Supplementary material

A

M=0.2, std=0.05 (a=12.60, b=50.40)	M=0.2, std=0.1 (a=3.00, b=12.00)	M=0.2, std=0.15 (a=1.22, b=4.89)
M=0.8, std=0.05 (a=50.40, b=12.60)	M=0.8, std=0.1 (a=12.00, b=3.00)	M=0.8, std=0.15 (a=4.89, b=1.22)

B

M=0.2, std=0.05 (a=12.60, b=50.40)	M=0.2, std=0.15 (a=1.22, b=4.89)	M=0.2, std=0.25 (a=0.31, b=1.25)
M=0.5, std=0.05 (a=49.50, b=49.50)	M=0.5, std=0.15 (a=5.06, b=5.06)	M=0.5, std=0.25 (a=1.50, b=1.50)
M=0.8, std=0.05 (a=50.40, b=12.60)	M=0.8, std=0.15 (a=4.89, b=1.22)	M=0.8, std=0.25 (a=1.25, b=0.31)

C

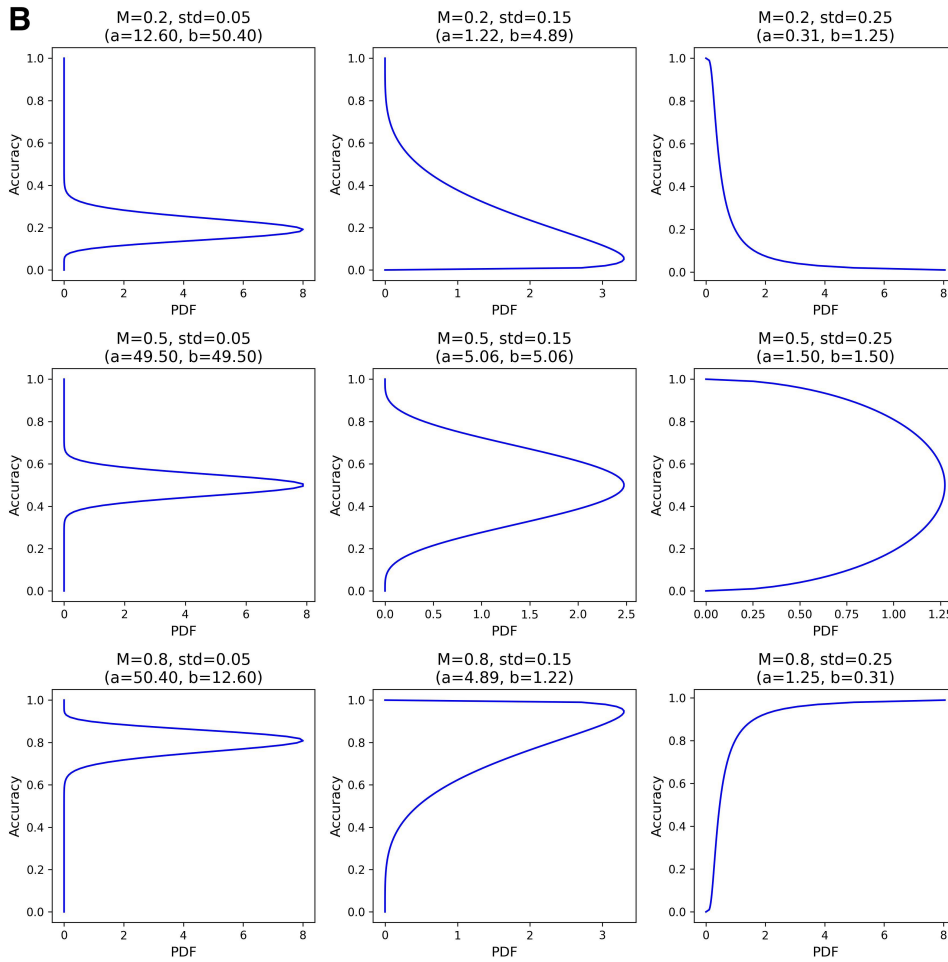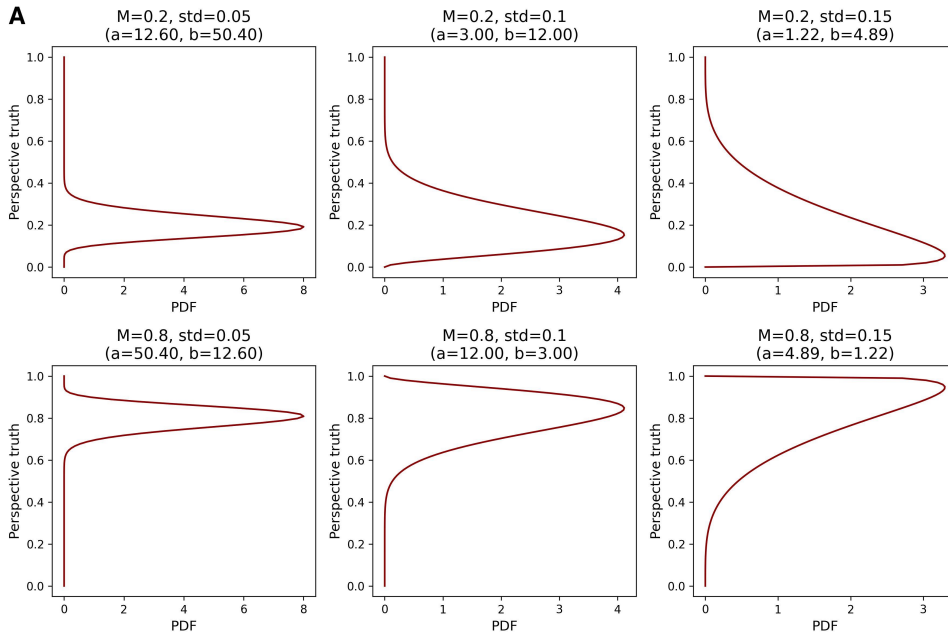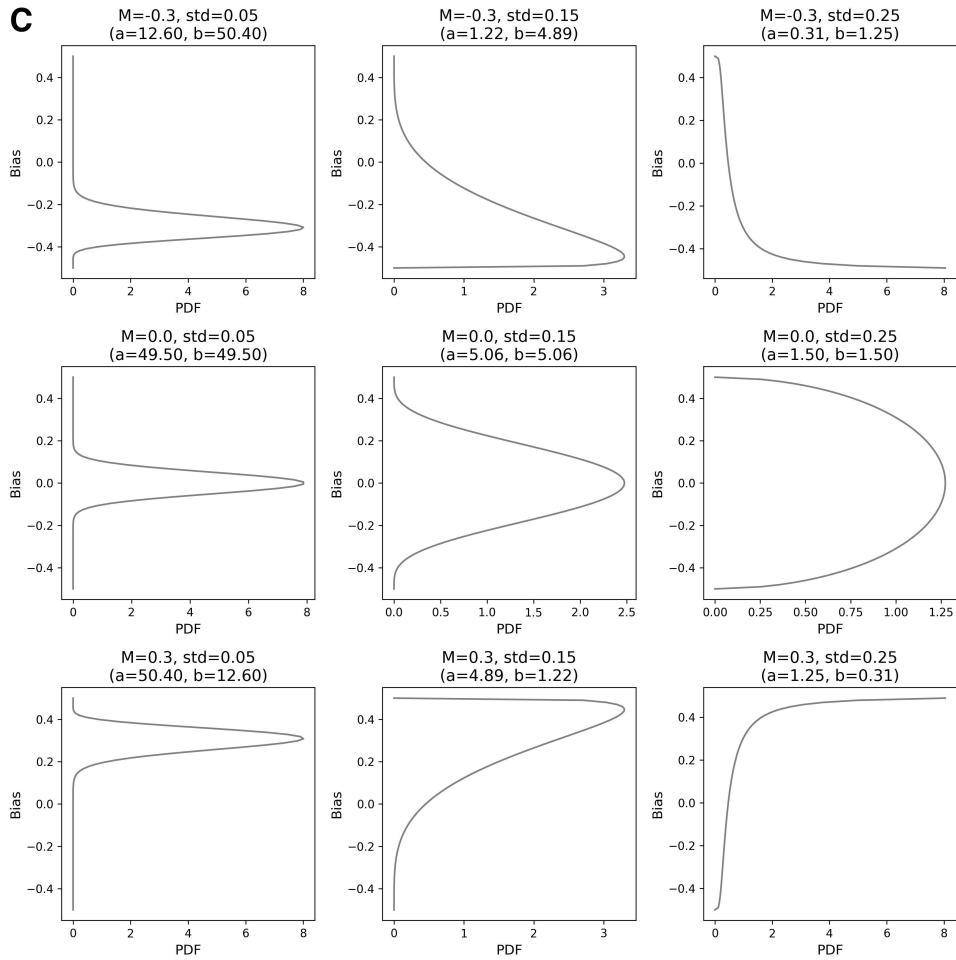| M=-0.3, std=0.05 (a=12.60, b=50.40) | M=-0.3, std=0.15 (a=1.22, b=4.89) | M=-0.3, std=0.25 (a=0.31, b=1.25) |
| M=0.0, std=0.05 (a=49.50, b=49.50) | M=0.0, std=0.15 (a=5.06, b=5.06) | M=0.0, std=0.25 (a=1.50, b=1.50) |
| M=0.3, std=0.05 (a=50.40, b=12.60) | M=0.3, std=0.15 (a=4.89, b=1.22) | M=0.3, std=0.25 (a=1.25, b=0.31) |

