

# Automated Decision Assistants Can Undermine Consumers' Sense of Autonomy

Lim, Mi Kyoung · Chung, Jung Han · Ha, Young-Won · Sogang Business School, Sogang University, Seoul, Korea



## ABSTRACT

Personal decision assistants equipped with artificial intelligence have become prevalent in many consumption domains. Yet little research has focused on users' decision experiences and intention to adopt the automated service.

Although automated curation services help consumers lower search costs and avoid difficult tradeoffs, they can undermine consumers' sense of autonomy, aggravating the quality of decision experience and subsequent attitude toward the services.

The current research demonstrates that automation can decrease customers' intention to adopt the decision assistant, especially when the decision task is framed **as fun rather than work**. The effect is more salient when the decision assistant is **anthropomorphized**.

## RESEARCH QUESTION & HYPOTHESES

In the near future, digital assistant will become center of our daily lives. They will make intelligent recommendations based on a knowledge of our preferences, personal relationship.



- Q. Can they make our shopping more enjoyable?
- Q. When will AI recommendation services have a negative impact?

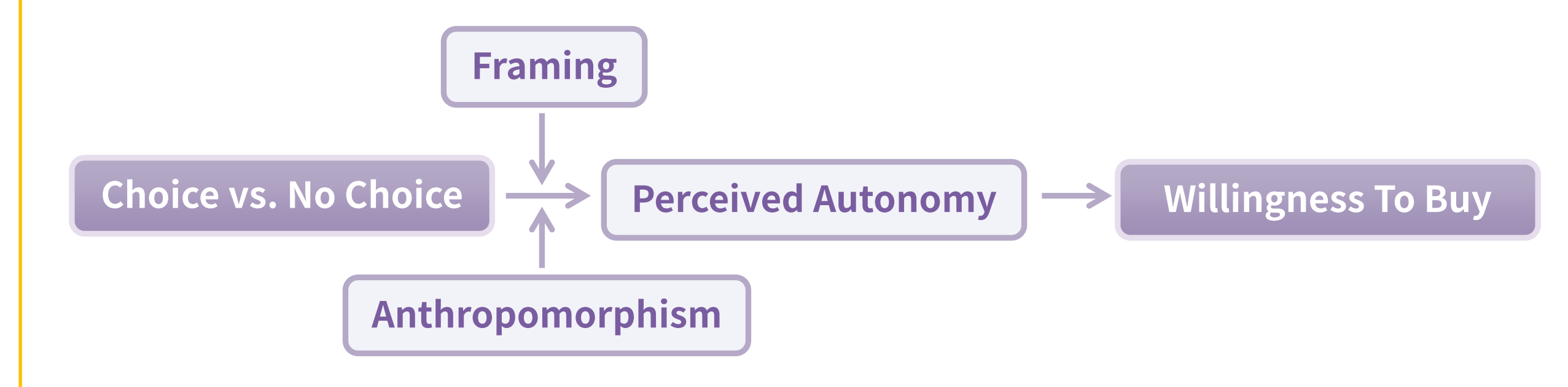
Automated decision services can undermine the quality of **decision experiences** because they threaten the **sense of autonomy**

→ The backfiring effect would be reduced in the situations where people consider autonomy less important as in doing homework (vs. computer game)  
[Framing tasks as work (vs. fun) reduces individuals' autonomous motivation (Deci and Ryan 2000, Kim et al.2016)]

Imbuing a computerized helper with humanlike features in a **computer game** reduced individuals' perceived autonomy and **enjoyment** of the game.

In contrast, a help **without anthropomorphic features**  
→ less likely to make people feel infringed upon regarding their freedom of choice (Autonomy ↑ Enjoyment ↑ WTB ↑)

### Conceptual model



## References

- Chen, F., & Sengupta, J. (2014). Forced to be bad: the positive impact of low-autonomy vice consumption on consumer vitality. *Journal of Consumer Research*, 41(4), 1089-1107.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268..
- Kim, S., Chen, R. P., & Zhang, K. (2016). Anthropomorphized helpers undermine autonomy and enjoyment in computer games. *Journal of Consumer Research*, 43(2), 282-302.

