

Health Algorithms, Judgement, and Behavior

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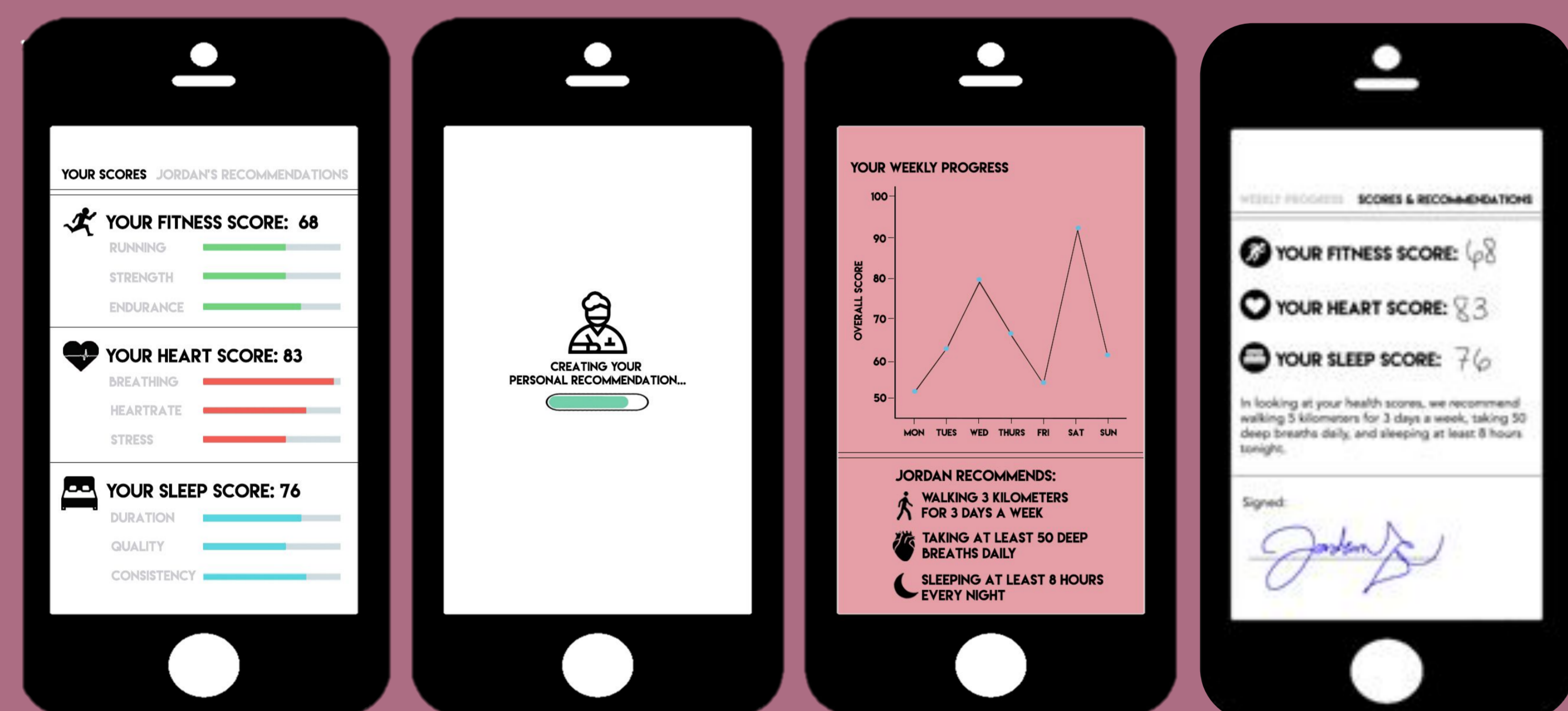
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Background

Digital health is an emerging field utilizing algorithms to track and make recommendations about health, mental well-being, and fitness. The concern with these algorithmic recommendations is that, more generally, algorithms have a greater impact on people's judgements than recommendations by other people (Dietvorst, et al., 2015; Logg, et al., 2019; Prah & Van Swol, 2017). As algorithms increasingly become involved in health, there is a need to understand how perceptions of health recommendations and health judgements change when given information by certain types of algorithms and how this may subsequently affect future health behavior.

STUDY 1



Research Question

1. How does perceived trust and belief in health information and health recommendations change if given by an algorithm or human?
2. Does personifying an algorithm affect trust and belief in health information and health recommendations?

