

# Examining community-level collaborative and competitive game mechanics to enhance household electricity-saving behaviour

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# GOAL



# APPROACH



# Household engagement



**Feedback+** (Sabadie, 2014)

**Practices** (Burchell, Roberta, & Rettie, 2013)

**Group effects** (Fischer, 2008)

**Gamification** (Deterding, Dixon, Khaled, & Nacke, 2011)

**Competition** (Scales et al., 2016)

**Goal setting** (McCalley & Midden, 2002)

**Interaction** (Breukers et al., 2013)

**Social setting** (Kurz et al., 2015)

# LIVING LAB



# Set up

Winterthur



10%



Max %



10%

Massagno



# Set up

TRACKING PERIOD A

Historical Reference: Average weekly consumption from Oct - Dec 2015

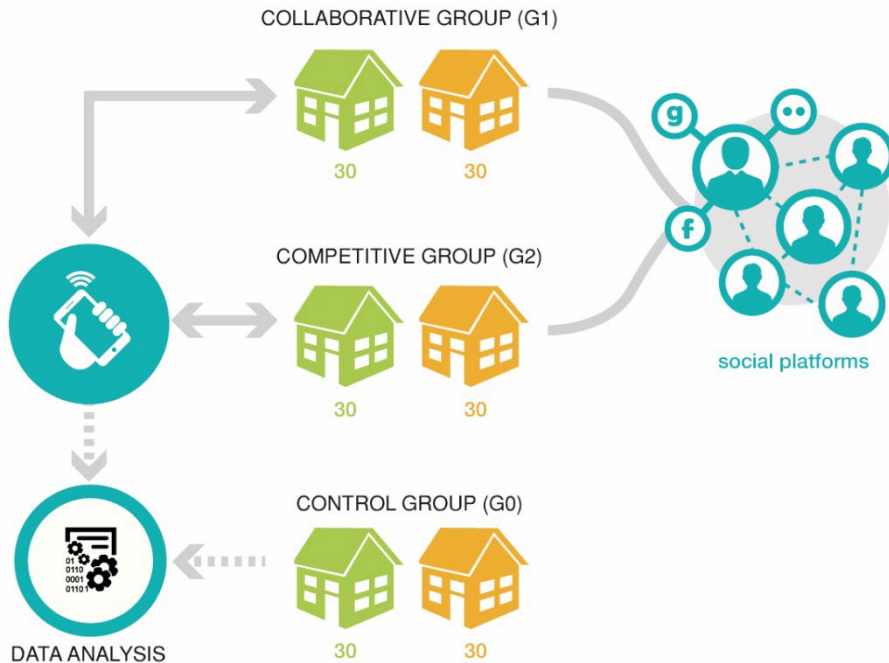


# Set up

## TRACKING PERIOD A

Historical Reference: Average weekly consumption from Oct - Dec 2015

## TRACKING PERIOD B



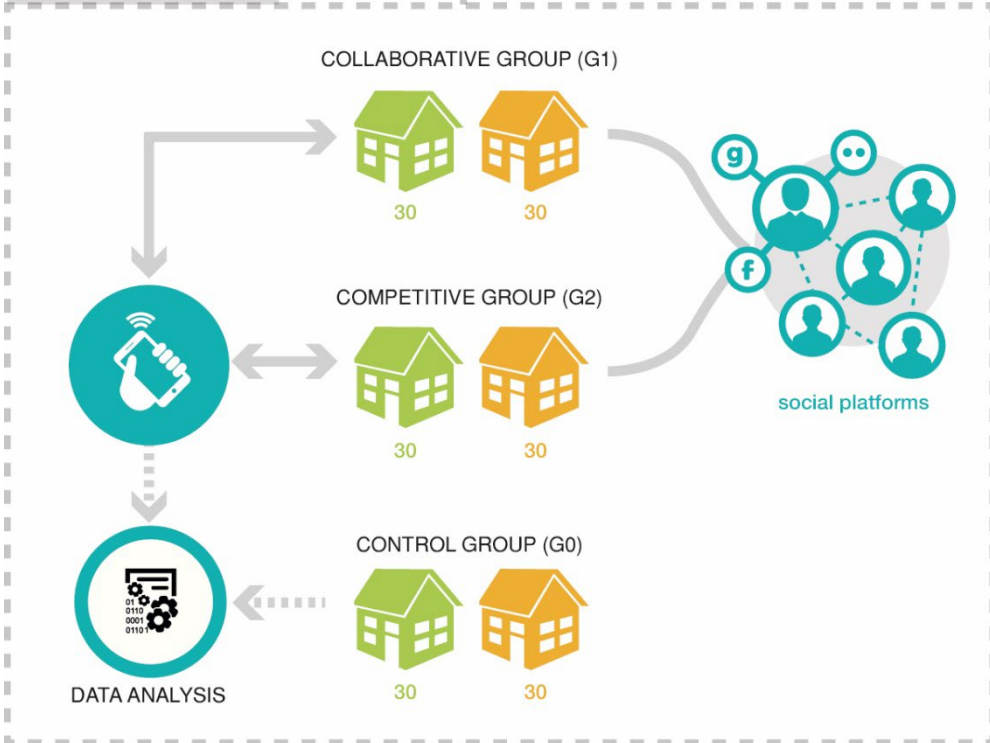


# Set up

## TRACKING PERIOD A

Historical Reference: Average weekly consumption from Oct - Dec 2015

