Costs and Benefits of Simplifying Diet and Exercise Rule Complexity

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INTRODUCTION:
Today, 98% of all diets fail (Jeffery 2000). One promising avenue for improving health outcomes focuses on improving diet and exercise adherence via reducing rule complexity.

Do people understand the benefits of simpler rules?

HYPOTHESIS:
We hypothesized that many people mistakenly believe that "complex is better" for diet and exercise programs.

METHODS:
We conducted an online survey (N = 313) using Unipark survey software with paid participants from Amazon's Mechanical Turks. Demographics roughly matched key aspects of the US population.

DEMOGRAPHICS:
Gender: 131 Male; 182 female
Ages: Ranged from 18-67 (All US Residents)
BMI: 44% had BMI < 25; 56 % had BMI ≥ 25; (7% no answer)
High blood sugar or diabetes: 13% had been diagnosed

EXPERIMENT 1: DIETS

Presented two diets
Diets were equated on the following:
- Number of rules
- Number of words
- Diet efficacy*

*Data suggest that the simpler diet may be more effective (Camelon et al., 1998)

Online Survey Stimuli

Diet Complexity

(1) People accurately judged the Macronutrient diet as more complex and harder to remember.
(2) Accurate recall and recognition of diet rules was dramatically reduced for the complex diet.
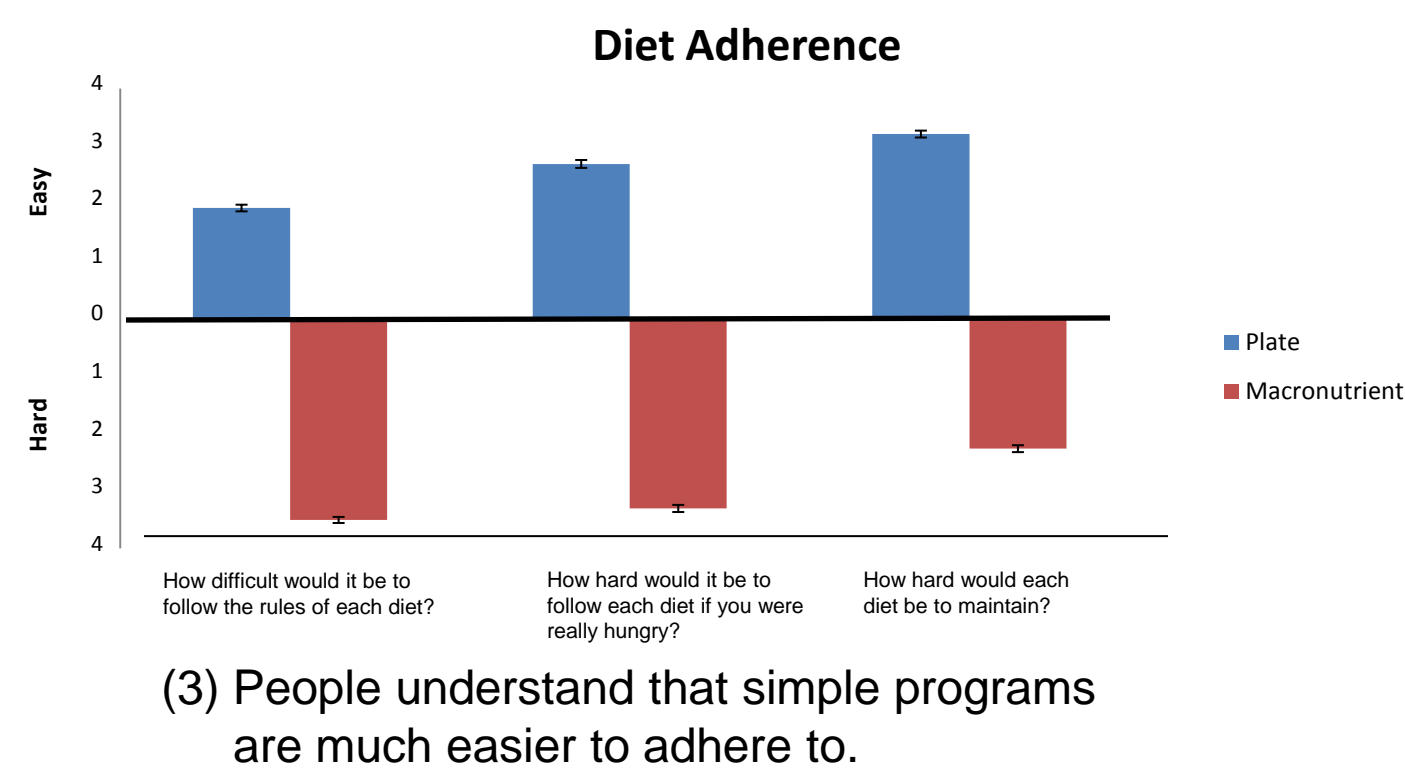
Diet Adherence

