

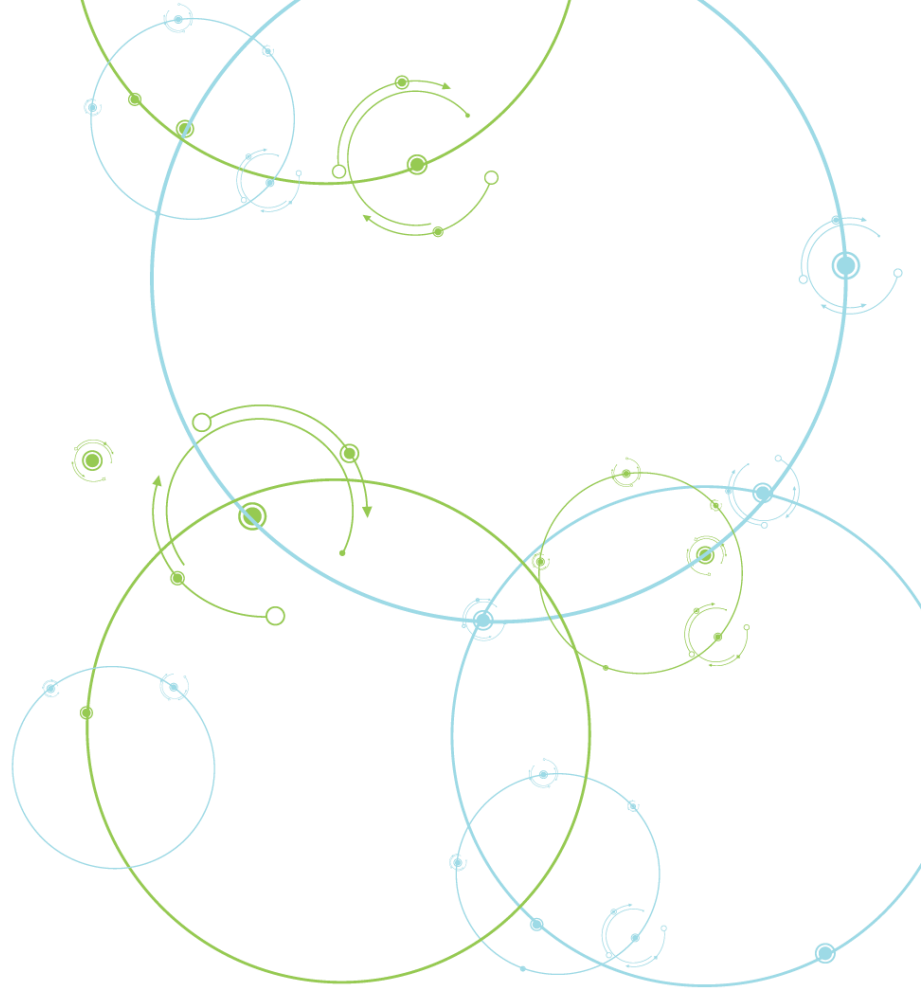
Using Passive Data to Supplement or Replace Survey Data

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Fellow



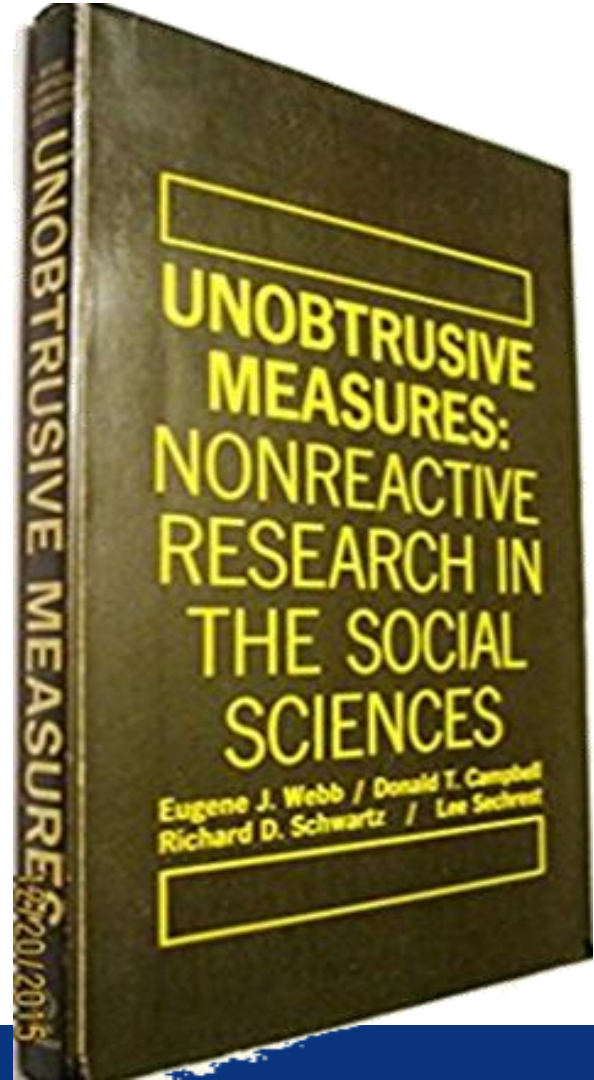
Book in Preparation

- *Data Collection with Wearables, Apps, and Sensors*
 - Florian Keusch, University of Mannheim
 - Bella Struminskaya, Utrecht University
 - Heidi Guyer, RTI International

