

“A.I. & Persuasion”



TaeWoo Kim & Adam Duhachek

What is AI ?

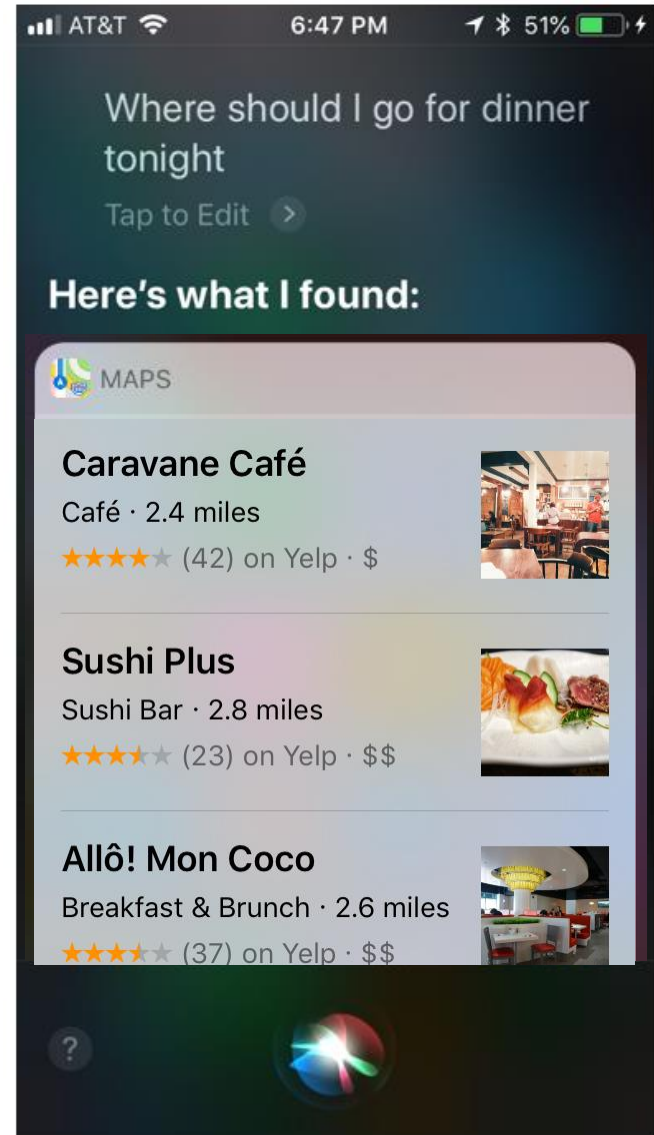
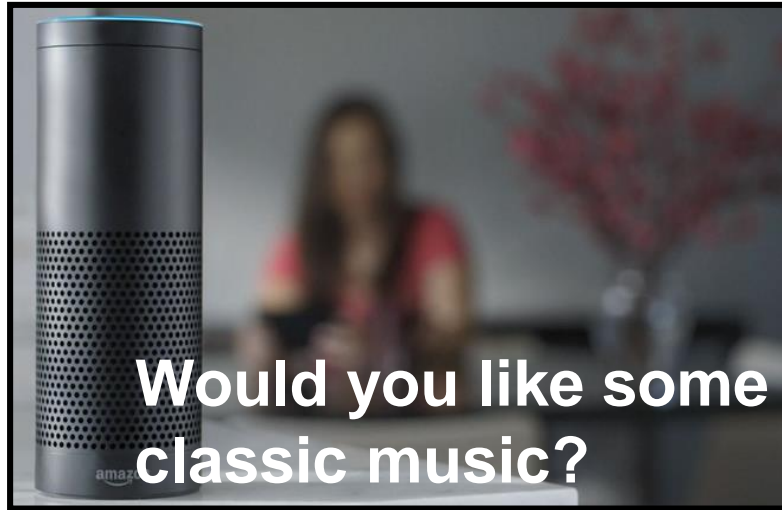
- Intelligence demonstrated by **machines**, in contrast to the natural intelligence displayed by **humans** and other animals
- **Foundation: emulation of human intelligence**

Nilsson 1998; Poole, Mackworth & Goebel 1998; Russell & Norvig 2003

We Focus on AI used in Marketing Contexts

- **AI varies in appearance and task domains**
- **Substantively, we focus on AI that interacts with consumers**

