

Consumer Preference for Algorithmic vs. Human Evaluation

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Summary

We are constantly being evaluated. Evaluations can result in explicit outcomes—either acceptance or rejection, approval or disapproval. These evaluations impact important areas of life—whether it's applying for housing, seeking admission to a university, vying for a job, submitting a grant application, or requesting membership. These evaluations, traditionally done by humans, are more and more commonly being carried out by algorithms. How do people want to be evaluated?

Across eight preregistered studies (total N = 3,768), we show that the strength of an individual's case (i.e., **valuee strength**) shapes their preference for algorithmic versus human evaluation. Those with high strength demonstrate a stronger preference for **consistency over flexibility**, leading to a greater inclination toward algorithmic versus human evaluation. This pattern holds across various evaluation contexts, different forms of the dependent variable (e.g., continuous measures, choices of evaluative systems, choices between options that differ in evaluative system), both experienced and explicitly communicated strength, hypothetical and consequential outcomes, and applies to both merit-based and need-based evaluations.

We found a divergent preference between algorithmic and human evaluations, influenced by how the perceived strength of the valuee shapes individuals' understanding of these two evaluative systems, which differ in outcome predictability (high in consistency vs. high in flexibility). Moreover, evaluative systems can facilitate self-selection. Policymakers and companies should recognize that the choice of an evaluative system can have far-reaching implications, ultimately influencing who chooses to participate and who feels encouraged or deterred from engaging.

Overview of Studies

STUDY	CONTEXT	DESIGN	HIGHLIGHT
1	Loan application	2 cell, basic effect	High strength leads to a stronger preference for algorithm
2	Rental application	2 cell, process by mediation	The effect is mediated by preference for consistency vs. flexibility
3a & 3b	Rental application	2 by 2, process by moderation	Perception of a more consistent human or a more flexible algorithm attenuates the effect
4	Job application	2 by 2, informational input moderates the effect	Qualitative (vs. quantitative) informational inputs attenuate the effect
5	Game paradigm	2 cell, binary choice	High strength leads to a higher proportion of players choosing an algorithm for the game performance evaluation
6	University application	2 cell	High strength leads to applying to a higher proportion of universities that use algorithms
7	Tax credit application	2 by 2	The effect holds regardless of whether the evaluation is merit-based or need-based

Study 5

- Game paradigm
- Manipulation: **experienced** performance (high vs. low)
- DV: a **binary choice** between a human judge and an algorithm judge for a **bonus**

Low Strength

You found:

Apple 🍏	Orange 🍊	Banana 🍌
4 out of 15	5 out of 15	2 out of 15

On average, people who click randomly would expect to find 5 apples, 5 oranges, and 5 bananas.

