Focus on Women's Employment: The Value of Time

Discussant Comments

Talip Kilic

Senior Economist

Living Standards Measurement Study

Development Data Group | The World Bank

Some Thoughts

- Validation of recall-based and technology-augmented time use data collection
  - What is the **gold standard**?

- Operationalizing smartphone-augmented time use data collection at scale
  - Deployment on a sub-sample basis?
  - Scope for intra-household data collection?
  - Modifications to fieldwork organization?

- Use of accelerometers for time use research?
  - What are the right training data – likely not "recall-based", what about *Time Tracker?*
    - Insights from the Malawi Labor and Physical Activity Tracking Study
  - What are the right computational tools to deduce time use patterns?
  - Cost effectiveness anchored in broader uses?
    - Labor productivity measurement and analysis
    - Estimation of individual energy requirements - relevance for poverty and food security analysis
    - Physical activity levels – relevance for analysis of non-communicable diseases

Some Thoughts

- Validation of recall-based and technology-augmented time use data collection
  - What is the **gold standard**?

- Operationalizing smartphone-augmented time use data collection at scale
  - Contextualization needs?
  - Deployment on a sub-sample basis?
  - Scope for intra-household data collection?
  - Modifications to fieldwork organization?

- Use of accelerometers for time use research?
  - What are the right training data – likely not "recall-based", what about *Time Tracker?*
    - Insights from the Malawi Labor and Physical Activity Tracking Study
  - What are the right computational tools to deduce time use patterns?
  - Cost effectiveness anchored in broader uses?
    - Labor productivity measurement and analysis
    - Estimation of individual energy requirements - relevance for poverty and food security analysis
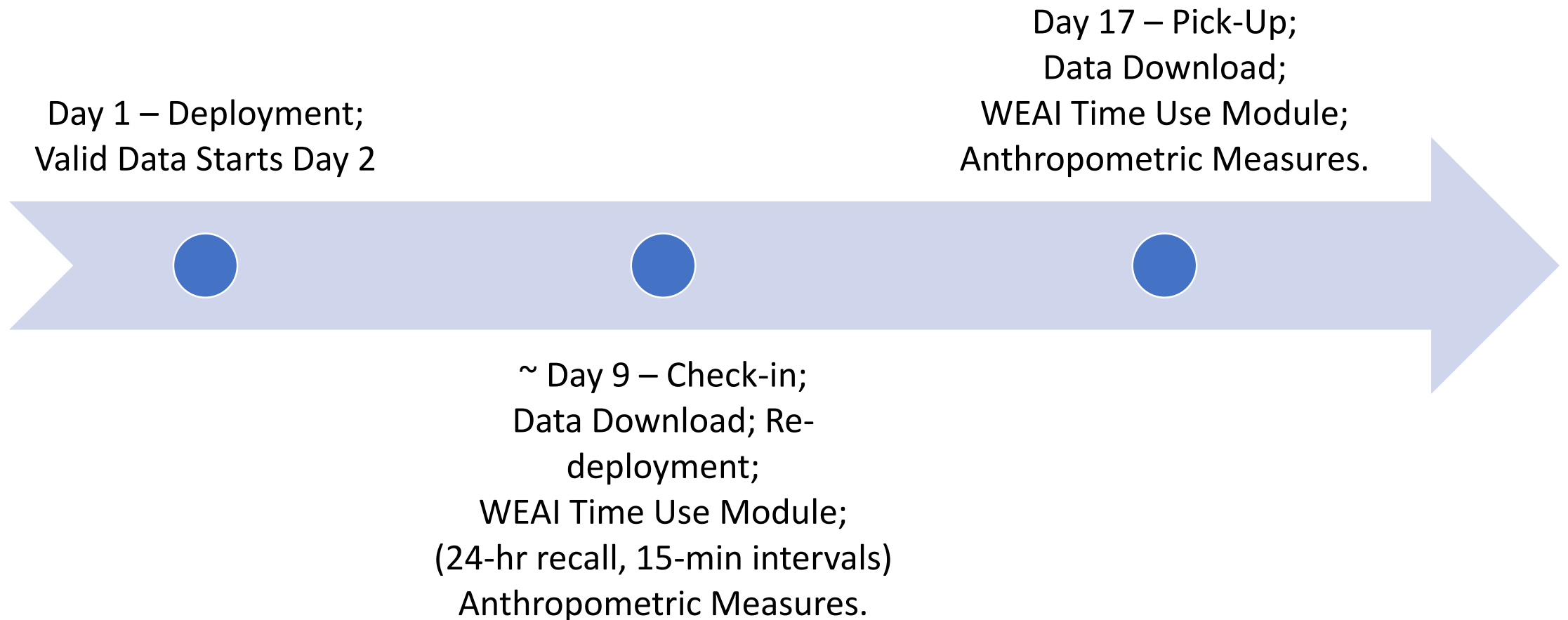   - Physical activity levels – relevance for analysis of non-communicable diseases