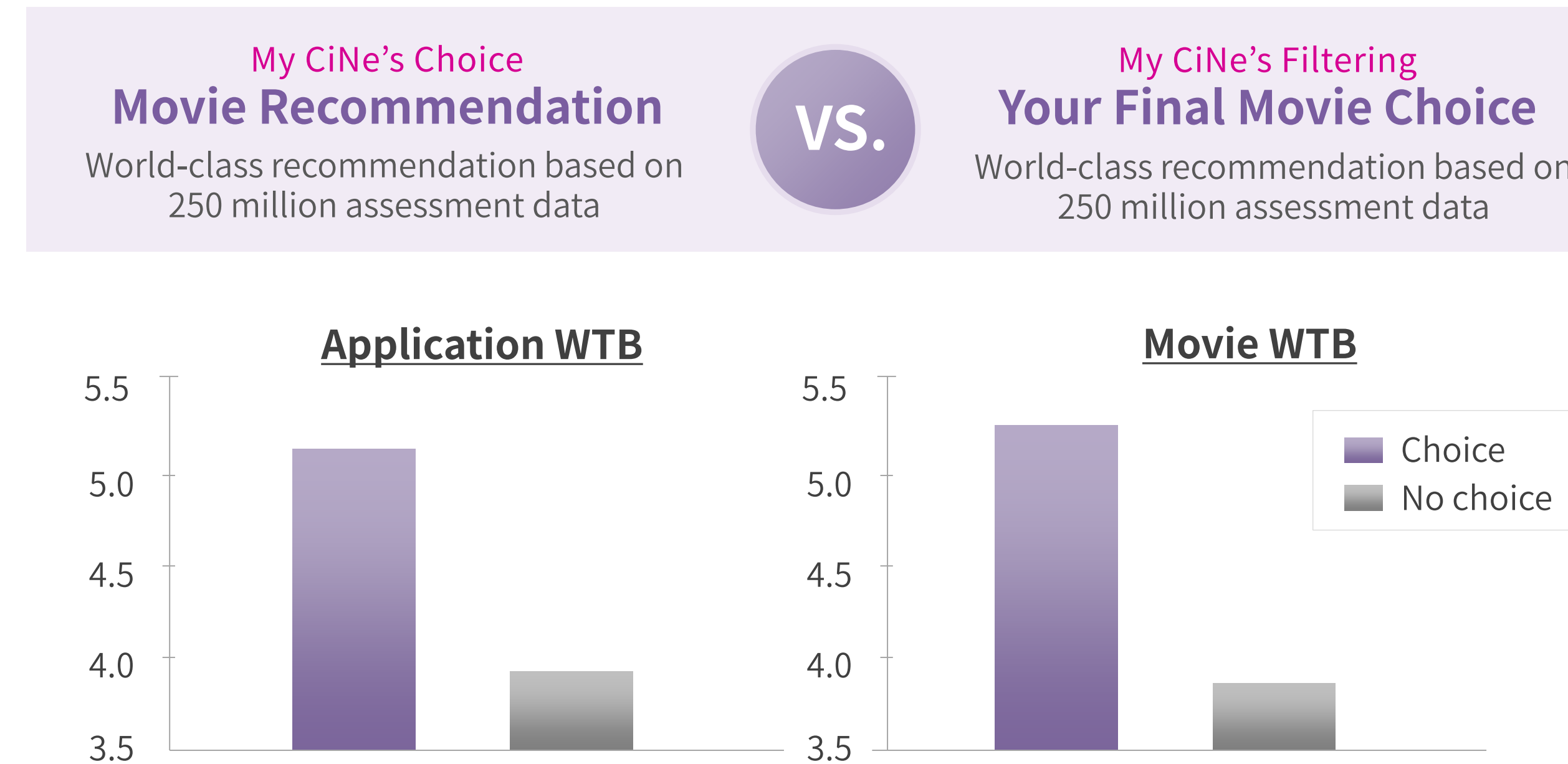
## PRETEST

### The Main Effect of Choice

N= 100

**Stimuli:** Movie Recommendation Application

**Results:** Participants were less likely to buy the application and the movie when they cannot (vs. can) make a choice due to lowered sense of autonomy.