Getting into the Age of AI-Marketing



Getting into the Age of AI-Marketing



Research Objectives

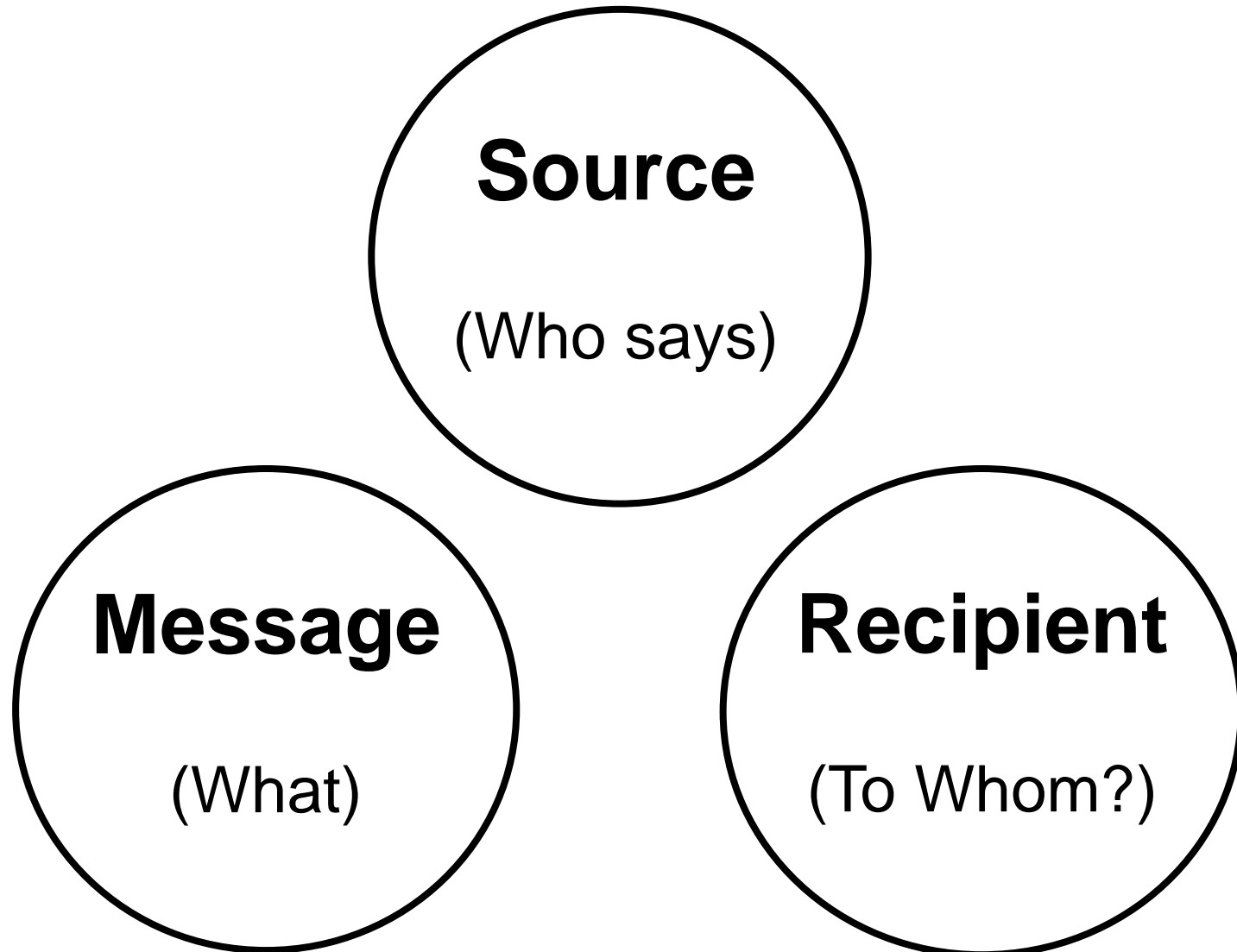
- How to make **AI-marketing systems** more effective?
- How to make **AI-persuasions** more effective?

