Exposure and Order Effects of Misinformation on Health Search Decisions

Mustafa Abualsaud, Mark D. Smucker
University of Waterloo

Goal: Identify patterns of clicking behavior that can be indicative of a user's final decision.

Background (ICTIR'17): Pogacar et al. conducted a controlled study to measure the effect of misinformation in search results on people's ability to determine the correct efficacy of health treatments.

Task: Given a health topic and a controlled SERP, determine the health efficacy of the treatment.

Example health topics: Does cinnamon help diabetes?

Does melatonin help treat and prevent jet lag?

Result:

By calculating fraction of time spent viewing correct information (*correctExpoure*), we see that more time spent exposed to correct information leads to better decisions.
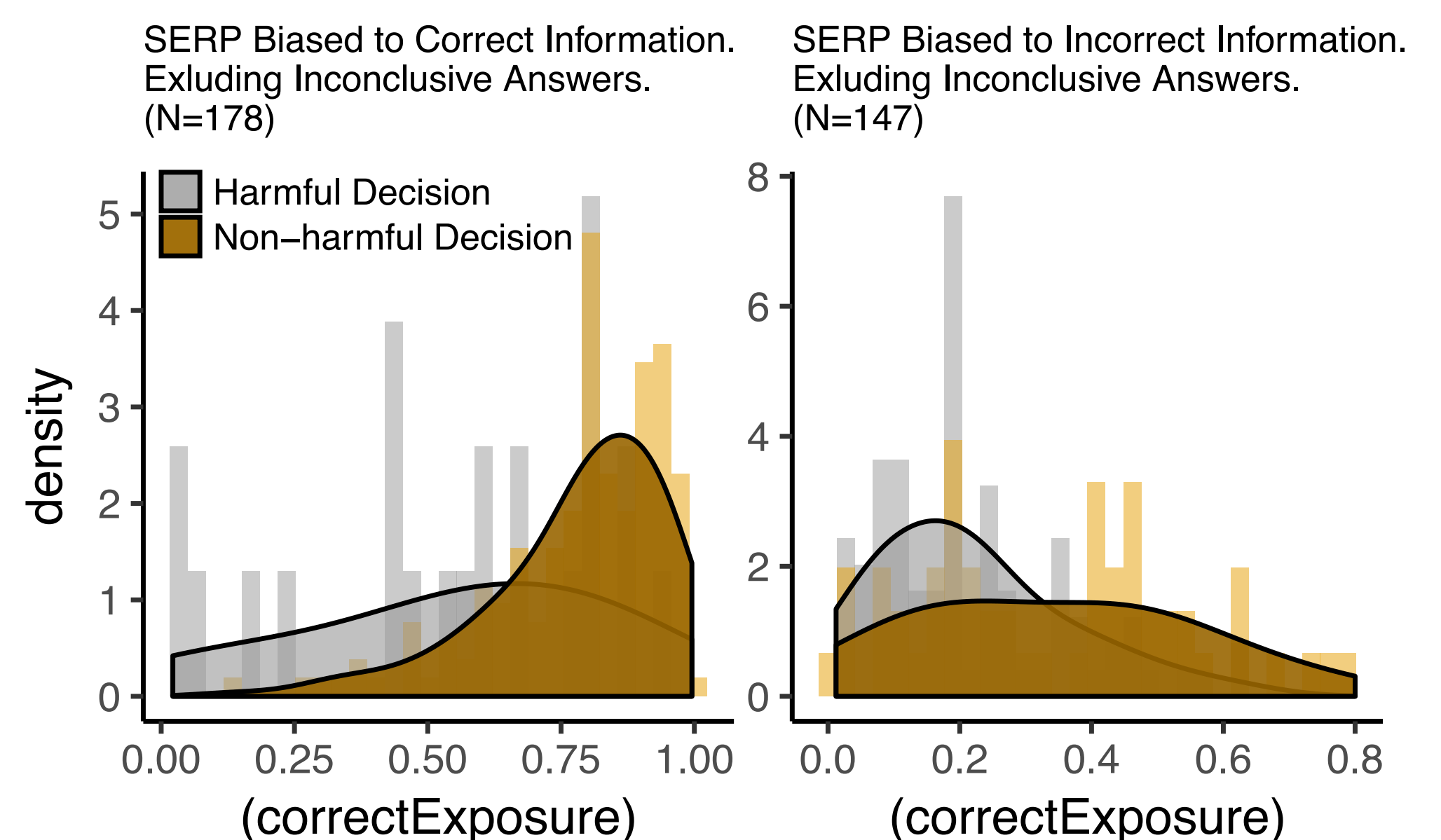
Users may be more influenced by documents read later in the sequence than documents read early on, as indicated by the larger effect size on last click documents.

SERP Biased towards **correct** information			
	Click	% Correct	Δ
First Click	✔ (correct info)	0.71	0.09
First Click	✘ (incorrect info)	0.62	0.09
Last Click	✔ (correct info)	0.70	0.15
Last Click	✘ (incorrect info)	0.55	0.15
	No Clicks	0.45	

SERP Biased towards **incorrect** information			
	Click	% Correct	Δ
First Click	✔ (correct info)	0.29	0.08
First Click	✘ (incorrect info)	0.21	0.08
Last Click	✔ (correct info)	0.41	0.23
Last Click	✘ (incorrect info)	0.18	0.23
	No Clicks	0.14	

Future work:

Understanding how a user's prior belief may play a role in influencing their sequence of interactions and their final decisions.