

# The Unexpected Downside of Paying or Sending Messages to People to Make Them Walk: Comparing Tangible Rewards and Motivational Messages to Improve Physical Activity

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## Summary

People do not exercise as much and as regulary as they should. Therefore, app designers create mobile applications with persuasive techniques. Two of the most commonly used are (1) **tangible rewards** and (2) **motivational messages**. However, the effect of these techniques on intrinsic motivation is unknown. We conducted a 10-month study, with 208 participants to test these effects. We recorded participants daily number of steps. We found that (1) these interventions had no effect on the number of steps and (2) they produced a detrimental effect on intrinsic motivation.

## Context

People follow a sedentary lifestyle



## Tangible rewards and motivational messages in SDT

- Incentives are a form of extrinsic and tangible rewards. SDT scholars demonstrated that, under well-specified conditions, rewards can be perceived as coercive and controlling, hence disrupting autonomy.
- SDT authors, argue that offering money for an activity that was already intrinsically motivated can prompt people to experience an external perceived locus of causality (E-PLOC).
- Using rewards to motivate people can signal that the activity is not worth doing for its own sake.
- Completion-contingent rewards undermine intrinsic motivation.
- Motivational messages are a form of feedback, which enhances people's sense of competence.
- When positive feedback is not expected, people are less likely to think that they completed the activity in order to get the feedback, thus not affecting the PLOC.
- When feedback is experienced as an evaluation, pressure or control, it prompts a shift in the PLOC hence undermining intrinsic motivation.

## Question

**How do tangible rewards and motivational messages affect the intrinsic motivation of an individual to walk 10K steps per day?**

## What and How?

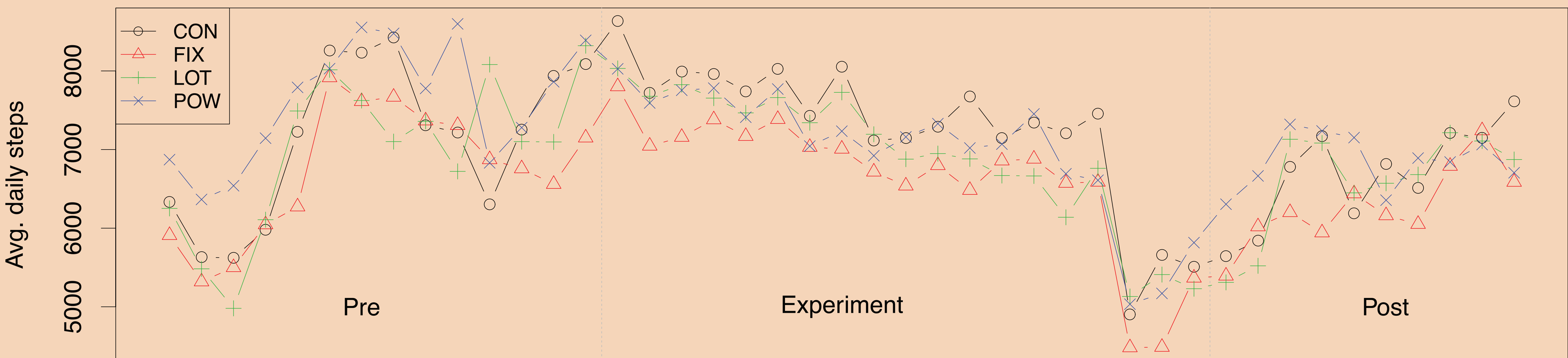
10 month study  
- 3 months pre-phase  
- 4 months experiment  
- 3 month follow-up

208 participants  
Daily Goal: Walk 10K steps

3 interventions  
- Fix monetary incentive  
- Weekly Lotery  
- Motivational Message

We recorded how many steps participants did per day.

## What we found



Results:  
1. Interventions had no effect on steps (main outcome)  
2. Interventions produced detrimental effect on intrinsic motivation (IM). This detrimental effect extended through follow-up period.

## Take-away

Tangible rewards and motivational messages decrease the intrinsic motivation of participants, consequently their physical activity level.

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