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### Title

What you see is what you guess: Explanations for how a choice was made are paradoxically driven by the choice (regardless of accuracy) in a human vs. AI sorting task

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### Authors

Bosch, David A.

Parekh, Hetvi

Ishizaki, Yuhri

et al.

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# **Influences of voluntary actions on temporal preparation in multiple temporal contexts**

**Alexandre de Pontes Nobre**

Federal University of ABC, Brazil

**André Mascioli Cravo**

Federal University of ABC, Brazil

It has recently been shown that self-initiation of foreperiods (FPs) influences temporal preparation to visual stimuli in choice reaction time (RT) tasks. Here, we investigated whether this effect extends to a simple-RT task using variable FPs. Participants performed the task with 20 FP durations, across three different FP distributions, under two conditions: in the action condition, participants self-initiated FPs with a voluntary action; in the external condition, FPs were initiated externally, after a random interval. Curves of RT as a function of FP duration showed faster RTs in the action condition, irrespective of distribution. Actions also reliably led to more negative slopes of RT curves. Moreover, we found that participants made a larger number of premature responses in the action condition, particularly at longer FPs. This suggests that voluntary actions increase motor readiness, positioning participants closer to response threshold, speeding up responses but hindering the ability to inhibit early responses.