Table of Contents

- 1. AI as a New Persuasion Source**
- 2. AI's "How" (vs. "Why") Messages**
- 3. AI's Learning Capability Moderates**
- 4. Implications**
- 5. Other Research Projects**

Key Elements of Persuasion

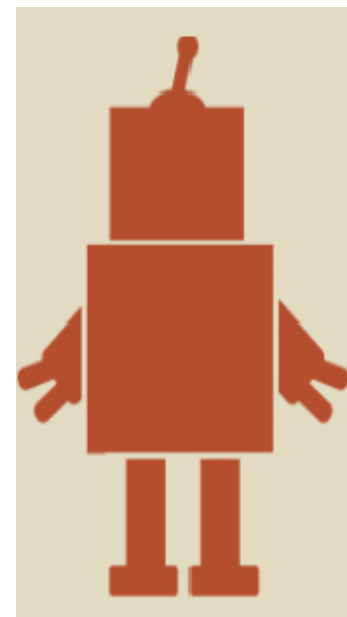
Petty & Briñol (2010)



We Introduce a New Persuasion Source!



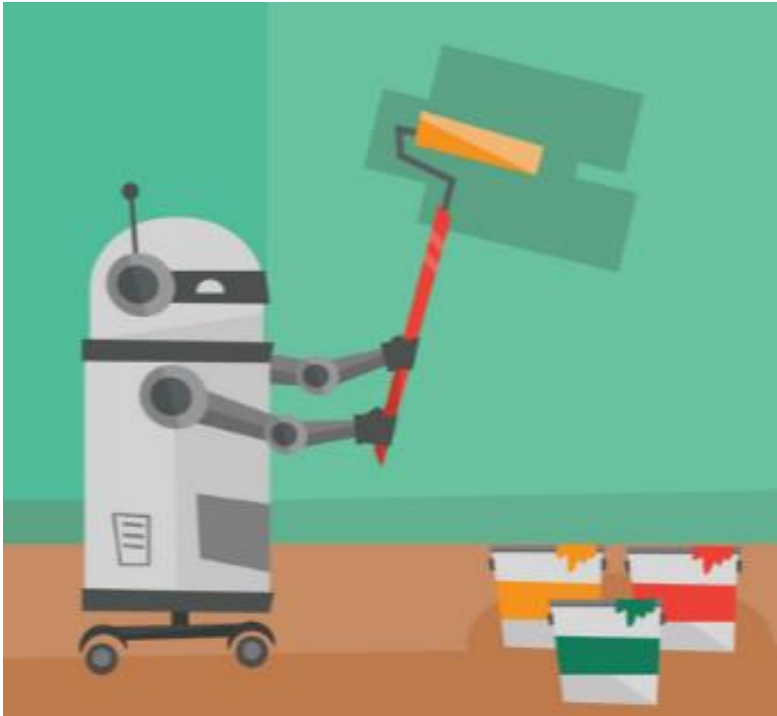
**Persuasion
Source**



AI vs. Humans: Fundamental Difference

- AI is an agent made by humans to serve them
- Thus, AI **lacks** intentionality, free-will, and its own goals
- Lack of **intentionality, free-will, and own goals** lead consumers to focus on **“how”** (vs. “why”) of the agent’s action

AI vs. Humans: Fundamental Difference

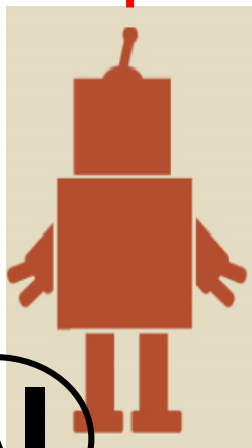


When an AI (vs. human) conducts an action, it is difficult to think about “why” the AI conducts the action.