## TRACKING PERIOD B



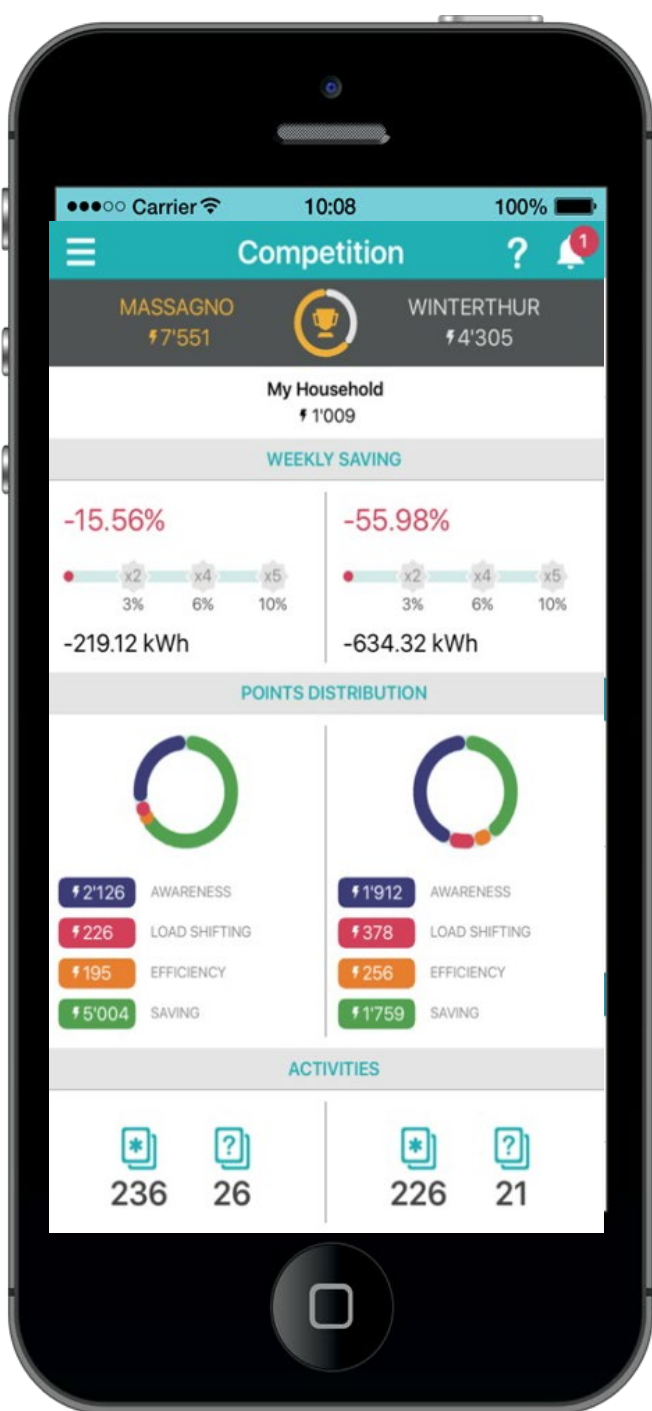
## TRACKING PERIOD C

Long term consumption: up until May 2017



# APP





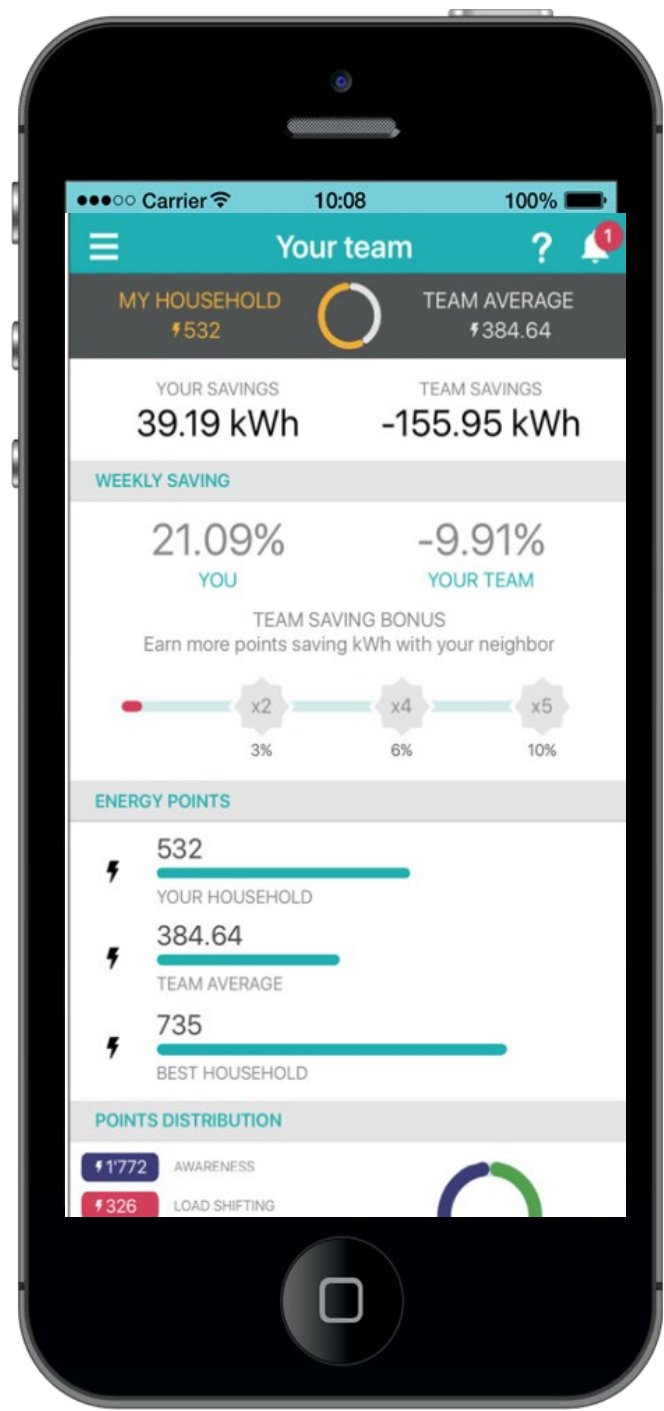
Game

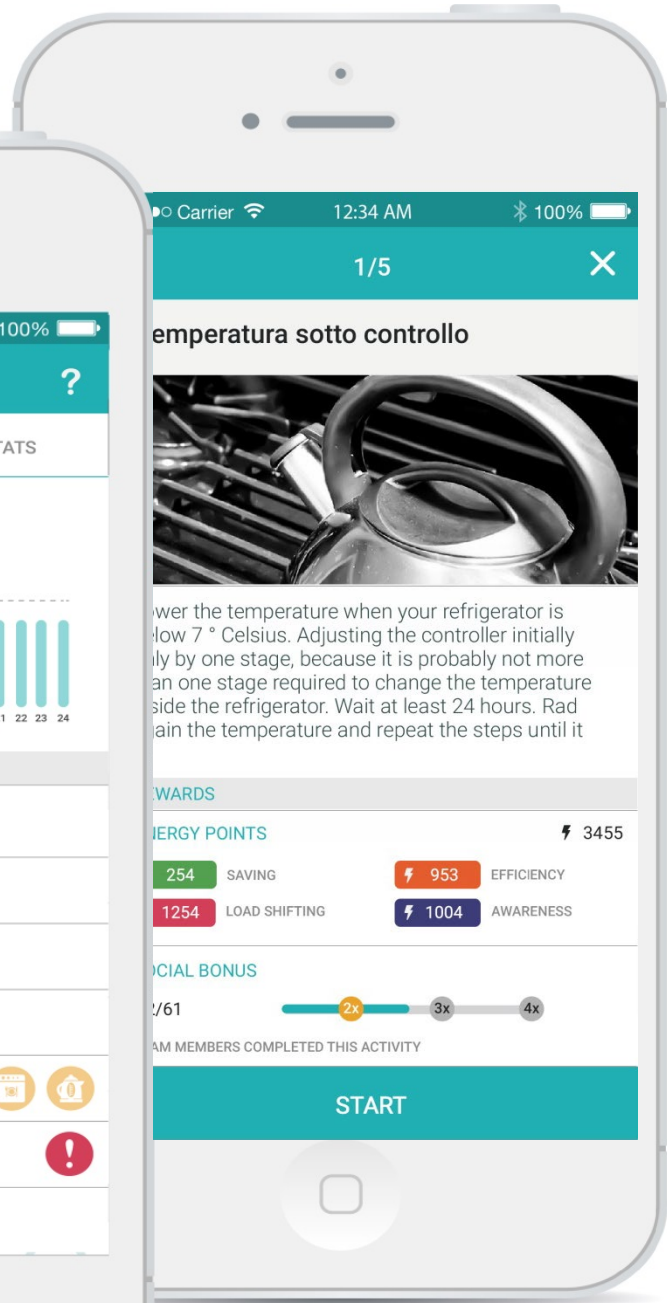
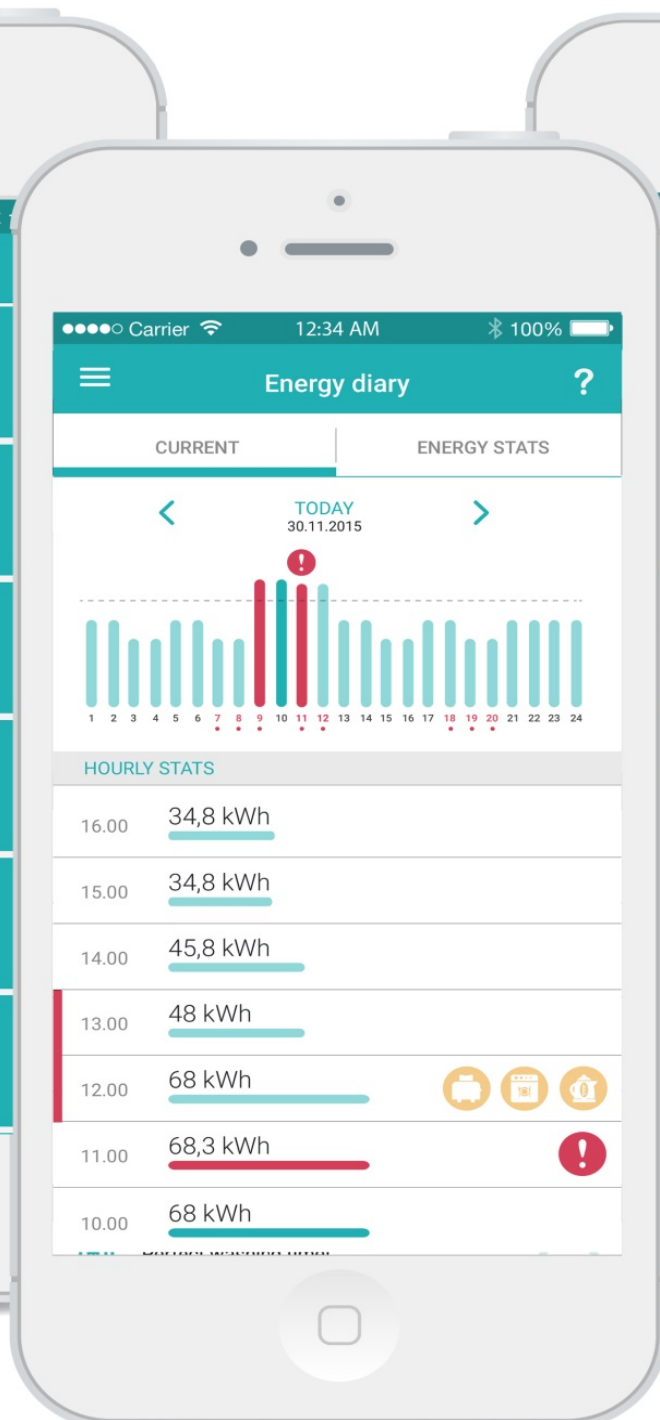
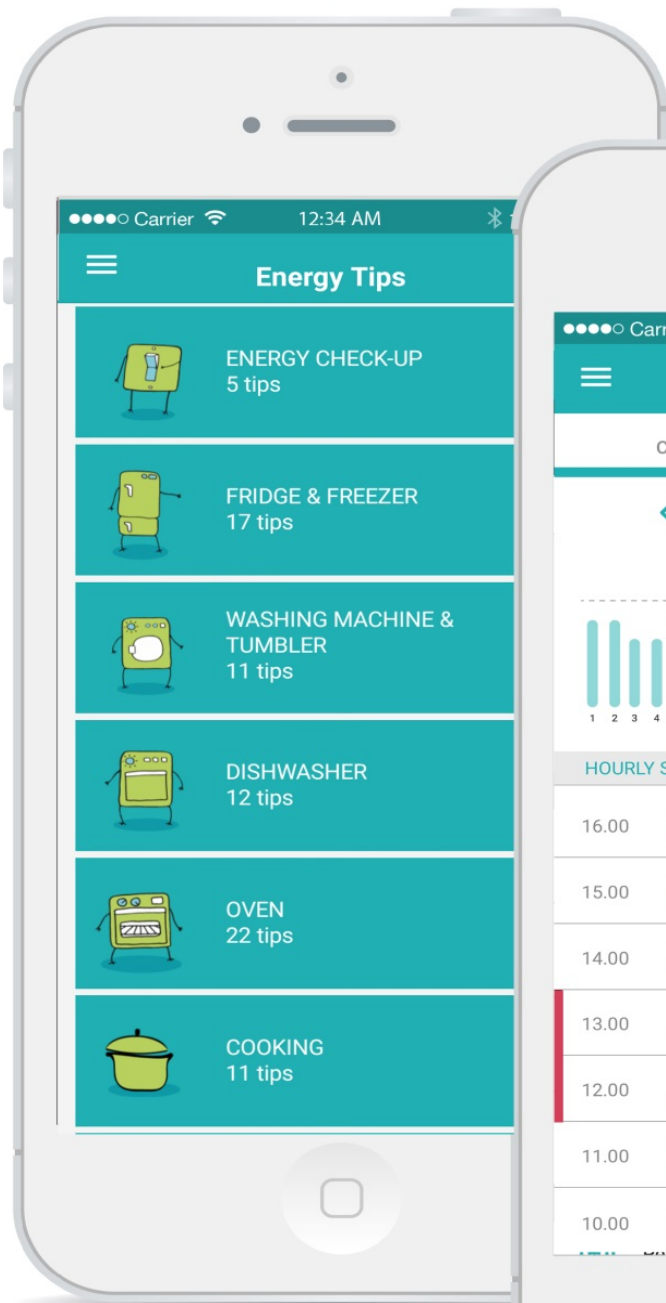


