WhoIsZuki: Motivating Physical Activity Through Ambient Narratives

STANFORD HUMAN-COMPUTER INTERACTION GROUP

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Motivation

Physical inactivity is a global epidemic

18
diseases & disorders

3/4
of Americans fall short of activity targets
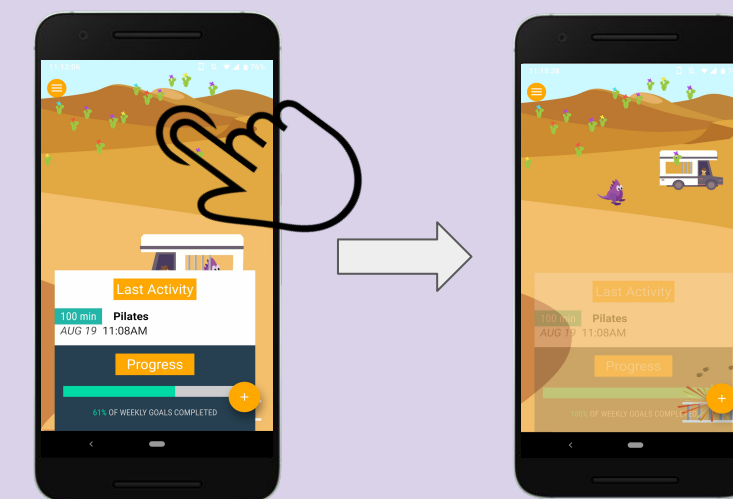
5.3
million annual deaths globally

But most health interventions are confusing, demotivating, & unengaging (e.g., 33% of fitness trackers are abandoned by users after 3 months)

Research Question

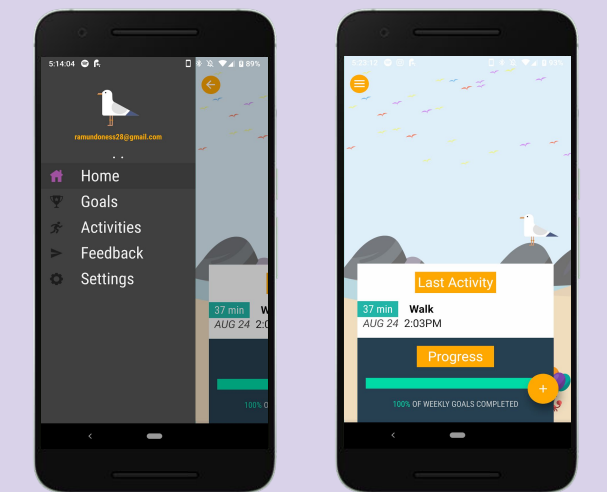Can multiple chapter narratives drive long-term behavior change for physical activity?

Full Deployment
(Summer 2019)

Developed new features

Added tap to hide activity dialog

Improved tools for study monitoring

Implemented non-narrative condition

Analysis from Pilot Study
(Summer 2018)

- N=16, multi-chapter (narrative feedback) vs. single chapter (non-narrative) conditions
- Participants who got narrative feedback logged more activities, exhibited positive psychological shifts, and engaged more with the system
- But long-term, larger-sample study still needed, with controlled randomization to reduce bias
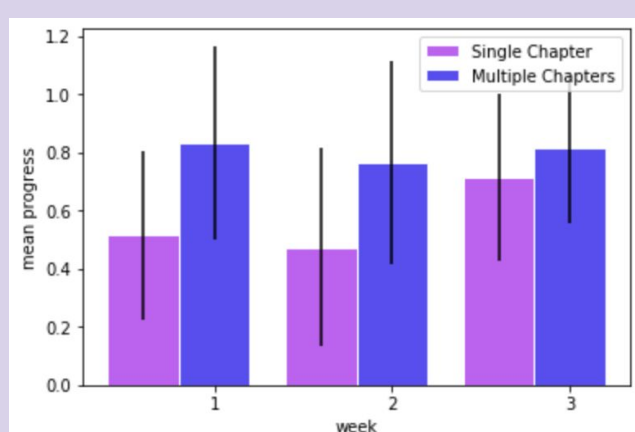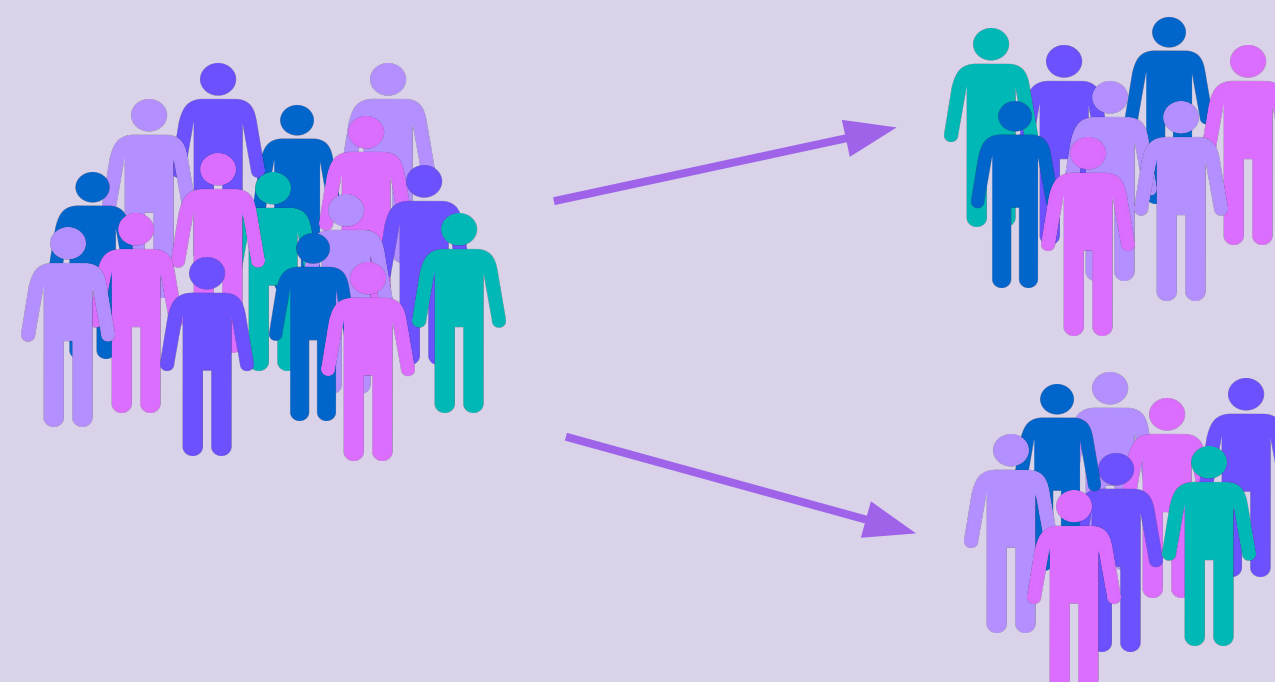