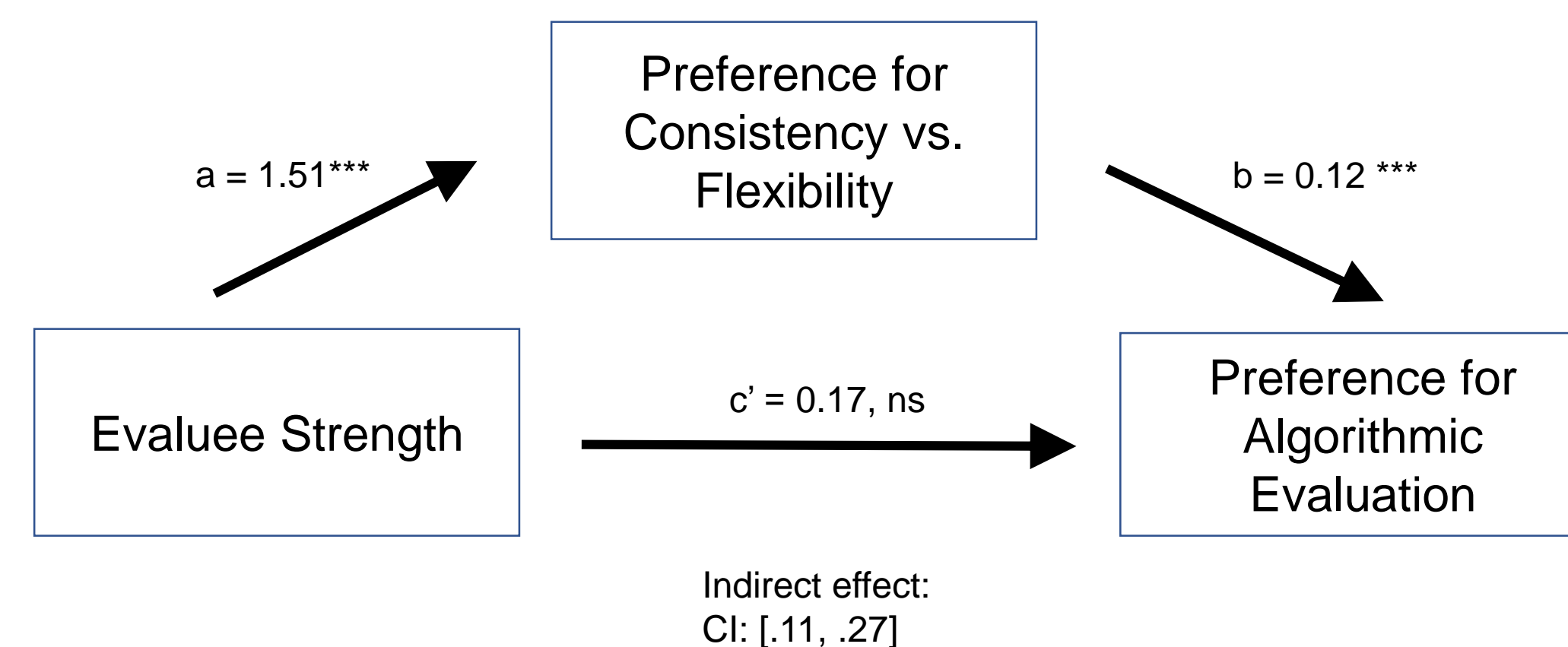
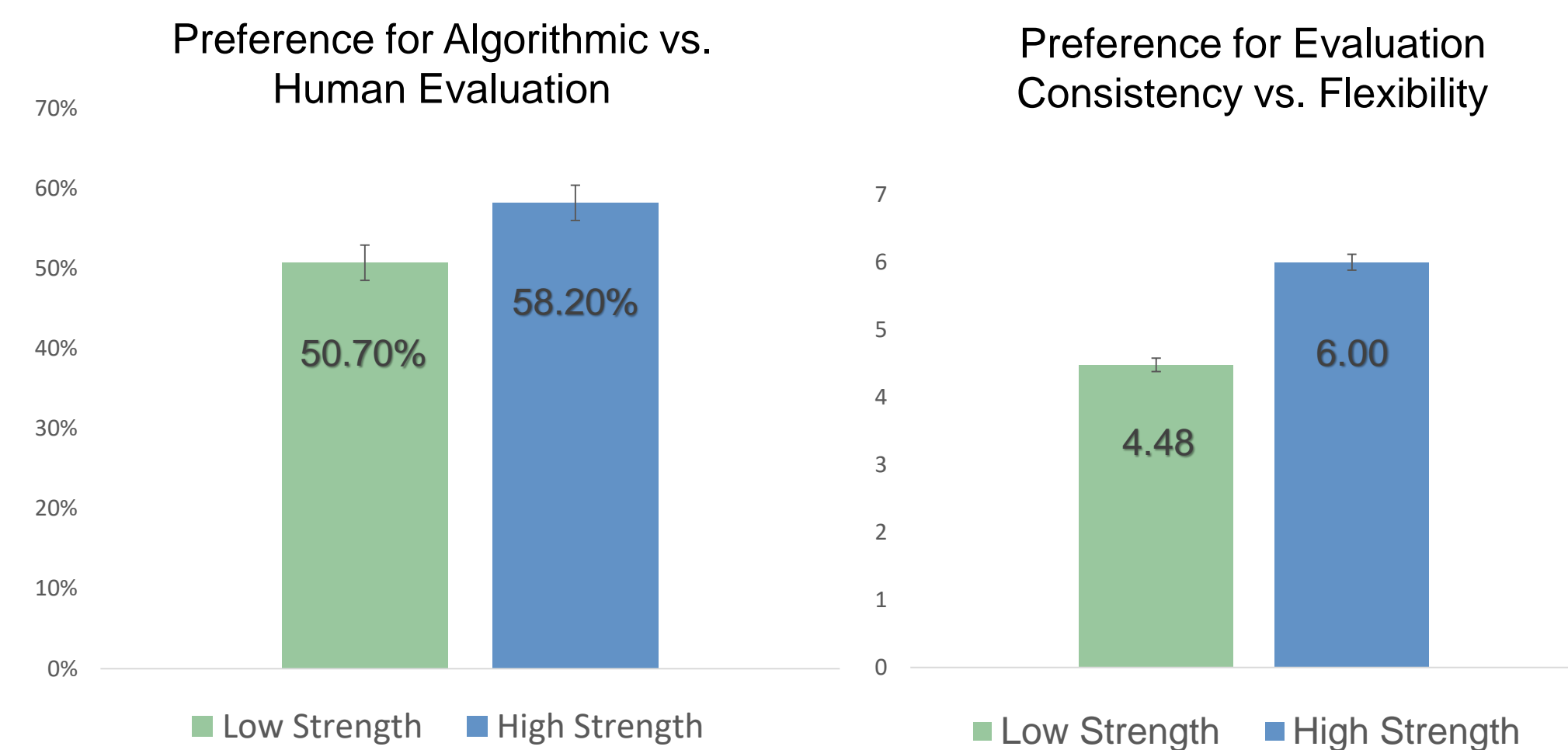
High Strength

