

# Behavioral and computational study shows that social preferences can be inferred from decision speed alone

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Considering the decision time of someone else can help us learn about their preference and make more accurate predictions about what they would choose in the future. Created using images from Pixabay ([1](#), [2](#), [3](#), [4](#)). Credit: Sophie Bavard and Pixabay (CC0, [creativecommons.org/publicdomain/zero/1.0/](https://creativecommons.org/publicdomain/zero/1.0/))

Researchers led by Sophie Bavard at the University of Hamburg,

Germany, found that people can infer hidden social preferences by observing how fast others make social decisions.

Publishing June 20 in the open-access journal *PLOS Biology*, the study shows that when someone knows the options being considered by another person, and they know how long it takes them to reach their decisions, they can use this information to predict the other person's preference, even if they do not know what the actual choices were.

How do we know what someone's social preferences or beliefs are when they are so often hidden and unspoken? While past studies have focused on observing another's choices, the new study takes a deeper look by examining both choices and decision time.

The researchers asked participants to play the Dictator Game in which a so-called [dictator](#) must choose between two options to determine how much they will give away or keep for themselves. After playing the part of the dictator, the participants were asked to observe other dictators and predict the preferred give/take proportions.

The amount of information provided to the participants varied; sometimes they knew the decisions, sometimes the decision time, sometimes both, and sometimes neither.

The researchers hypothesized that even without knowing the decisions, if they could see the options and know the decision speed, participants would be able to predict the preferences.

A computational modeling analysis showed that in theory, dictator behavior could be predicted from decision times alone using a reinforcement learning model. But do people naturally internalize this type of mathematical model when observing others?

The answer was yes; the participants learned the dictator's preferences when all they knew were the options and the decision times, although their predictions were best when they also knew the actual decisions. This indicates that time was used when decisions were not available, which expands our knowledge about decision making in [social contexts](#).

The authors add, "Our findings challenge the conventional belief that choices alone are the only piece of information one can use to understand others' [social preferences](#)."

"By incorporating response times into models of how people learn from each other, we can make more accurate predictions of human behavior, as [response times](#) provide a continuous measure that reveals the strength of these preferences, offering a more detailed perspective."

**More information:** Bavard S, Stuchlý E, Konovalov A, Gluth S (2024) Humans can infer social preferences from decision speed alone, *PLoS Biology* (2024). [DOI: 10.1371/journal.pbio.3002686](https://doi.org/10.1371/journal.pbio.3002686)

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