## STUDY 1

### The Moderating Role of Framing

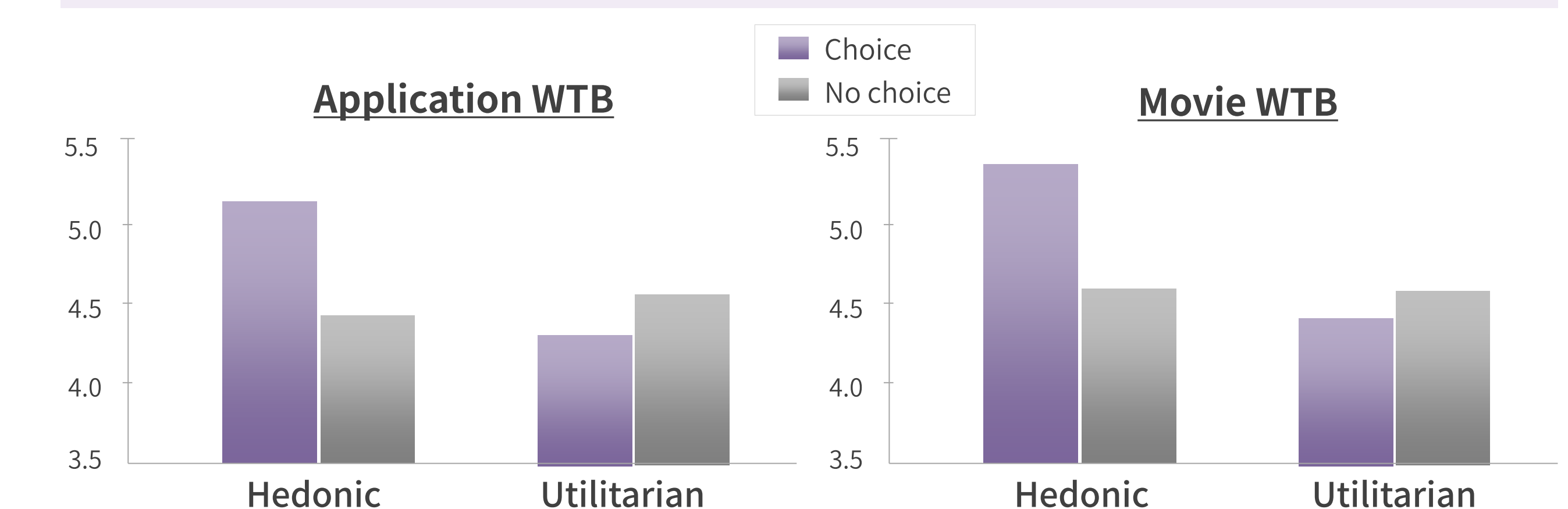
N= 108

**Design:** 2 Choice (Yes vs. No) x 2 Framing (Fun vs. Work)

**DV:** WTB of Automated Curation Services

**Results:** When watching the movie was presented as work(vs. fun), the magnitude of Choice-Autonomy Effect was decreased.

→ Participants were more likely to buy the application and the movie only when the movie was framed as a fun activity.



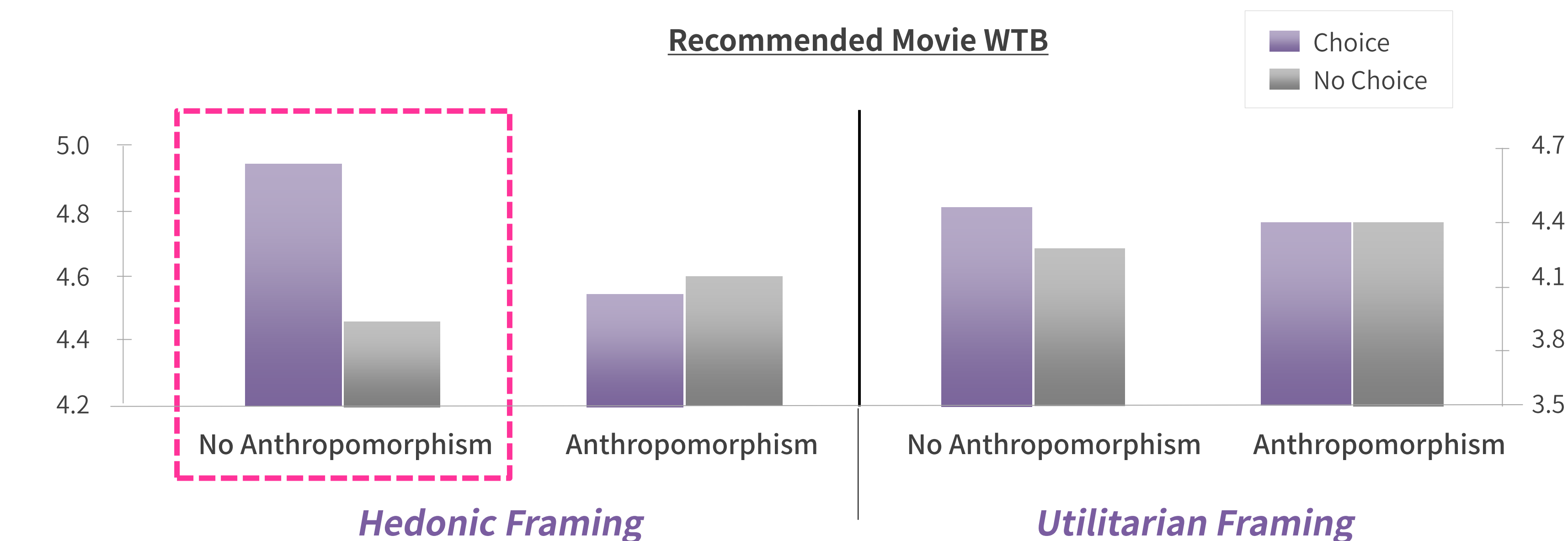
## STUDY 2 (OVERALL RESEARCH MODEL)