You found:

Apple 🍏	Orange 🍊	Banana 🍌
6 out of 15	5 out of 15	8 out of 15

On average, people who click randomly would expect to find 5 apples, 5 oranges, and 5 bananas.

Results (Study 5)

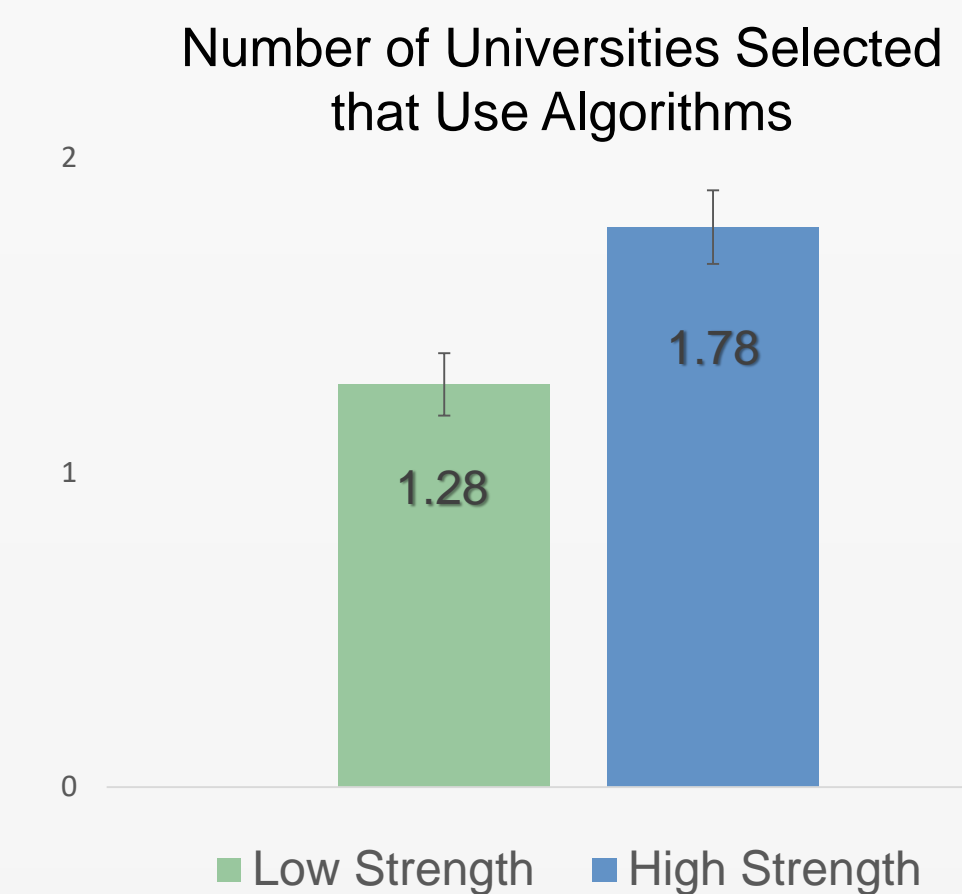


Study 6

Select the 5 universities you want to apply to.