(3) People understand that simple programs are much easier to adhere to.

Weight Loss on Each Diet

(4) Participants incorrectly judged the complex diet to be more effective for weight loss (ca. 10% better; *Cohen's d = .3*).
(5) Suggests most people do not understand the importance of adherence for weight loss.
(6) Reveals a 'complex is better' bias when estimating diet efficacy, suggesting a potentially serious obstacle when selecting diet programs

EXPERIMENT 2: EXERCISE
Presented two exercise programs
Programs were equated on
- Number of rules
- Number of words
- Exercise efficacy*

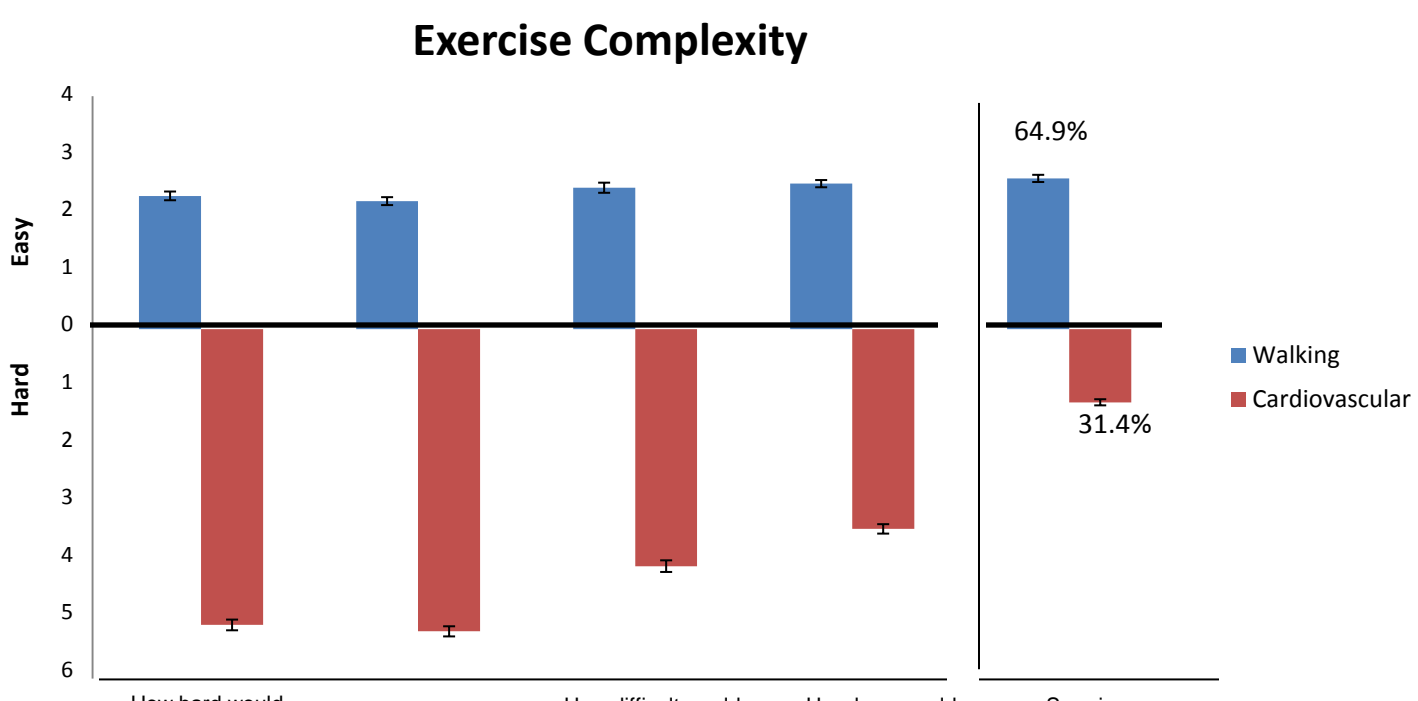*Data suggest that the simpler program may be more effective (Skinner 2005).