Construal Level Theory and AI

Low-Construal:

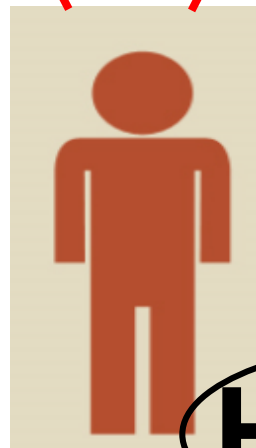
**“How?”
(Concrete)**



AI

High-Construal:

**“Why?”
(Abstract)**

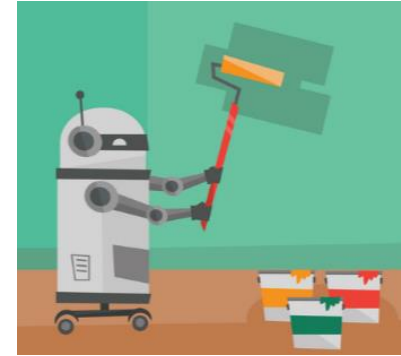


Human

Study 1: AI Leads to “How” Thinking

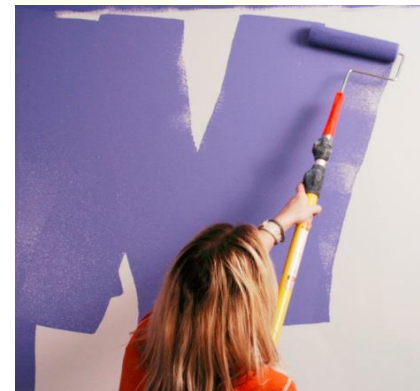
AI condition:

Imagine that a **robot** is
“**painting a room**”



Human condition:

Imagine that a **person** is