Progress

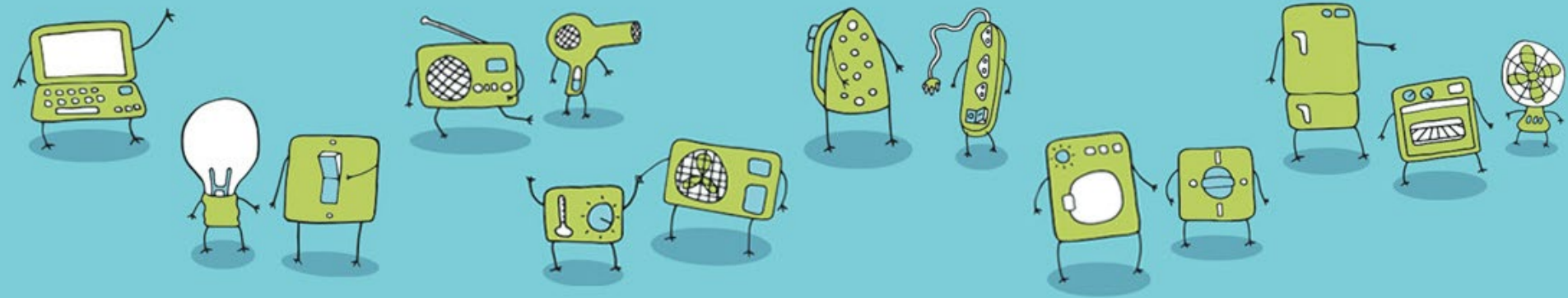


Points and completed activities





# RESULTS



# Savings (directly after)

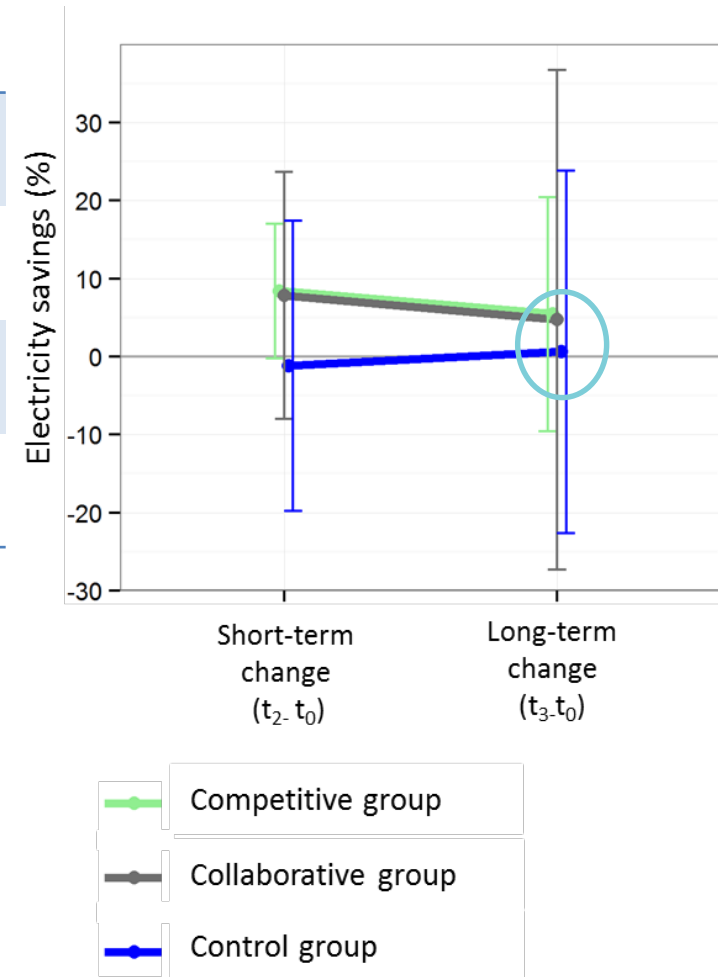
## Consumption change

Teams		n	(%)
<b>Competitive</b>	Massagno	13	- 8.5% *
	Winterthur	11	- 9.0%
<b>Collaborative</b>	Massagno	10	- 15.0%
	Winterthur	12	- 2.3%
<b>Control</b>	Massagno	23	-3.6%
	Winterthur	23	+ 6.1%