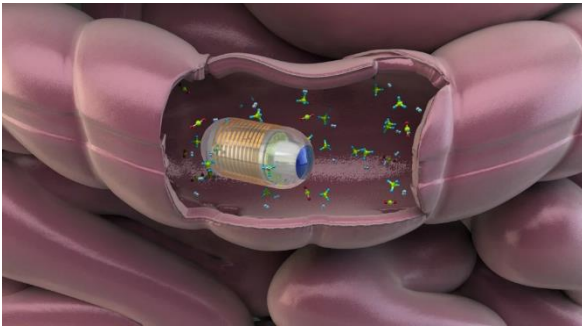


Passive Data – Macro Level

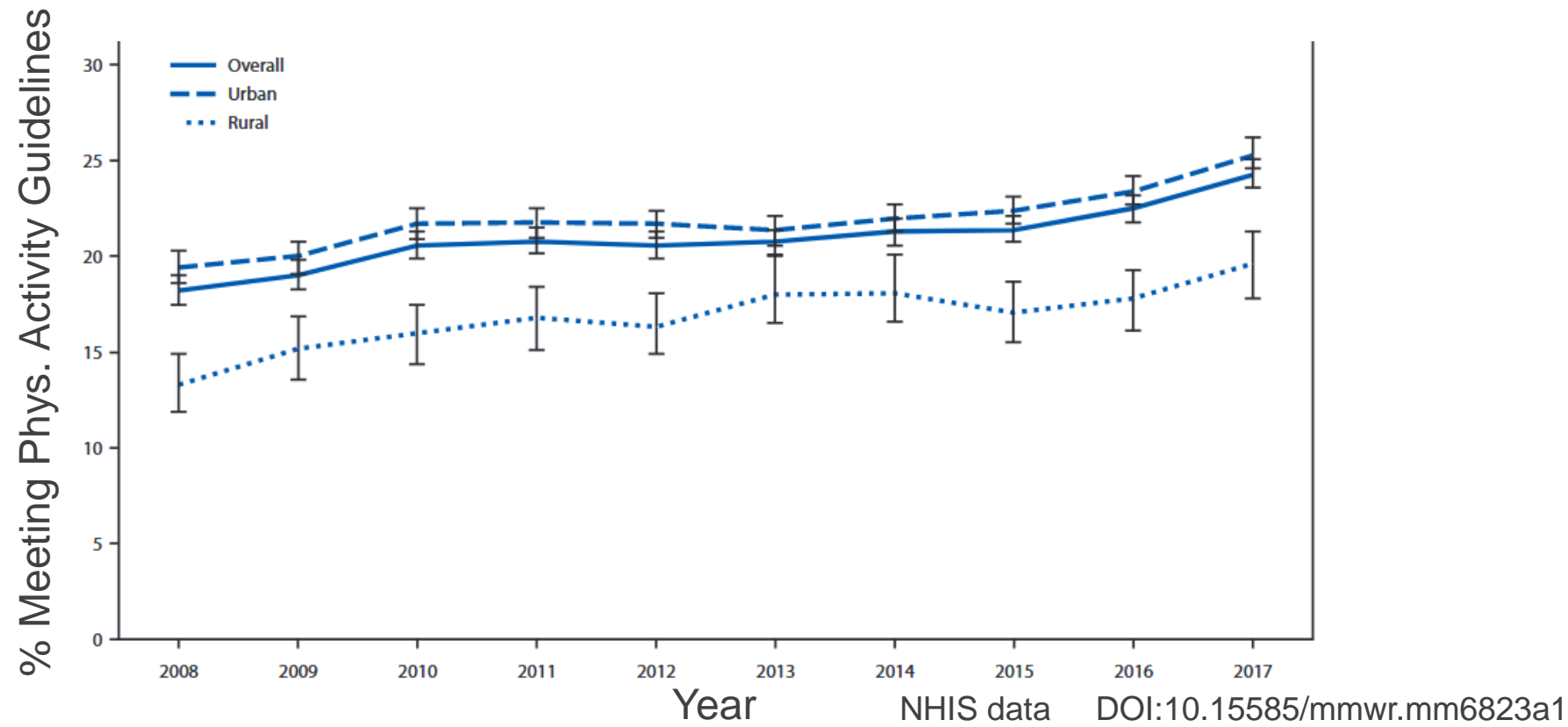
- Unobtrusive Measures:
Nonreactive Research in the
Social Sciences (1971)
- Drinking in dry town
- Popularity of museum exhibits
- Traffic counters