### The Moderating Role of Anthropomorphism

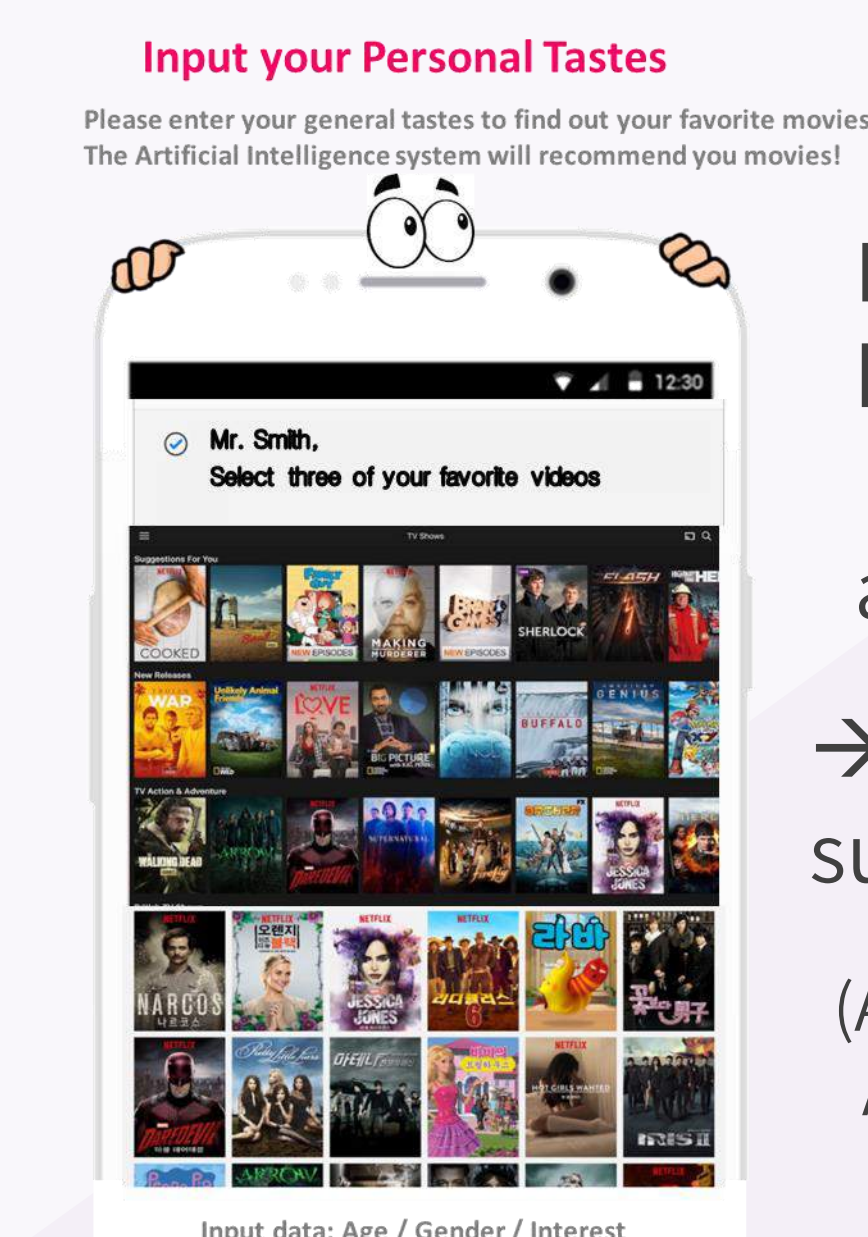
N=419

**Design:** 2 Choice x 2 Framing x 2 Anthropomorphism

**Results:** Intention to adopt the service decreased when the device was anthropomorphized especially the work was framed as hedonic (vs. utilitarian)  
→ Mediated by vitality level of the participants (proxy of perceived autonomy)



### Anthropomorphism Manipulation



Physical resemblance to humans evokes a tendency to anthropomorphize  
→ Added facial features such as eyes and mouth  
(Aggarwal and McGill 2007; Arnheim 1969)

## CONCLUSION

While automated decision assistants positively affect human welfare, it may not always enhance consumers' well-being.  
: they can infringe upon the **autonomy of human self-determination**

In hedonic choice situation where autonomy is important, automation can decrease consumers' shopping enjoyment and WTB  
: **especially when the decision assistant is anthropomorphized**

A decision helper with human-like features in **Sephora stores**?  
: **it may not be always effective**