# Savings (1 year later)

## Consumption change

Teams	n	(%)
Competitive	21	- 5.4%
Collaborative	21	- 4.7%
Control	40	- 0.6%



# IMPACT

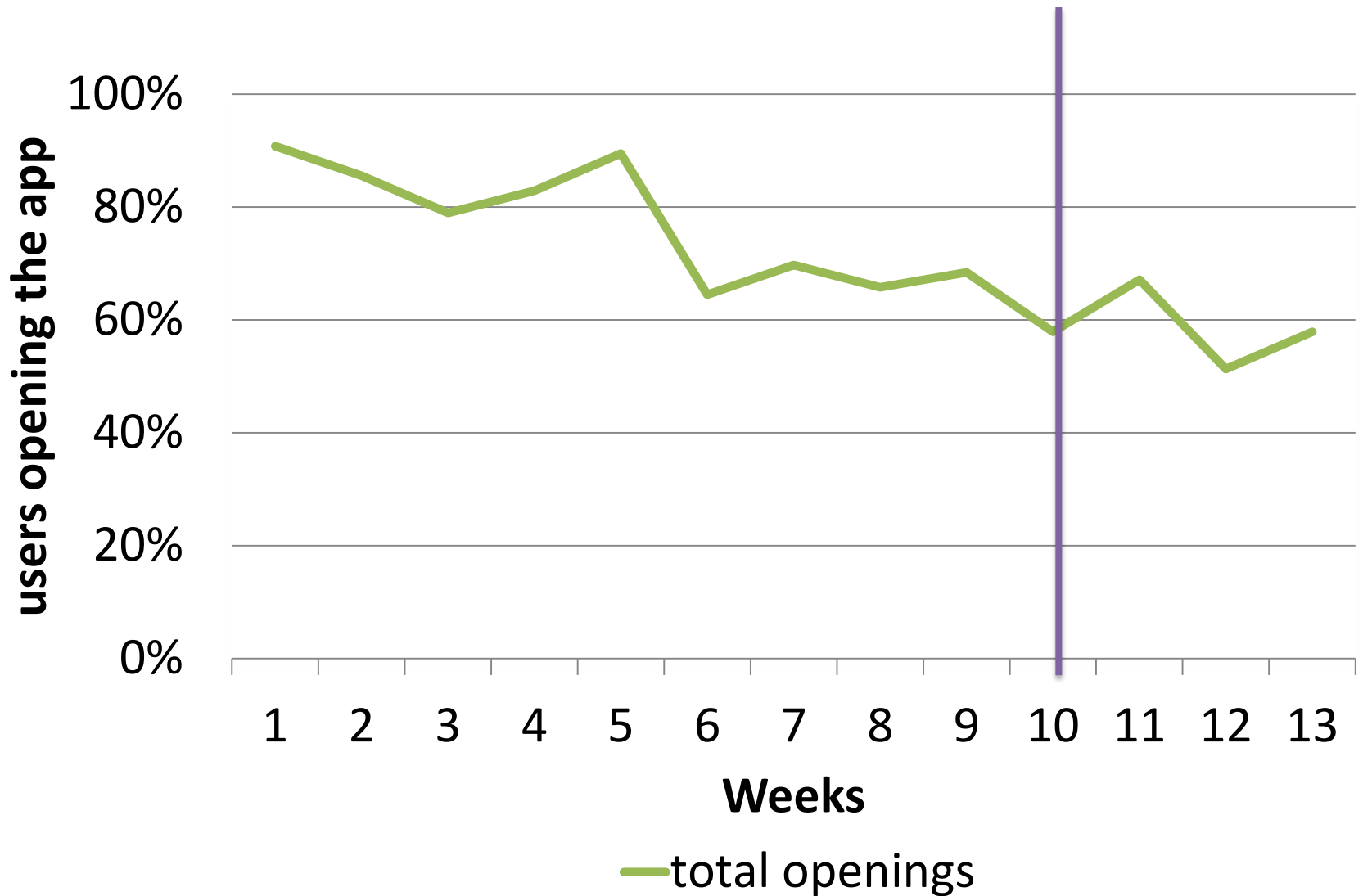




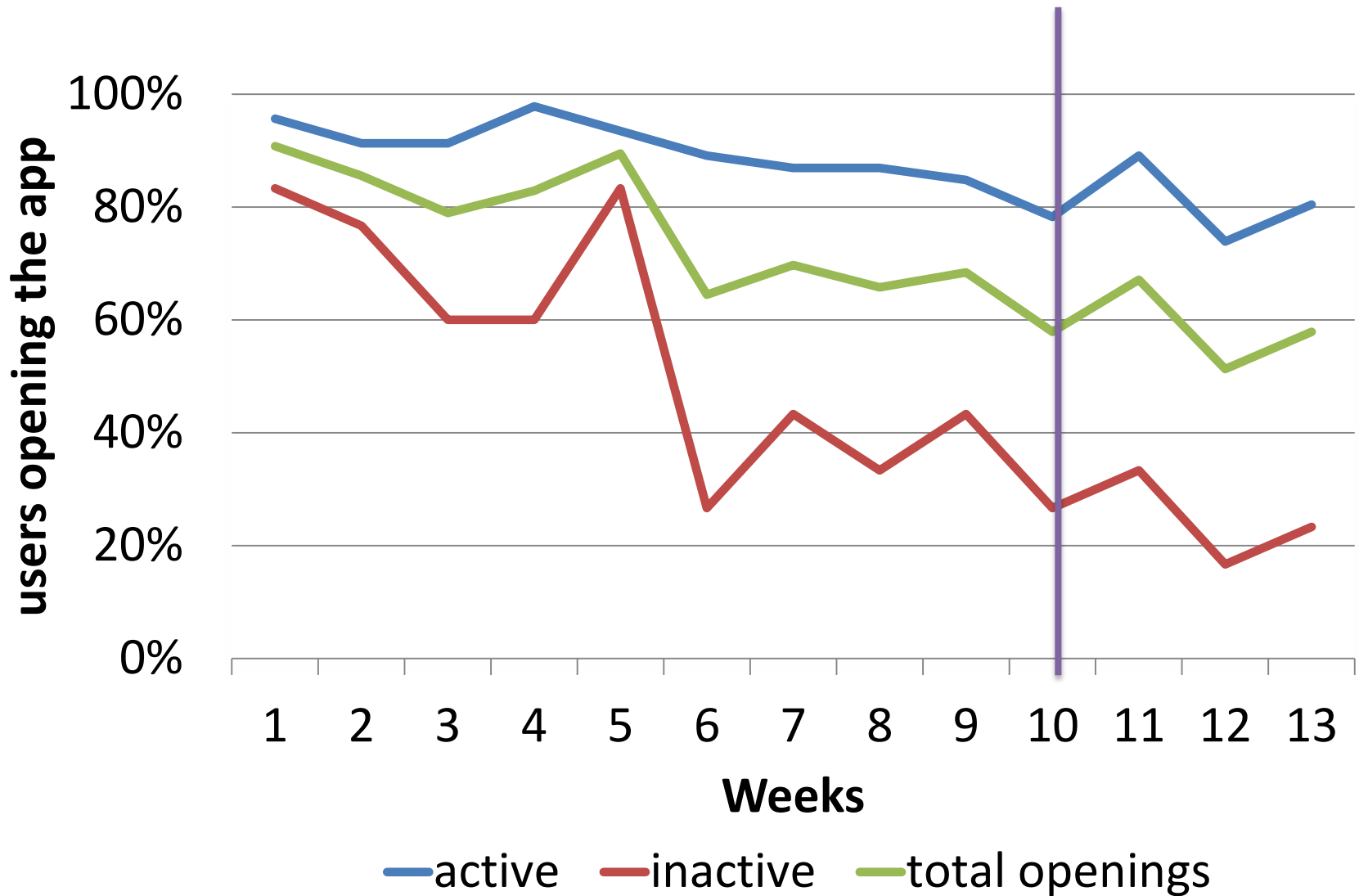
# “Hard-to-Reach” Participants

- How to get not just the interested users?
- Can we assume all participants are similar?
  - Ask ourselves:
    - What do we want to change?
    - Who do we actually want to reach and why?
  - Use self-selection bias to:
    - Recruit better
    - Compare better
    - Communicate results better