Progress towards weekly goals
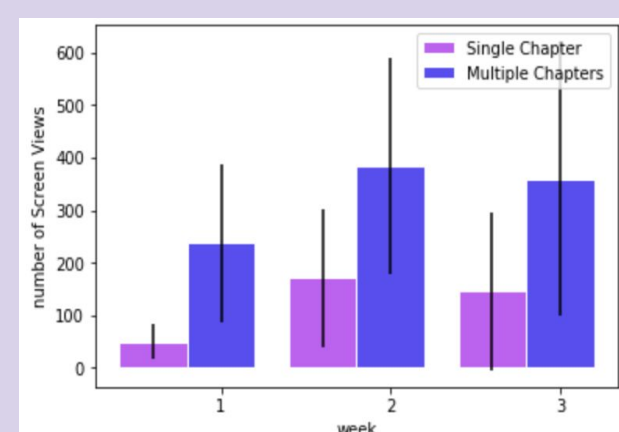
Engagement with the interface

Criteria-Based Randomization

"Criteria-based randomization: Simple and exact control in multi-arm trials" (Baiocchi & Kizilcec)
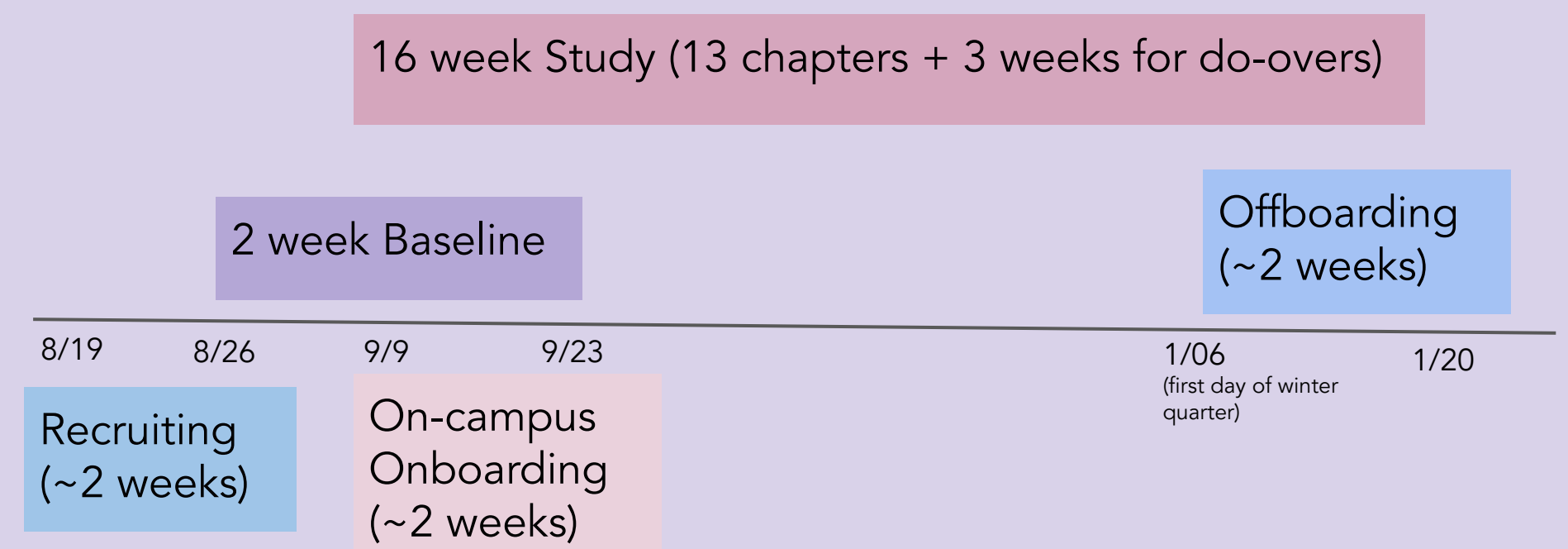
Problem: Covariates affect results

Solution: Balance covariates across study conditions. 13 criteria: age, gender, baseline BMI, physical fitness, mindset, etc.

Next Steps: Longitudinal Study

100 participants, 2 conditions (narrative vs. non-narrative)

16 week Study (13 chapters + 3 weeks for do-overs)

2 week Baseline

Offboarding (~2 weeks)

8/19   8/26   9/9   9/23   1/06   1/20
                                     (first day of winter quarter)

Recruiting (~2 weeks)

On-campus Onboarding (~2 weeks)