Passive Data – Micro Level



US Adults Meeting Physical Activity Guidelines, by Year



Comparison of Passive & Survey Measures

- Physical activity (NHIS 2017):
 - How often do you do VIGOROUS **leisure-time** physical activities for **at least 10 minutes** that cause heavy sweating or large increases in breathing or heart rate?

___ times per day, per week, per month, or per year



Couper's 5 Myths and Misconceptions

- **Ubiquity myth**



Couper's 5 Myths and Misconceptions

- Ubiquity myth
- **Mobility misconception**



Couper's 5 Myths and Misconceptions

- Ubiquity myth
- Mobility misconception
- **Passive fantasy**



Couper's 5 Myths and Misconceptions

- Ubiquity myth
- Mobility misconception
- Passive fantasy
- **Privacy is passé**



Couper's 5 Myths and Misconceptions

- Ubiquity myth
- Mobility misconception
- Passive fantasy
- Privacy is passé
- **Passive measurements are error free**

Surveys

- Comprehension problems
- Motivated misreporting
- Socially desirability

Passive Data

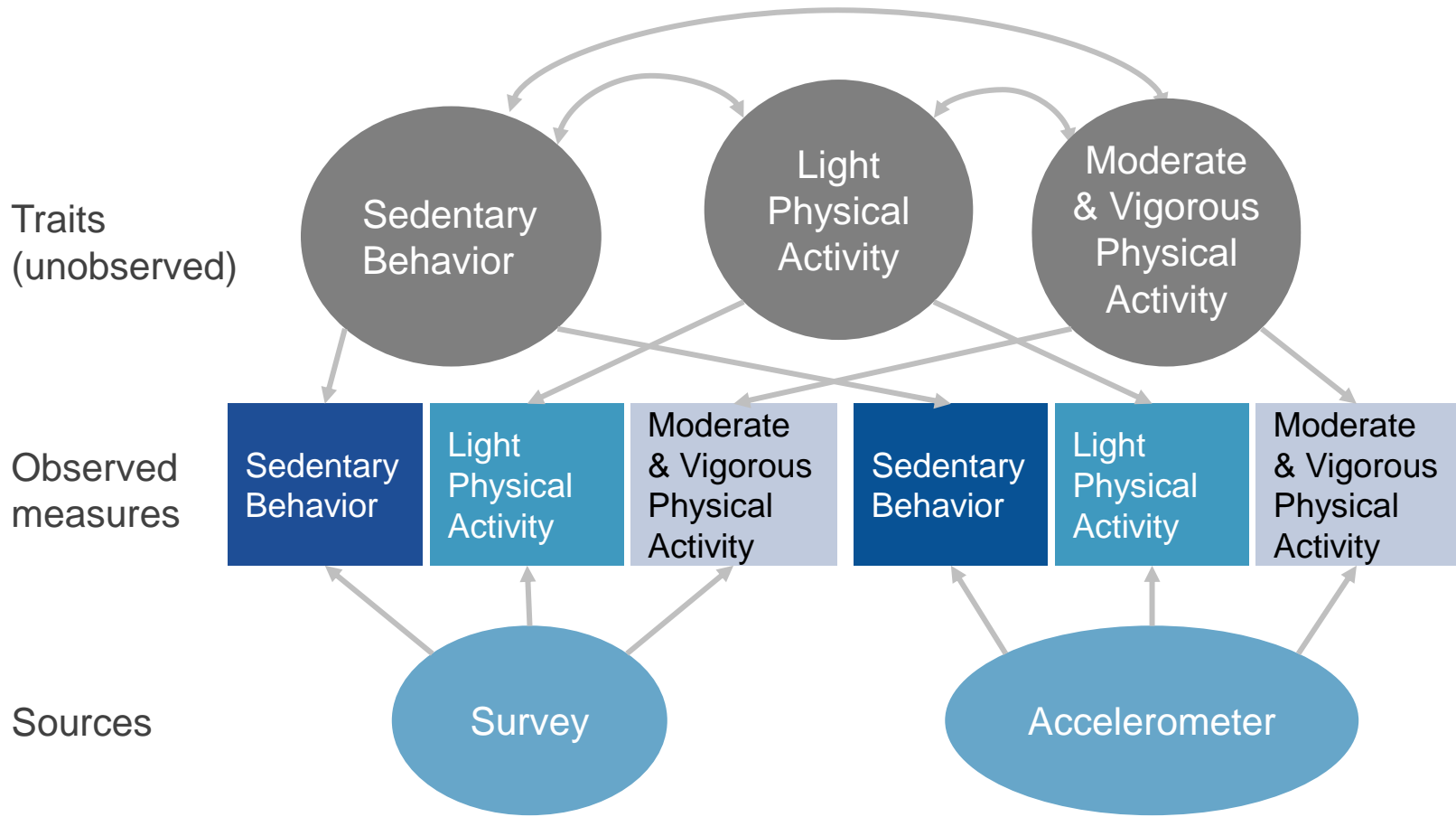
- Battery died
- Use patterns
- Processing error



