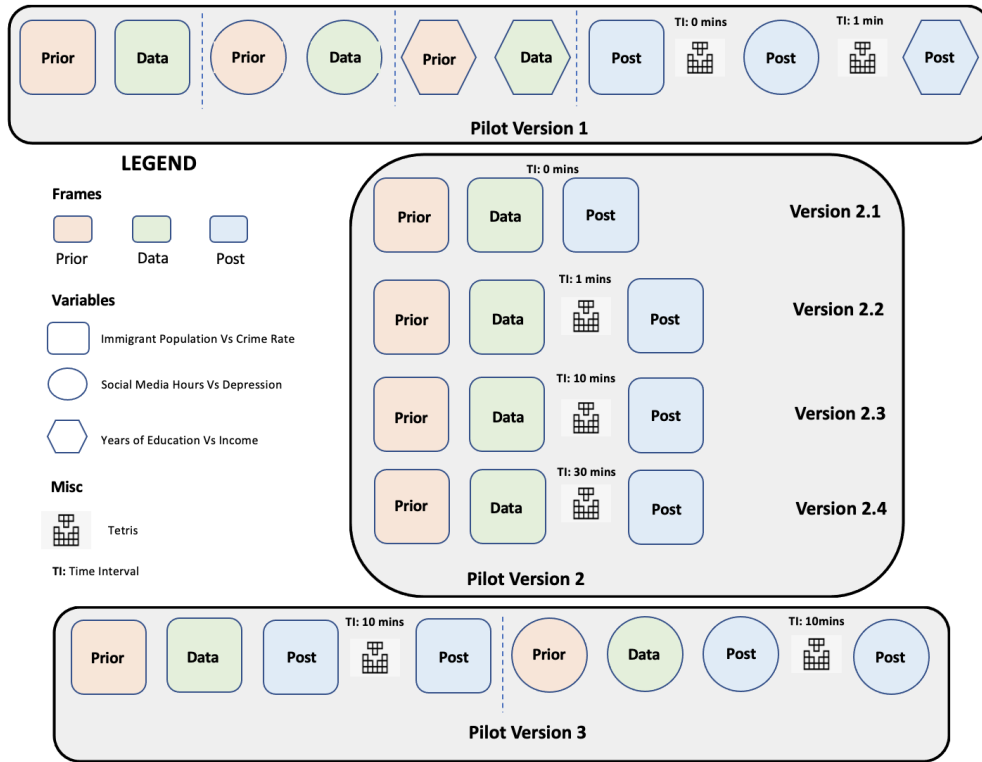


Figure 1: Sequence of pilot studies undertaken before the final study

Figure 1 presents the three pilot studies we undertook. In the first pilot study, we elicited participants' prior beliefs and showed them the corresponding data for all the datasets. Then at the end of the study, we elicited their posterior beliefs for all the datasets. This study helped us analyze the general comprehension of the participants for the given datasets as well as the feasibility of a design where posterior elicitations occur at the end. However, we noticed that it defeats the objective of having controlled time intervals between the data shown and the posterior elicitation. In the second pilot study, we tested the effect of various time intervals by having 4 sub-pilot studies. This helped us benchmark for various time intervals as well as the feasibility of a between-subject

design. However, a between-subject design does not allow for validating the belief movement for different timestamps as each participant perceives the data differently. In the third pilot study, we tried the 10-minute time interval using a within-subjects design for 2 datasets. This helped us find the optimal time-interval mark as 5-minute which was used in the final study. We chose the 5-minute interval based on the participant survey for the study as well as by comparing the movement for the 1-minute and the 10-minute time interval pilot study.

## 0.2 Qualitative Codes

Qualitative codes used for coding participants' elicited beliefs. Refer to the dataset provided on how these codes were integrated.

Qualitative Codes (Prior)	Categories
Direction	positive/negative/neutral/relationship but unspecified/NA
Source	research/news/cites studies/personal experience/NA
Confidence	strong/weak/NA
Interface difficulty	true/false

Qualitative Codes (Posterior (t=0))	Categories
Direction	positive/negative/neutral/NA
Factors	prior/data/other/NA
Confidence	strong/weak/NA
Unexpected/Manipulation/Rationalize	checkbox
Interface Difficulty	checkbox

Qualitative Codes Posterior (t=5)	Categories
Direction	positive/negative/neutral/NA
Factors	prior/data/other/NA
Confidence	strong/weak/NA
Time Interval Effect	strengthen/decay/made no impact/NA
Unexpected/Manipulation/Rationalize	checkbox
Interface Difficulty	true/false

Table 1: Qualitative Codes for Prior and Posterior ( $t = 0$  and  $t = 5$ ) Beliefs for participants.

## 0.3 Code and Dataset Availability

The code for the experiments, the qualitative database as well as the data collected can be found at: <https://github.com/shrey-gupta/belief-persistence-evis23>.