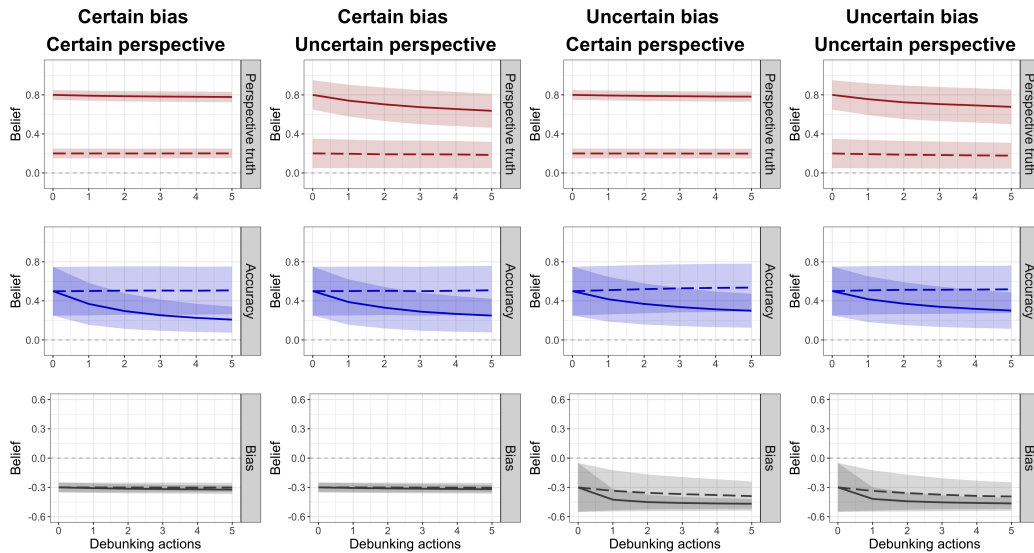**Fig. S1.** Distribution of prior beliefs used in series 1 simulations, about A) perspective on the topic, B) authority's accuracy and C) bias.