Some Thoughts

- Validation of recall-based and technology-augmented time use data collection
  - What is the **gold standard**?

- Operationalizing smartphone-augmented time use data collection at scale
  - Contextualization needs?
  - Deployment on a sub-sample basis?
  - Scope for intra-household data collection?
  - Modifications to fieldwork organization?

- Use of accelerometers for time use research?
  - Insights from the Malawi Labor and Physical Activity Tracking Study
  - What are the right training data – likely not "recall-based", what about *Time Tracker?*
  - What are the right computational tools to deduce time use patterns?
  - Cost effectiveness anchored in broader uses?
    - Labor productivity measurement and analysis
    - Estimation of individual energy requirements - relevance for poverty and food security analysis
    - Physical activity levels – relevance for analysis of non-communicable diseases

Malawi Labor and Physical Activity Tracking Study

- Baseline: September 2016; End-line: May 2017 (activity tracking Mar/May '17)
  - Baseline - household member and plot roster; endline shortly after the harvest

- 4 approaches to agricultural labor data collection (240/arm)
  - Two recall variants
  - T1: weekly phone calls
  - T2: weekly visits

- 20 EAs – 36 HHs/EA – 12 HHs/EA/arm

- T2 (240 HHs) - received ActiGraph research-grade activity trackers for objective PA measurement
  - All working-age (15+) household members involved in agriculture
  - Activity trackers worn except during sleeping or showering, swimming
  - Accelerometer log
  - Time-stamped measures of an individual's physical activity per minute
  - Final sample 415 individuals (refusals, malfunctioning, non-valid data)
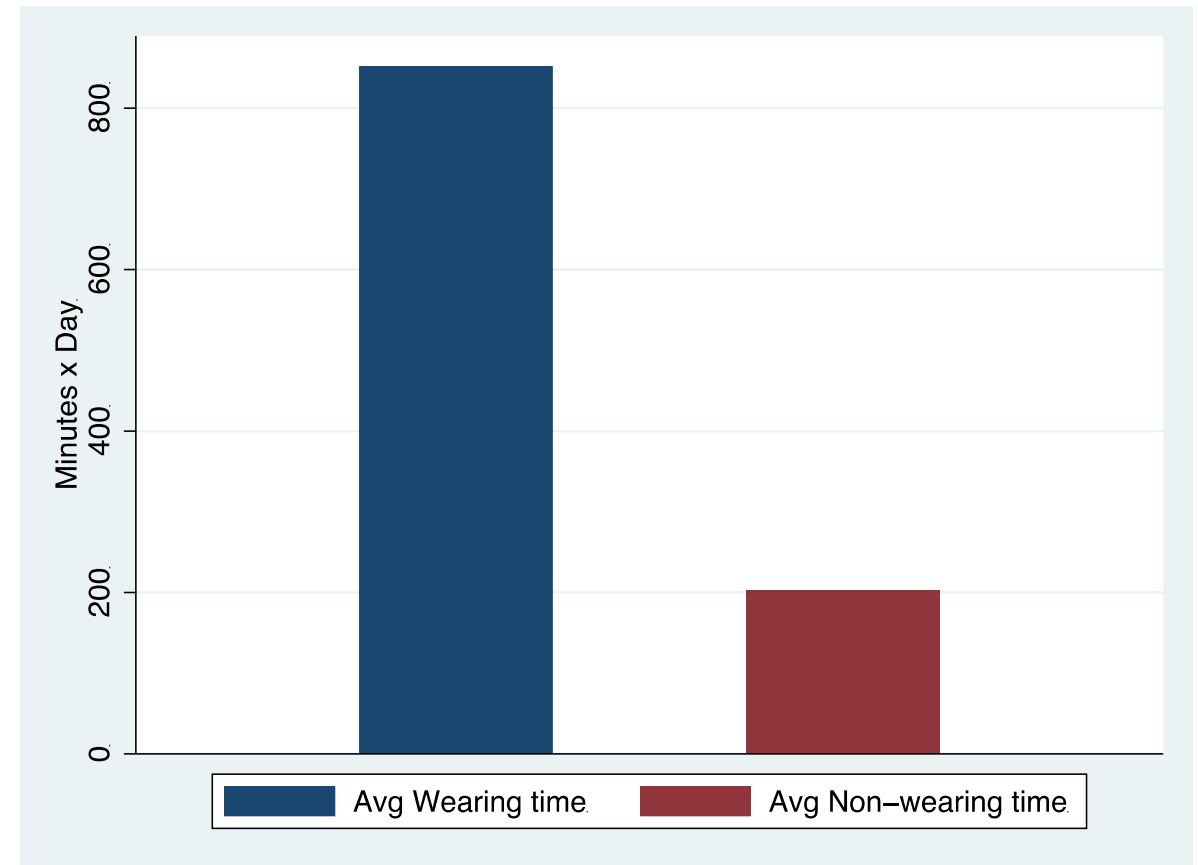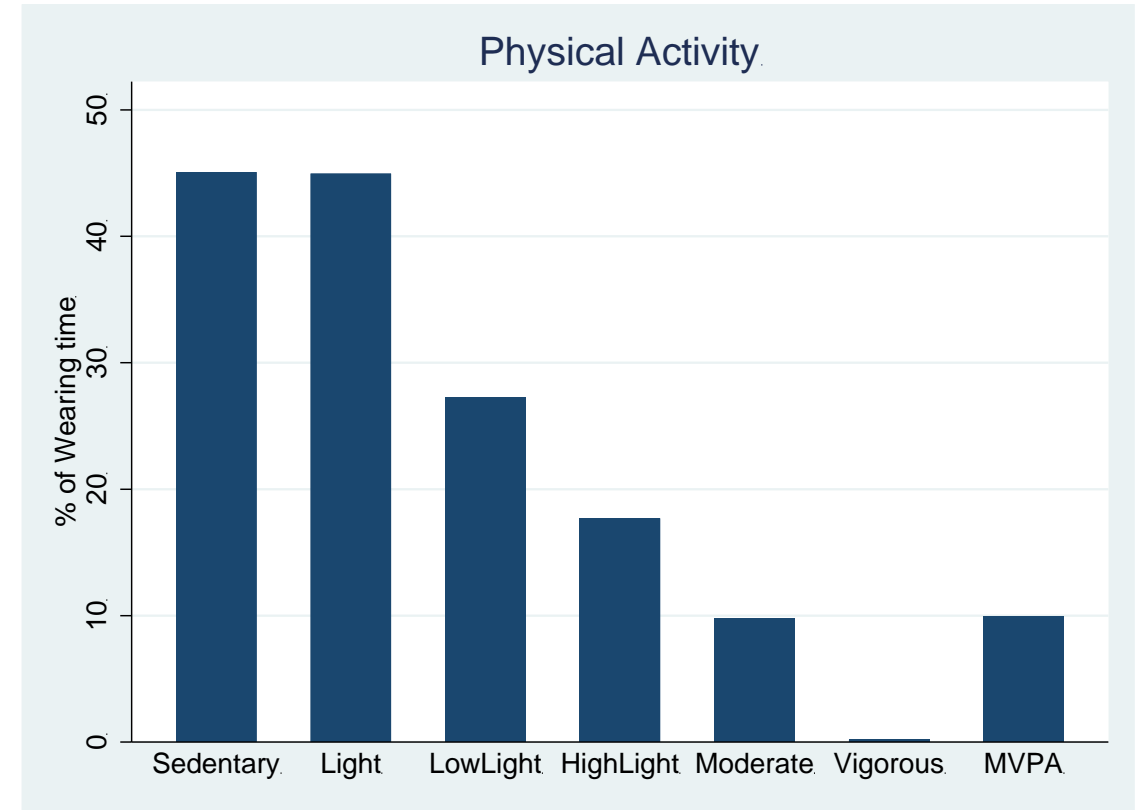
Accelerometer Deployment Plan

Day 1 – Deployment;
Valid Data Starts Day 2

Day 17 – Pick-Up;
Data Download;
WEAI Time Use Module;
Anthropometric Measures.