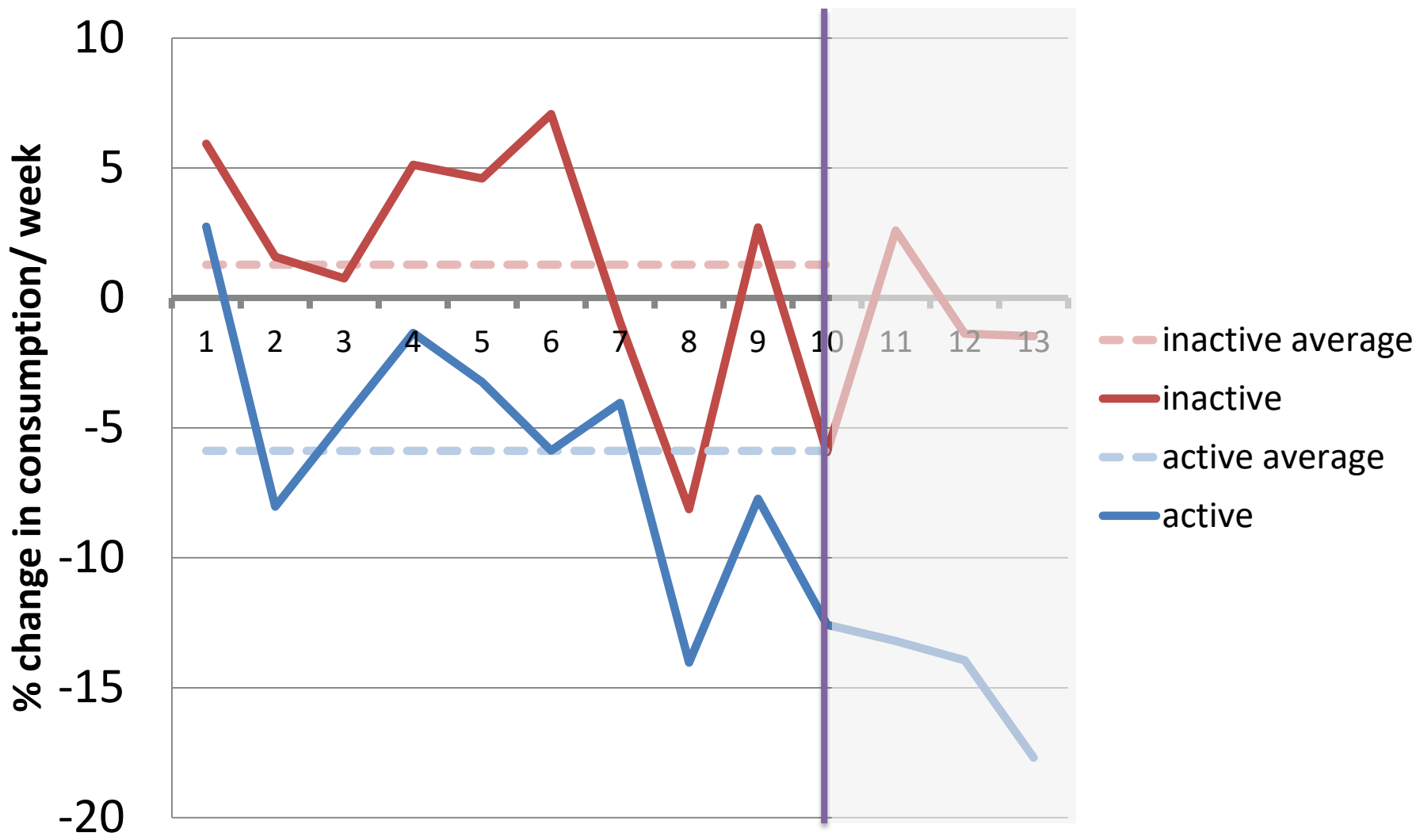
# “Hard-to-hold” participants



# Very different participants



# But if they stay in...





# SOCIAL POWER

[www.socialpower.ch](http://www.socialpower.ch)

# THANK YOU

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