“**painting a room**”



Study 1: AI Leads to “How” Thinking

Participants chose one of the two descriptions that they thought was a better description of the action **“painting a room”**

**moving a roller up and down
 (“how”)**

**improving one’s living environment
 (“why”)**

Study 1: AI Leads to “How” Thinking



84%



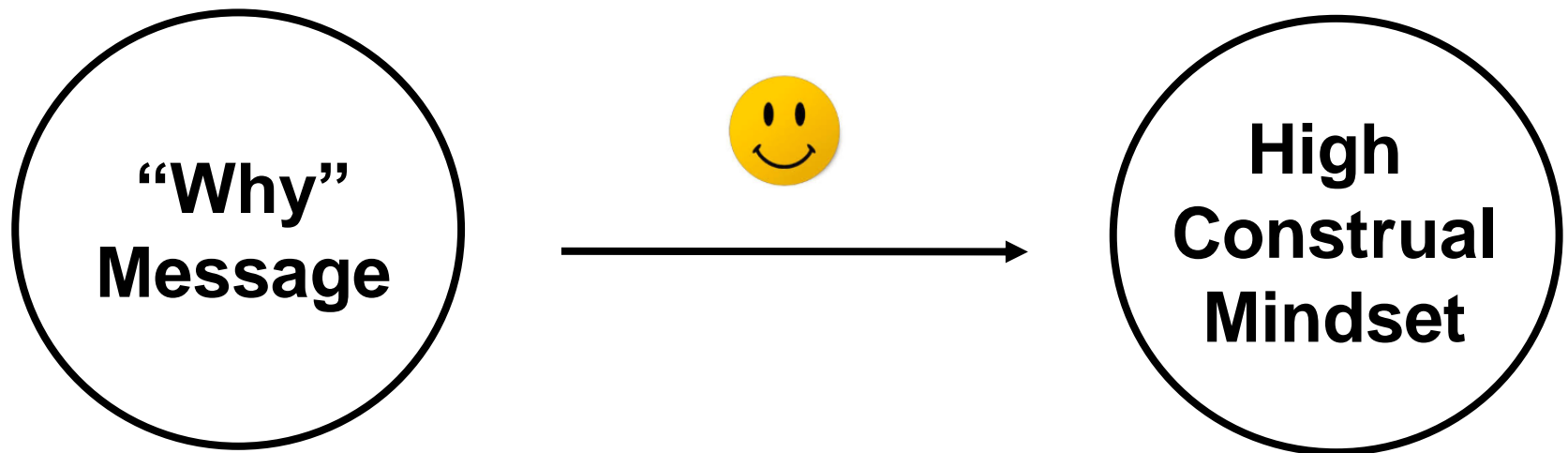
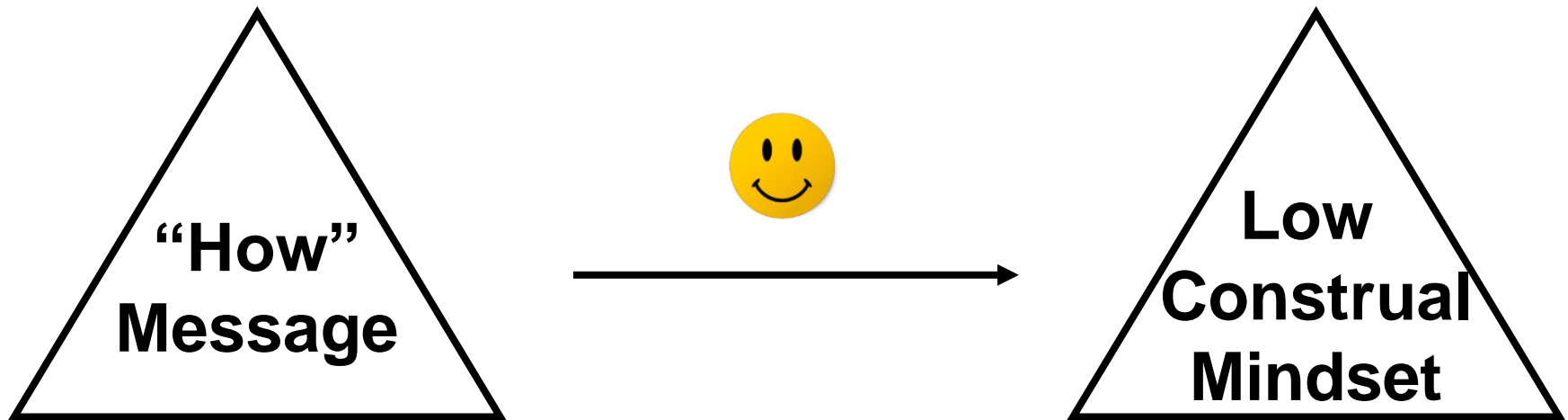
40%