Certain bias
Certain perspective

Certain bias
Uncertain perspective

Uncertain bias
Certain perspective

Uncertain bias
Uncertain perspective

Fig. S2. Belief value about bias modulates the effect of bias belief uncertainty and topic belief uncertainty in determining the polarization of beliefs. In all four simulations, both subgroups believe the authority is somewhat accurate but they are uncertain about their belief (mean=0.5, std=0.25), and both subgroups believe the authority is biased against the target. Certain and uncertain beliefs about the topic correspond to belief distributions with standard deviation of 0.05 and 0.15, respectively. Certain and uncertain bias beliefs correspond to belief distributions with standard deviation of 0.05 and 0.25, respectively.
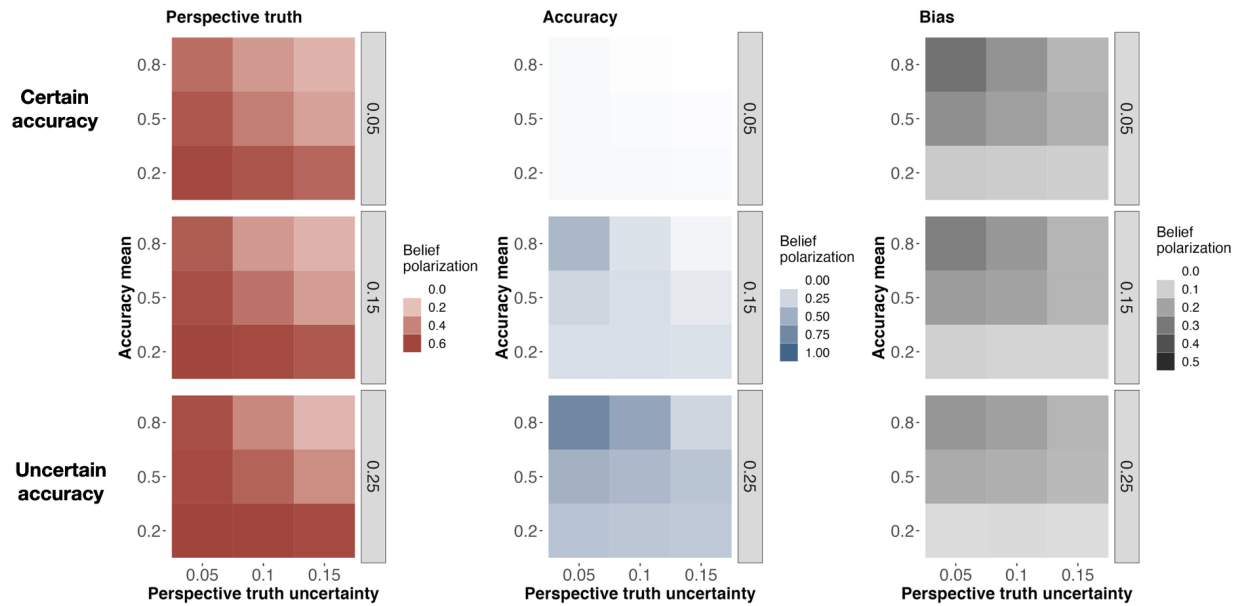
Somewhat-certain impartial

Fig. S3. Effect of initial belief uncertainty about the topic, and accuracy belief value and uncertainty on belief polarization, when the two subgroups are initially somewhat certain that the authority is impartial (mean=0, std=0.15). Going from top to bottom row, initial beliefs about accuracy become more uncertain. Within each row, y-axis represents accuracy value, x-axis represents perspective truth uncertainty; the intensity of colors show the absolute value of difference between the two subgroups' beliefs (i.e., belief polarization) about the perspective on the topic (red), accuracy (blue) and bias (black) after observing 5 debunking actions by the authority. The four simulations in Figure 4 correspond to the four corner squares of the bottom row of this plot.
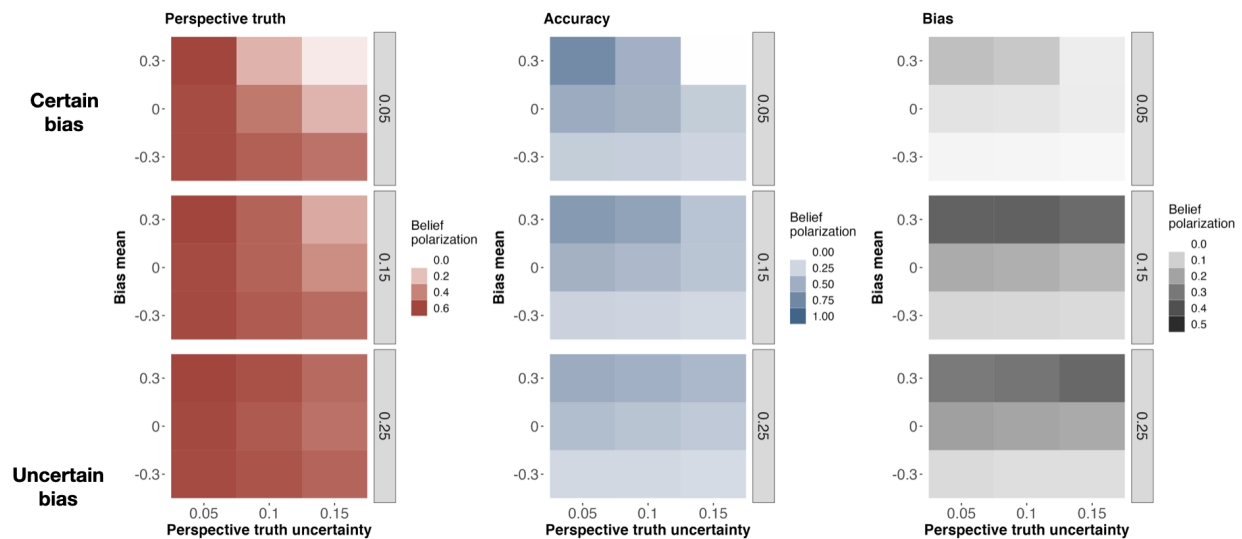
Uncertain somewhat accurate