Method

This will be a randomized between-subjects study where participants will read a vignette about the process of making a health recommendation and then a subsequent health recommendation. The participants will then be asked how much they trust the recommendation and how much they believe the health recommendation will improve health.

Conditions

- Recommendation given by a doctor
- Recommendation given by an algorithm
- Recommendation given by an algorithm described like the doctor

Dependent Variable

- How much they trust the recommendation
- How much they believe the recommendation will improve health

STUDY 2



Research Question

1. How does the health information's source affect people's willingness to change their judgements about health when given by an algorithm or human?
2. Does personifying an algorithm affect people's willingness to change their judgement about health?

Method

This study will be a randomized between-subjects study where participant are presented with the health background of a fictional person and told to make health and fitness recommendations (e.g., amount of sleep and exercise). The participant will then be given the chance to change their judgement given the new information.

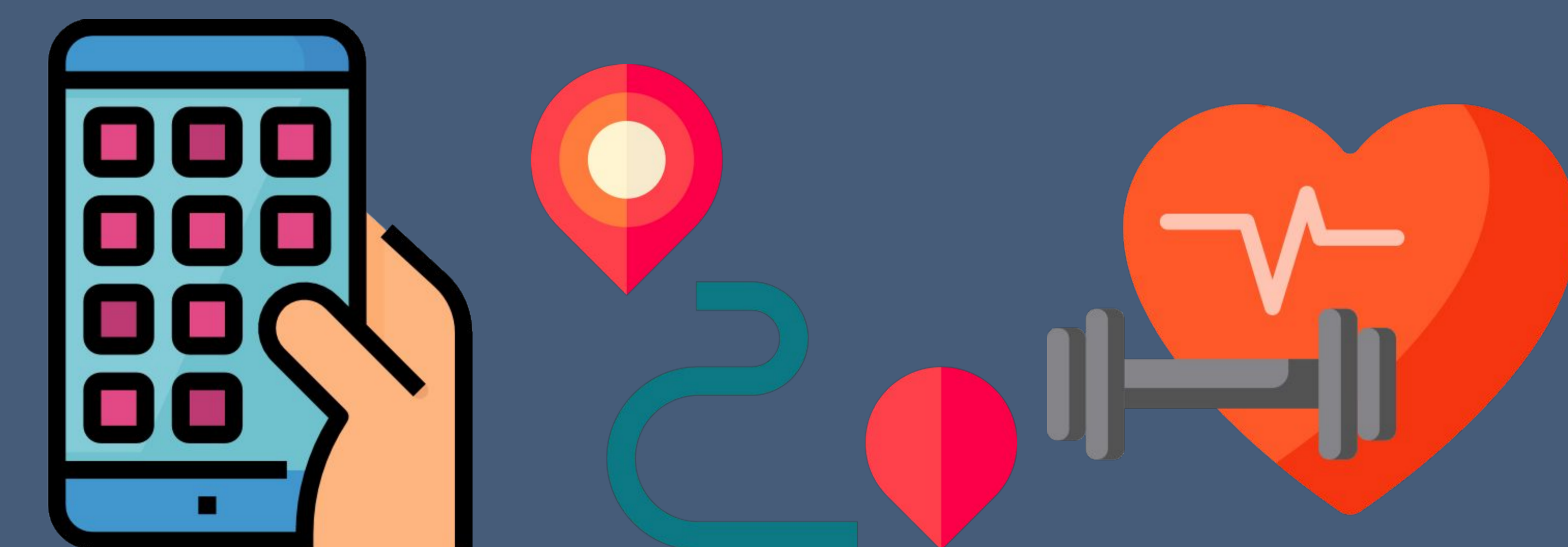
Conditions

- Recommendation given by a doctor
- Recommendation given by an algorithm
- Recommendation given by an algorithm described like the doctor

Dependent Variable

- Participant's willingness to change initial judgement to match the recommendation.

STUDY 3



Research Question

1. How does health behavior change based on recommendation of a personified versus non-personified algorithm?

Method

This will be a randomized between-subjects design where college students will be tracking their fitness and health for a week and then be given health recommendations by an algorithm. The participants will then track their health and fitness for another week, reporting their health and fitness information every day.

Conditions

- Recommendation given by an algorithm
- Recommendation given by an algorithm described like a human expert

Dependent Variable

- People's adherence to the recommendation during the second week.

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