Online Survey Stimuli

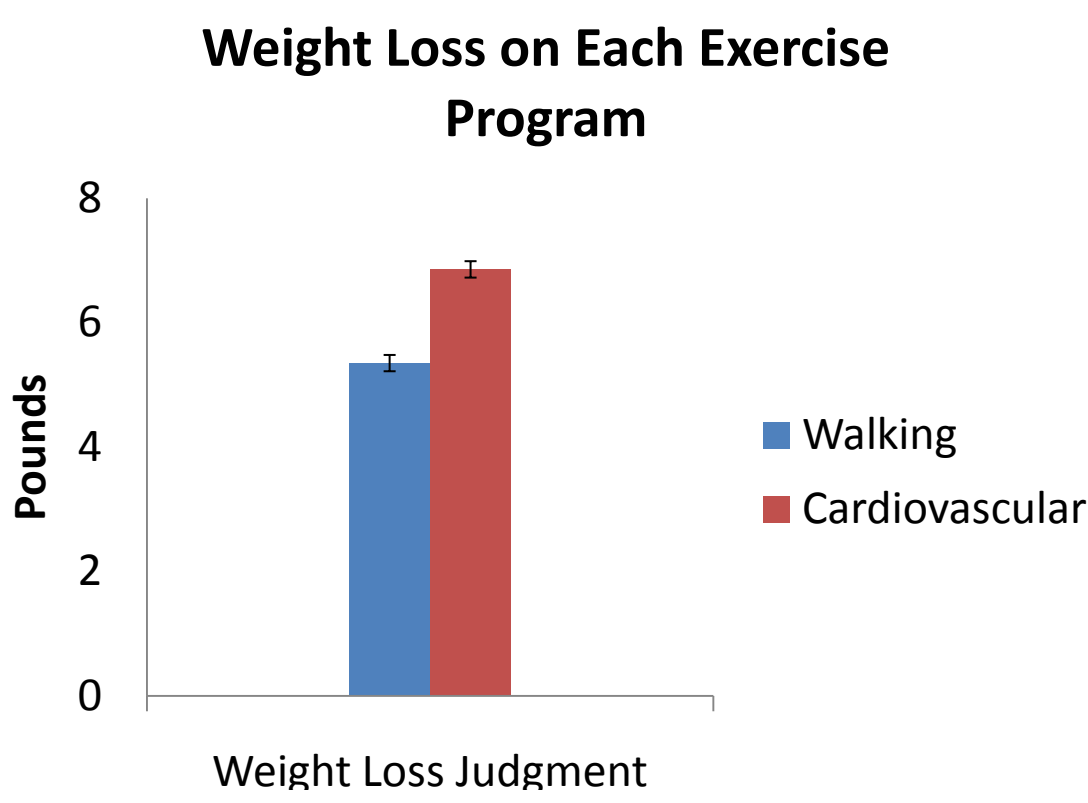