Comparison of Passive & Survey Measures

- Physical activity (NHIS 2017):
 - How often do you do VIGOROUS **leisure-time** physical activities for **at least 10 minutes** that cause heavy sweating or large increases in breathing or heart rate?



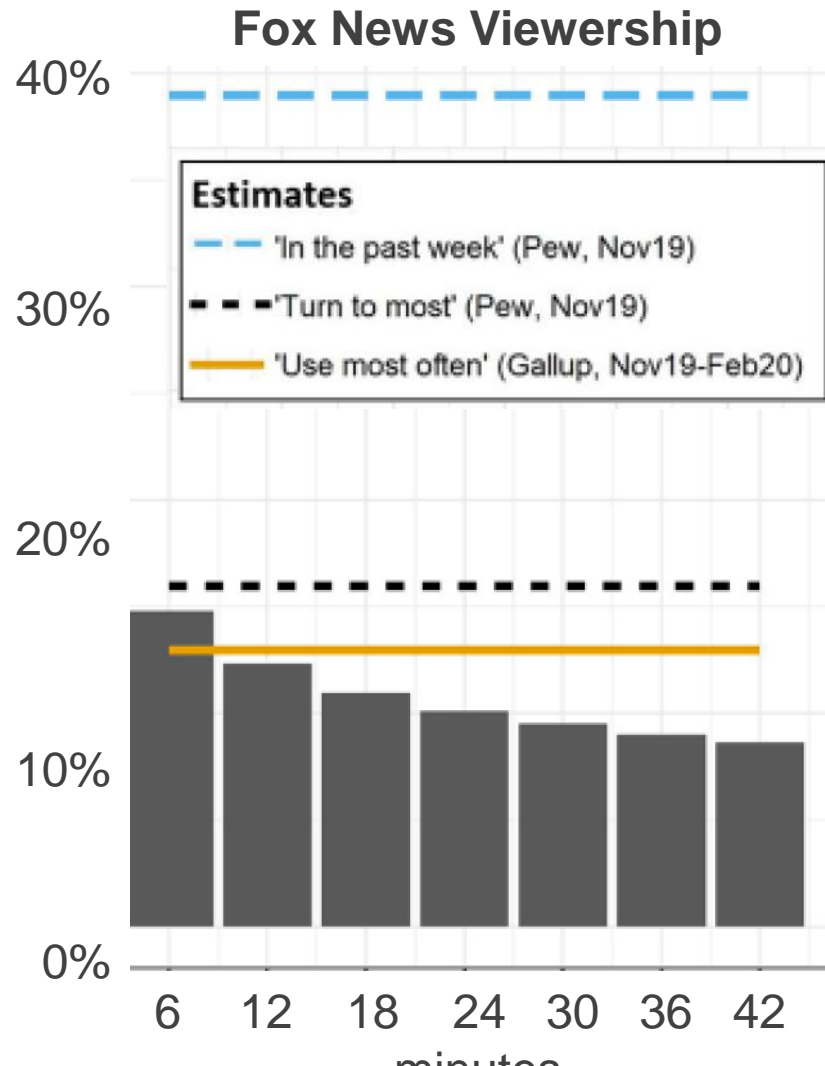


Adapted from Oberski et al *JASA*, 2017

Comparison of Passive & Survey

- News consumption:
 - Please click on all of the sources that you got political and election news from **in the past week** (Pew)
 - What news source do you **turn to most** often for political and election news? (Pew)
 - Please write the name of the specific news source you **use most often** (Gallup)
- Passive sources: Nielsen TV panel

Konitzer et al *POQ*, 2021



Passive Data Affects Entire Survey Process

- Sampling
 - Passive data often naturally longitudinal
 - May see more longitudinal studies
- Data Processing
 - Passive data often big data
 - Raw or pre-processed



Conclusion

Short run: supplement surveys with passive data

- Combine surveys and passive measures
- Preserve trends

Long run: replace some measures with passive data

- Much more research needed:
 - Measurement
 - Consent
 - Sampling
 - Processing

Thank You

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Thank You, Lasse!

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