Study 1: Implication

Study 1 shows that individuals focus on “how” (vs. why) when seeing an AI.

In the next study, we examine whether these effects are extended to a persuasion context

“Matching Effect” in Persuasion



Study 2: Human Doctor vs. AI Doctor

Participants were randomly assigned to either a human or AI doctor and received a message that emphasized either “why” sunscreen should be used or “how” sunscreen could be used.



Study 2: “WHY” Message Condition



I recommend that you use
spray-type sunscreen

Why use spray-type sunscreen?

- Spray-type sunscreen cover the skin more evenly
- It absorbs into the skin more quickly
- A reliable option to protect your skin

Study 2: “HOW” Message Condition

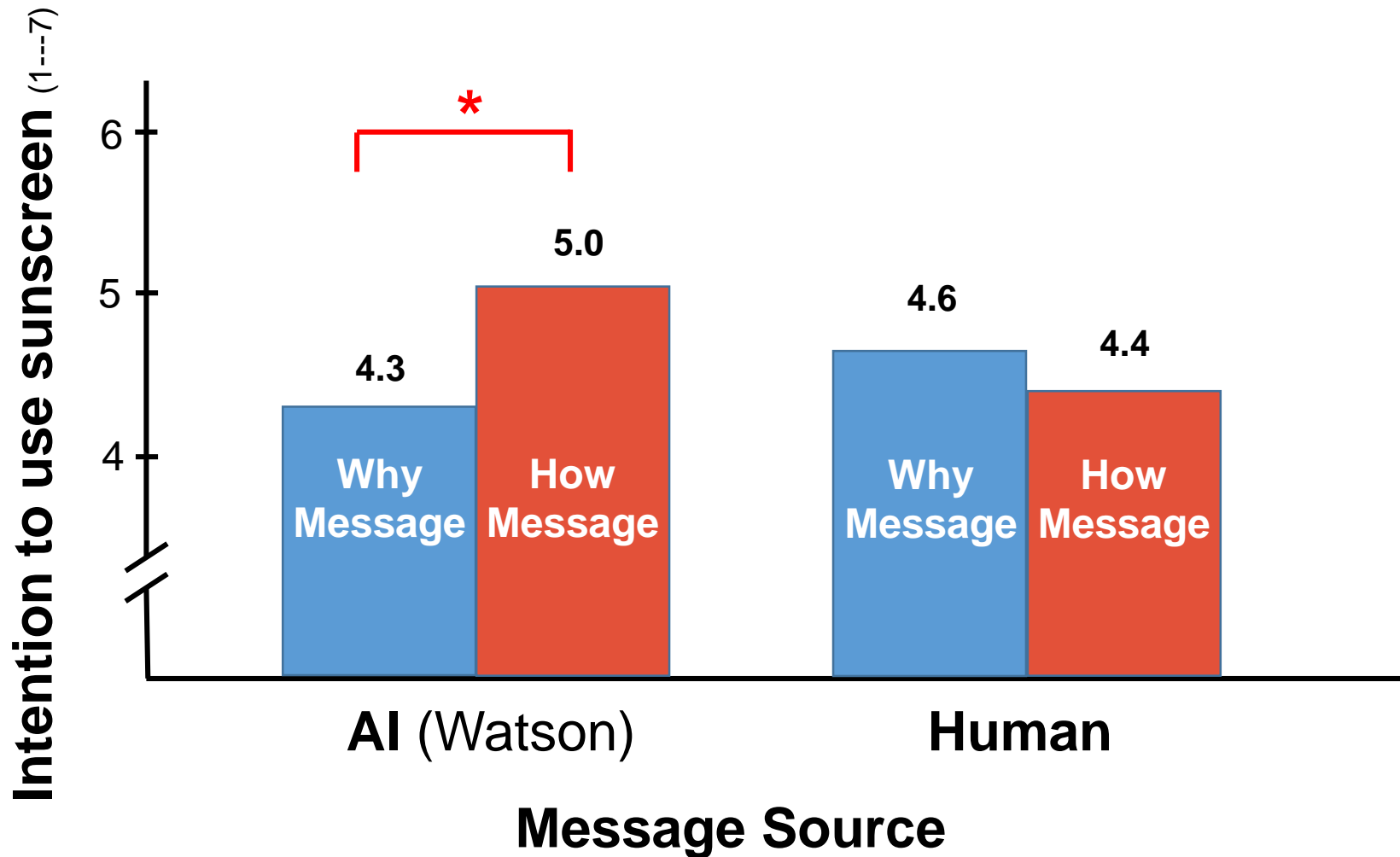


**I recommend that you use
spray-type sunscreen**

How to use spray-type sunscreen?

- Apply sunscreen 30 minutes before going out
- Hold the nozzle close to your skin and spray generously
- Rub it thoroughly

Matching Effect in Persuasion



2-way interaction: $p = .016$ N = 324

Study 2: Implications

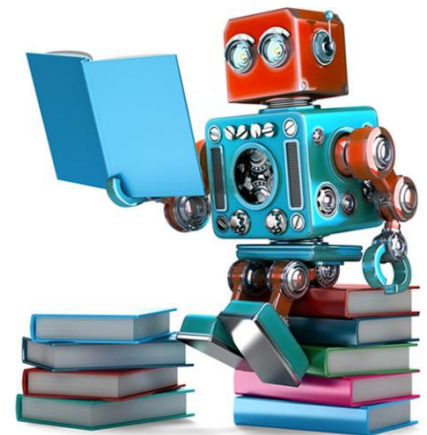
- Study 2 shows that AI's "how" message is more effective than "why" message
- Managerial implication of this finding would be that firms that use AI as a means to communicate or persuade consumers should create messages that emphasize "how" rather than "why" to buy the product

