

A Large-Scale Observational Study of the Causal Effects of a Behavioral Health Nudge

mercredi 19 avril 2023 16:00 (30 minutes)

Nudges are interventions promoting healthy behavior without forbidding options or significant incentives; the Apple Watch, for example, encourages users to stand by delivering a notification if they have been sitting for the first 50 minutes of an hour. Based on 76 billion minutes of observational standing data from 160,000 subjects in the public Apple Heart and Movement Study, we estimate the causal effect of this notification using a novel regression discontinuity design for time-series data with time-varying treatment. We show that the nudge increases the probability of standing by up to 43.9%, and remains effective with time. The nudge's effectiveness increases with age and it is independent of gender. Closing Apple Watch Activity Rings, a visualization of participants' daily progress in Move, Exercise, and Stand, further increases the nudge's impact. This work demonstrates the effectiveness of behavioral health interventions and introduces tools for investigating their causal effect from observations.

Joint work with Achille Nazaret.

Orateur: Prof. SAPIRO, Guillermo (Duke)