Name	Fun Fact	How are applications evaluated?	Apply
University of Aberdeen	It is the fifth oldest University in the English-speaking world.	Algorithm	<input checked="" type="checkbox"/>
Abertay University	It is the first to offer a degree in Ethical Hacking.	Human	<input type="checkbox"/>
University of Dundee	It has over 30,000 historical artifacts.	Human	<input type="checkbox"/>
Edinburgh Napier University	It is based around its three main campuses.	Algorithm	<input type="checkbox"/>
Glasgow Caledonian University	It was formed in 1993 through the merger of 3 institutions.	Algorithm	<input checked="" type="checkbox"/>
Heriot-Watt University	It was founded in 1821 by a clockmaker.	Algorithm	<input checked="" type="checkbox"/>
Queen Margaret University	Teaching was initially delivered at a museum.	Algorithm	<input type="checkbox"/>
Robert Gordon University	The university was originally a hospital in 1730.	Human	<input checked="" type="checkbox"/>
University of Stirling	The university's mascot is a squirrel.	Human	<input type="checkbox"/>
University of the West of Scotland	It has undergone numerous name changes and mergers.	Human	<input checked="" type="checkbox"/>

Results (Study 6)

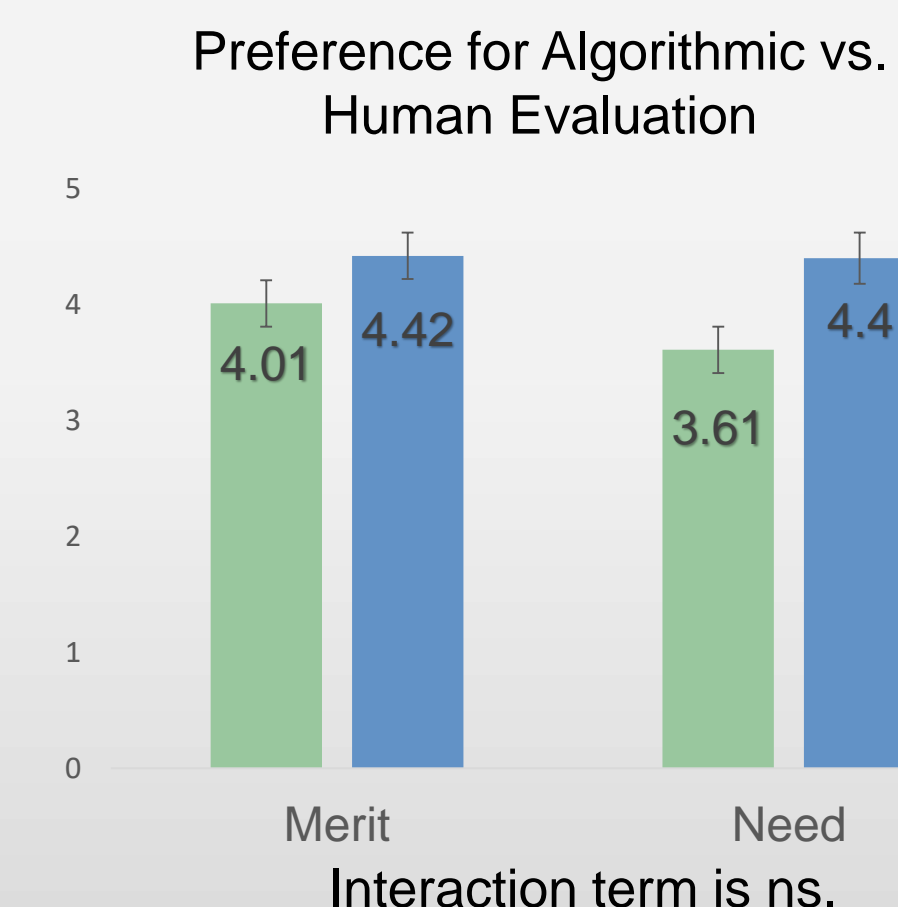


- High strength leads to selecting a higher proportion of options that use algorithmic evaluation.
- Preference for consistency vs. flexibility mediates the effect.

Study 7

- Applying to a federal tax-credit program related to energy consumption
- 2 (Strength: high vs. low) by 2 (Program: need vs. merit)
- **Need-based**: tax credits given to those struggling to pay energy bills due to poorly insulated homes
- **Merit-based**: tax credits given to those conserving energy due to well insulated homes

Results (Study 7)



- As predicted, the effect is independent of whether valuees receive rewards for high performance or support for low performance