Study 3

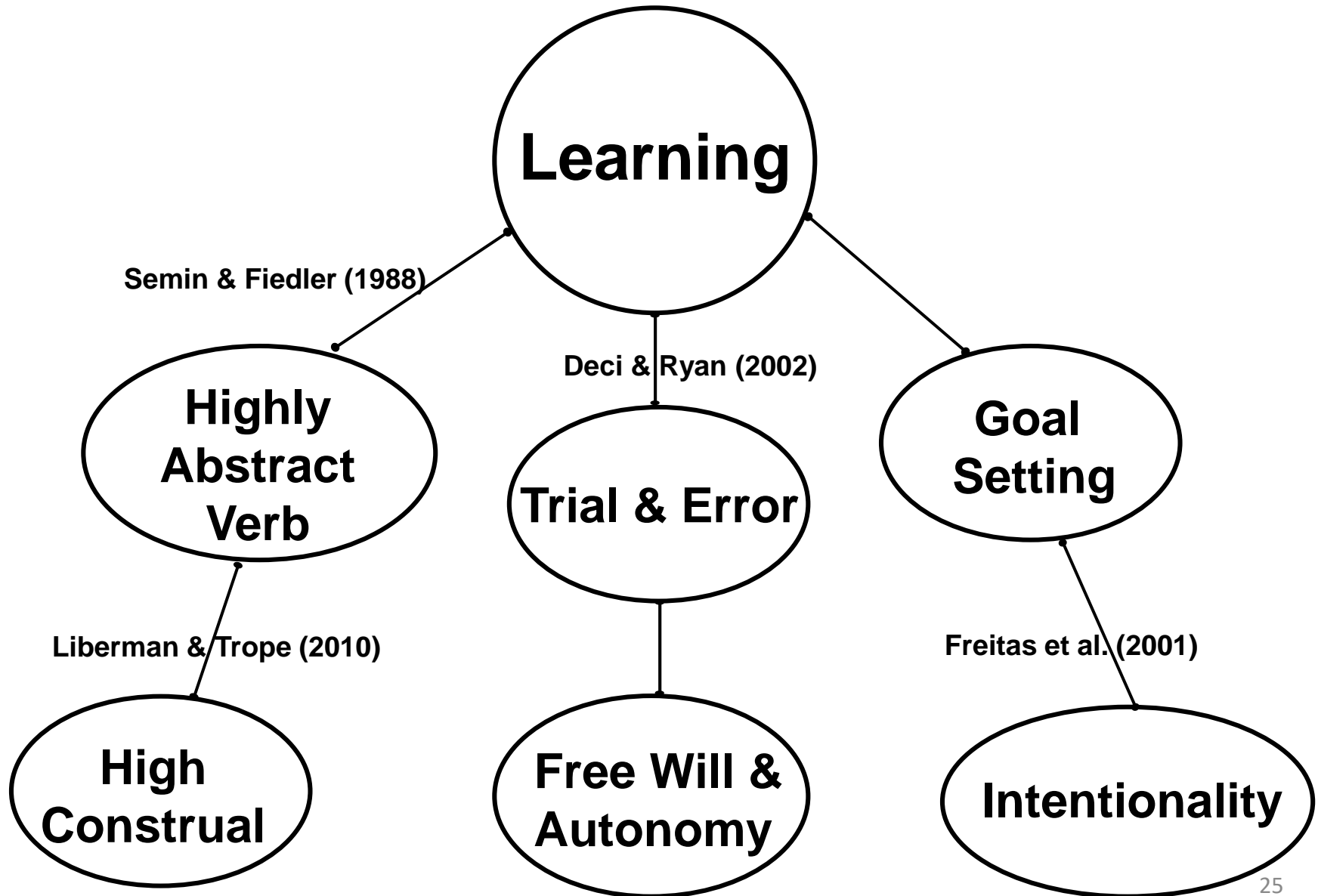
- In Study 3, we examine whether an AI's ability to learn can moderate the default low-construal perception of the AI
- The idea here is that learning is a high-construal concept which can potentially make a learning machine perceived as a high-construal agent
- Study 3 had 2 (learning: yes, no) x 2 (message: why, how) design

Machine Learning

- Fundamental concept of AI research since the field's inception
- Makes AI improve **automatically** through experience



“Learning” is a High-Construal Concept



Study 3: Persuasion When AI Can Learn



or



“Baxter **Cannot** Learn”
(No-Learning condition)

“Baxter **Can** Learn”
(Learning condition)