Fig. S4. Effect of initial belief uncertainty about the topic, and bias belief value and uncertainty on belief polarization, when the two subgroups believe the authority is somewhat accurate but they are uncertain about their belief (mean=0.5, std=0.25). Going from top to bottom row, initial beliefs about bias become more uncertain. Within each row, y-axis represents bias value, x-axis represents perspective truth uncertainty; the intensity of colors show the absolute value of difference between the two subgroups' beliefs (i.e., belief polarization) about the perspective on the topic (red), accuracy (blue) and bias (black) after observing 5 debunking actions by the authority. The four simulations in Figure 5 correspond to the two upper corner squares of the top and two upper corner squares of the bottom rows of this plot.
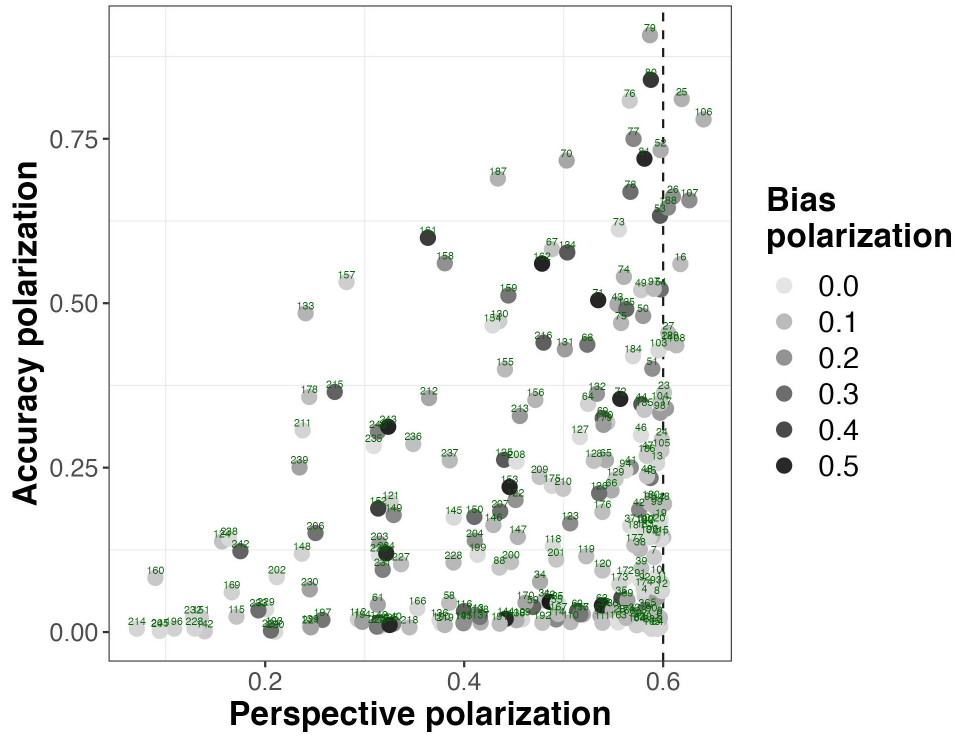
Fig. S5. All "Within-Topic" simulation IDs, overlaid on Figure 3 in the main text.
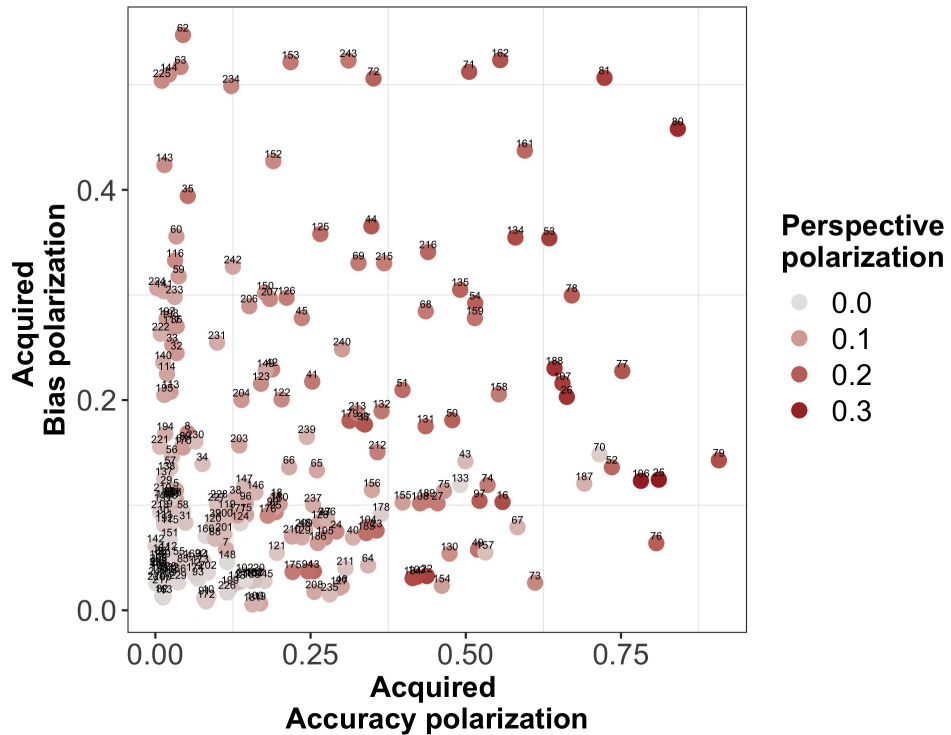