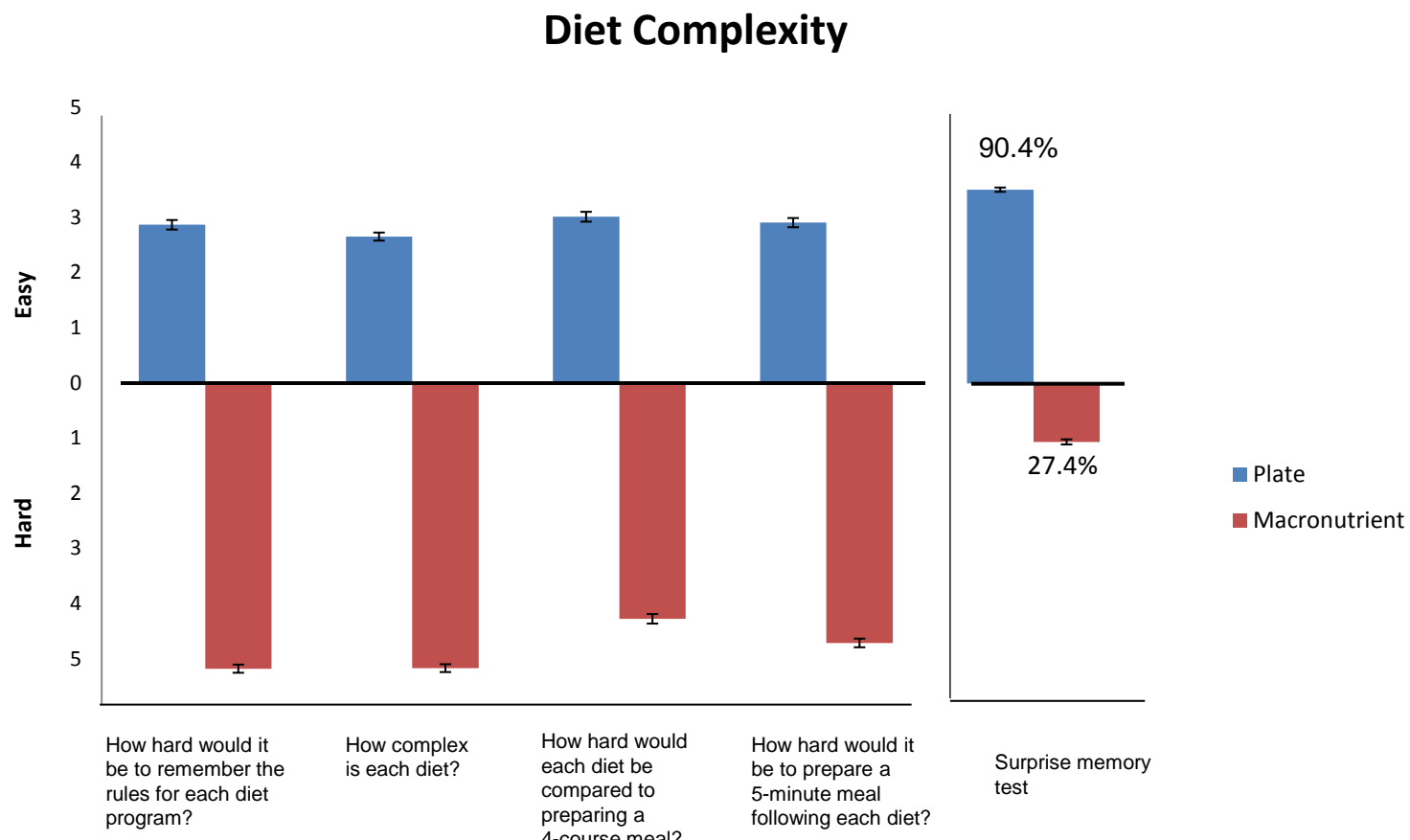**Exercise Complexity**

