

# Do aggregate school ratings improve metacognitive knowledge of cue weights in school choice decisions?

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## Abstract

- DMs lack metacognitive knowledge of how they use cues when making high-stakes, personal decisions.<sup>1</sup>
- We find that giving DMs an aggregation-based metacognitive aid – here, an aggregate school rating – doesn't improve metacognitive knowledge of cue weights

## Motivation

- DMs display limited metacognitive knowledge of cue weights in high-stakes, personal decisions.<sup>1</sup>
- DMs making high-stakes, personal decisions often have access to aggregation-based (meta-)cognitive aids,<sup>2</sup> such as hospital ratings and **Aggregate School Ratings (ASRs)** like *US News & World Report*
- We thus chose to evaluate the impact of these aids on metacognitive knowledge of cue weights in one prototypical high-stakes, personal decision domain: school choice.

## Methods

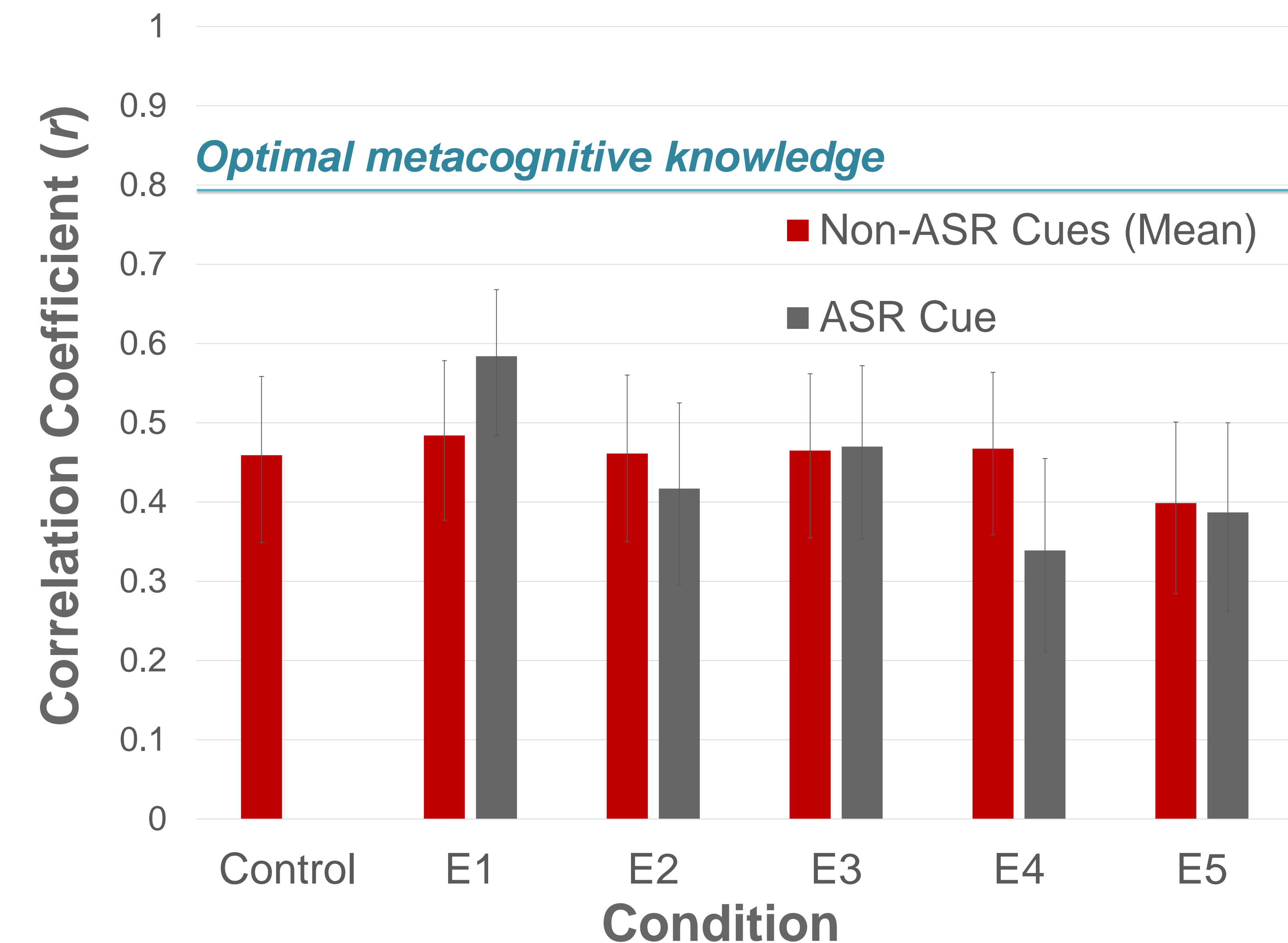
- MTurkers ( $n = 1,196$ ) completed a choice-based conjoint survey in which they made 14 choices between 3 schools based on 7 (control) or 8 (experimental) cues. Ps then self-reported cue weights in percentages.
- In 5 experimental conditions, Ps were given each school's rating from a "new" ASR site. Across conditions, Ps saw different non-ASR cues and received different information about the ASR formula (see **Table 1**).

Table 1: Experimental Conditions

Condition	ASR Given?	ASR Formula Known?* (Cue Set)	Non-ASR Cues***
Control	No	N/A	Academic
E1	Yes	Yes (Academic)	Academic
E2	Yes	No	Academic
E3	Yes	Yes (Academic)	Non-Academic
E4	Yes	No	Non-Academic
E5**	Yes	Yes (Non-Academic)	Non-Academic

\*ASR scores were randomly generated \*\*E5 was run as a follow up study  
\*\*\*The Academic/Non-Academic cue sets had 3 shared cues and 4 unique cues

Figure 1: Correlations Between Stated and Revealed Cue Weights, By Condition



## Analysis

- We estimated revealed cue weights from the CBC data using Hierarchical Bayes Estimation.<sup>3</sup>
- We then calculated correlations between participants' revealed cue weights and stated cue weights. For non-ASR cues, we averaged correlations across the 7 cues.
- We then used pairwise Fisher's r-to-z transformations to compare stated and revealed cue weight correlations for:
  - ASR and non-ASR cues vs. this paradigm's optimal metacognitive knowledge benchmark of  $r = .79$ <sup>1</sup>
  - Non-ASR cues across conditions

## Results & Discussion

- Correlations for ASR and non-ASR cues were significantly below  $r = .79$  ( $Zs > 4.01$ ,  $ps < .001$ ), suggesting **DMs display sub-optimal metacognitive knowledge of cue weights** in high-stakes, personal decisions with or without aggregation-based metacognitive aids.
- Correlations for non-ASR cues were not significantly different across conditions ( $Zs = 0.03 - 1.05$ ,  $ps = .30 - .98$ ), suggesting **aggregation-based metacognitive aids do not improve metacognitive knowledge of cue weights** in high-stakes, personal decisions.
- Future work should replicate these findings in other high-stakes, personal domains (e.g., health, careers)

## References

- <sup>1</sup>Cash, T. N., & Oppenheimer, D. M. (under review). Metacognitive knowledge of preferences in high-stakes, personal decisions: A conjoint analysis of school choice.  
<sup>2</sup>Lovenheim, M.F., & Walsh, P. (2017). Does choice increase information? Evidence from online school search behavior. *Economics of Education Review*, 62, 91-103. <https://doi.org/10.1016/j.econedurev.2017.11.002>  
<sup>3</sup>Sawtooth Software (2022). *Lighthouse Studio* (Version 9.14.2) [Computer software]. <https://sawtoothsoftware.com/lighthouse-studio>