Study 3: Persuasion When AI Can Learn

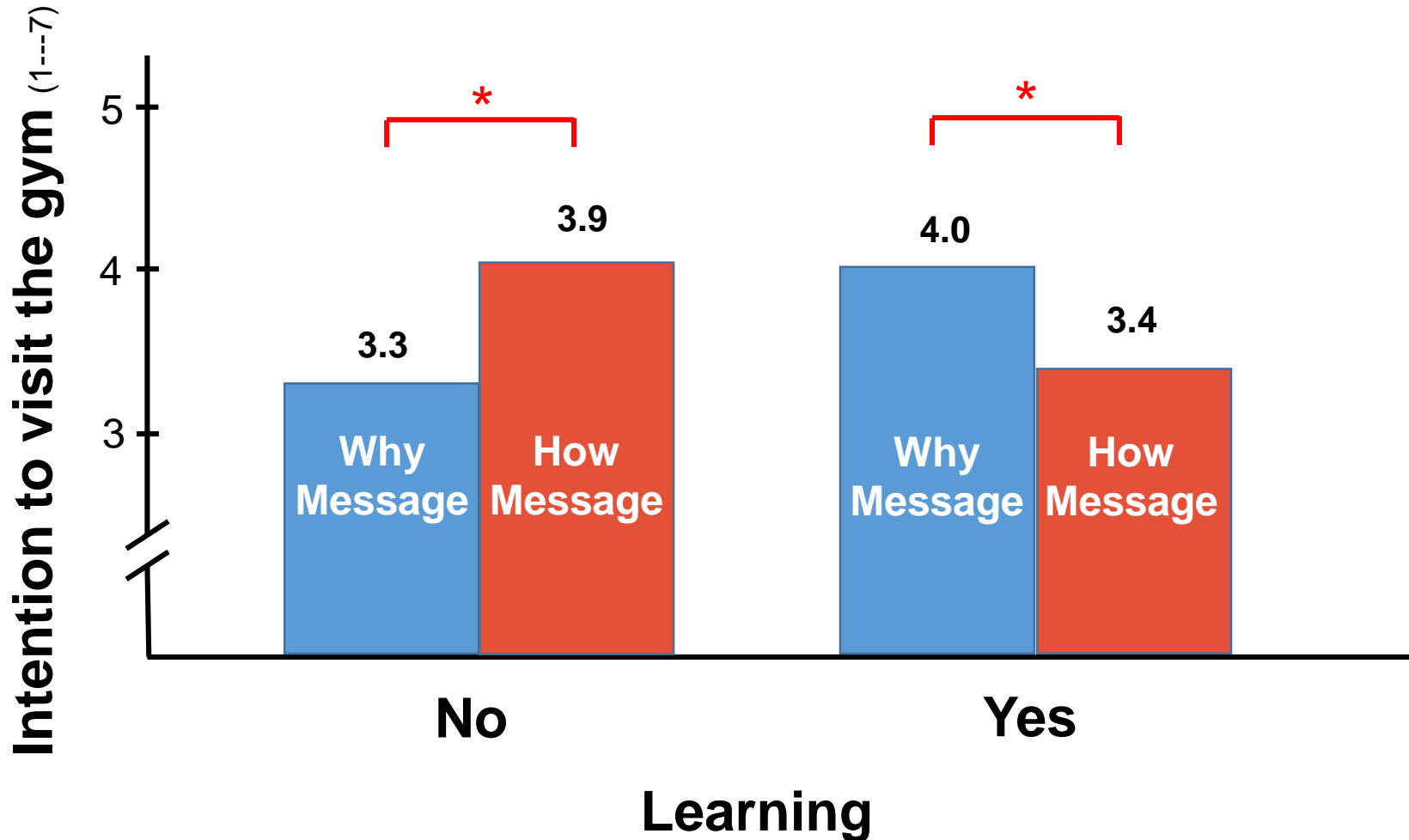


or



Han, Duhachek, & Agrawal, 2016, *JCR*

Results: Matching Effect in Persuasion



2-way interaction: $p = .008$ $N = 198$

Study 3: Implications

- As predicted, when people are informed that the AI can learn, it changes people's perception about the AI and makes it into a high-construal agent and also make “why” message more effective than “how” message.

Summary

- AI leads to **low-construal mindset** due to lack of intentionality, free-will, and goals
- Effect extends to **persuasion contexts**
- Perception of **AI's learning** moderates

Contributions

- To the literature of Persuasion
- To the literature of Construal Level Theory
- To the literature of AI & Marketing

Managerial Implications

- AI by default is a low-construal agent and AI's low-construal “how” message more effective than “why” message
- However, learning capability moderates this effect
- Companies that use AI to persuade consumers (e.g., Amazon) should be careful when they create the persuasion message.