1) People accurately judged the Cardiovascular program as more complex and harder to remember.
2) Accurate recall and recognition of exercise rules was dramatically reduced for the complex program.

Exercise Adherence

(3) People understand that simple programs are much easier to adhere to.

Weight Loss on Each Exercise Program

(4) Participants incorrectly judged the complex program to be more effective for weight loss (ca. 20% better; *Cohen's d = .7*).
(5) Suggests people do not understand the importance of adherence for weight loss.
(6) Reveals a 'complex is better' bias when estimating program efficacy, suggesting a potentially serious obstacle when selecting exercise programs
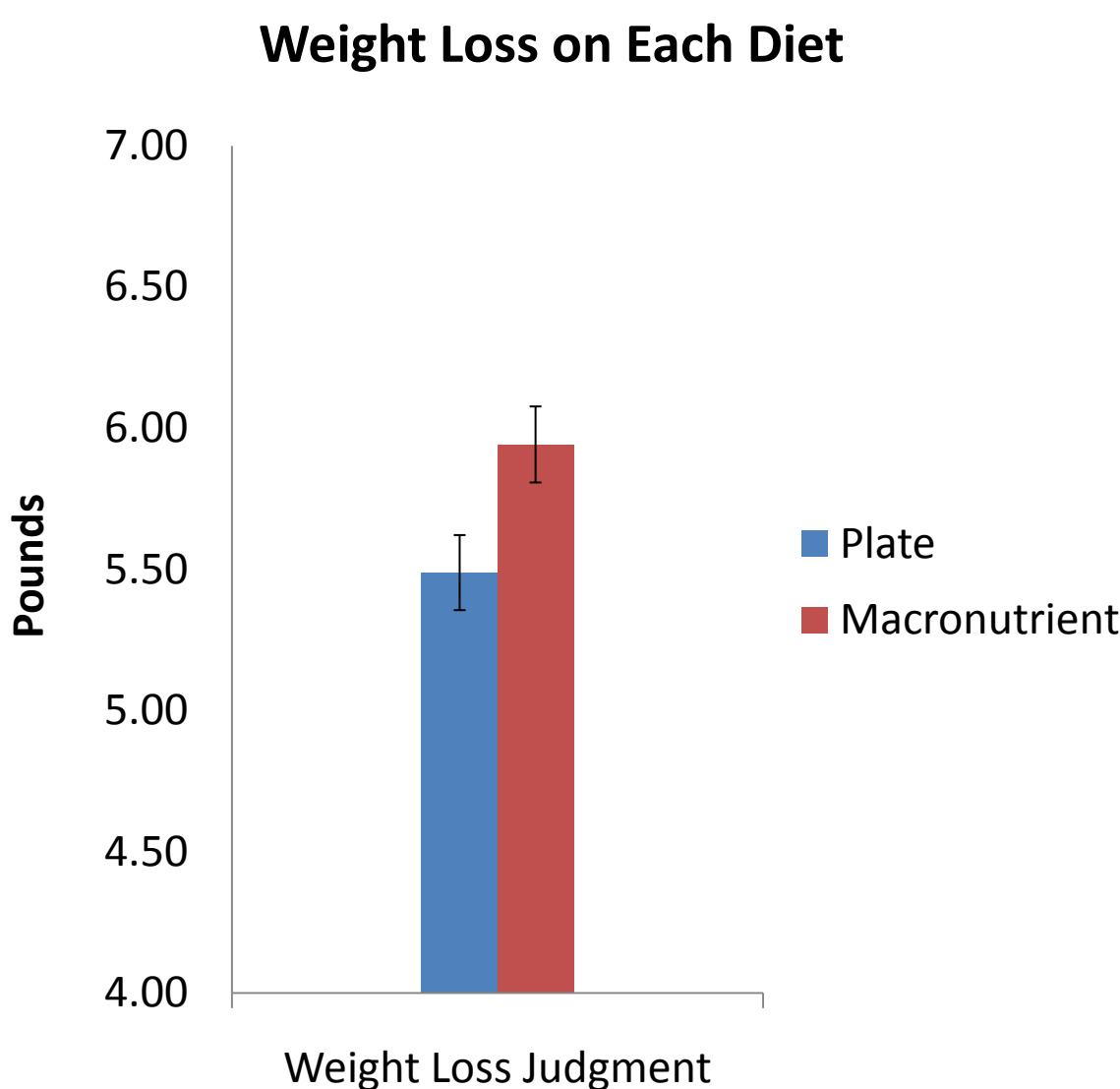
CONCLUSIONS
- Documents a "complex is better" bias when evaluating common diet and exercise (and perhaps other) health interventions.
- Documents large mnemonic benefits of simpler programs
- Indicates that the public tends to understand that simpler programs are easier to remember, follow, and adhere to.
- However, suggests a widespread lack of public understanding of the importance of adherence for weight-loss success.

FUTURE DIRECTIONS.
Ongoing studies are evaluating 'complex is better' type biases in:
- Professional health care workers (nutritionists; physicians; nurses; trainers; nursing-home workers);
- Cross-cultural studies
- Various age groups (e.g., Children; Adults; Older Adults)
- Other health Interventions (e.g., Pharmacological; Surgical)

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