Fig. S6. All "Cross-Topic" simulation IDs, overlaid on Figure 6 in the main text
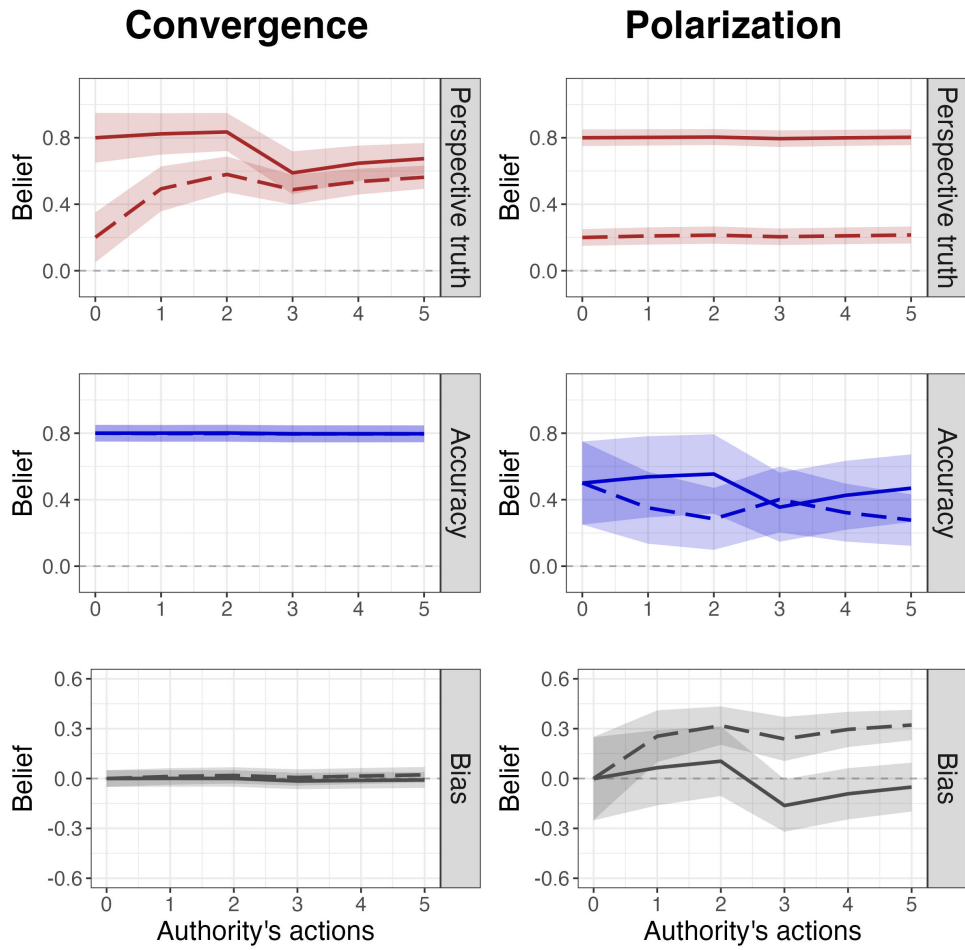
Fig. S7. Model simulations for evolution of beliefs after observing the authority doing ('Nothing', 'Nothing', 'Debunk', 'Nothing', 'Nothing') in response to claims related to a perspective