~ Day 9 – Check-in;
Data Download; Re-
deployment;
WEAI Time Use Module;
(24-hr recall, 15-min intervals)
Anthropometric Measures.

Good Quality of Activity Tracking Data

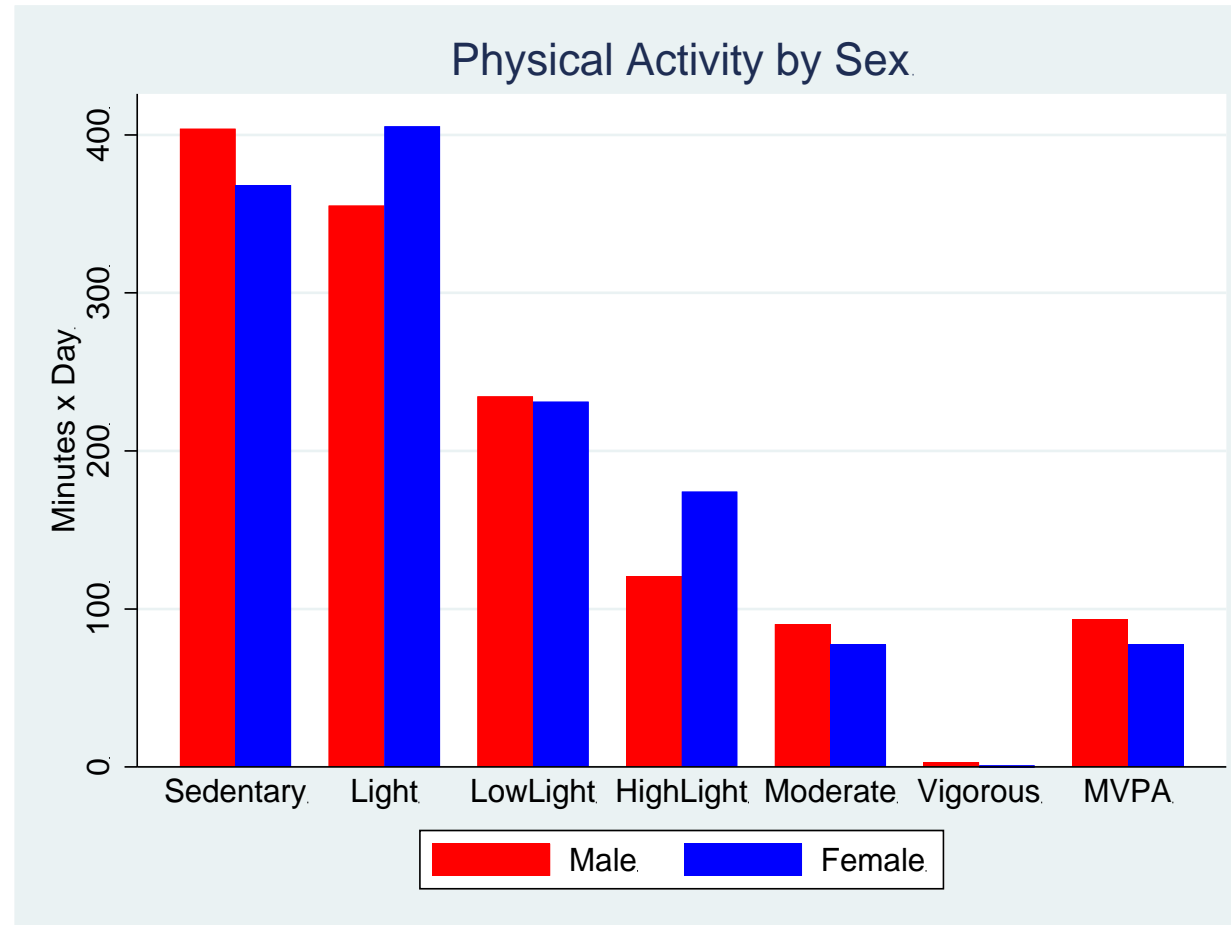| stat	WearDays	ValidDays
count	415	415
mean	13.76	13.30
median	14.00	14.00
sd	1.11	1.53
min	2.00	2.00
max	20.00	18.00

Active Population

- On average Sedentary and Light activity each account for around 45% of total wearing time, MVPA ~10%

- Studies in developed countries show sedentary time at 60-70% of waking time (*Stamatakis et al. 2012; Kantomaa et al. 2016*)
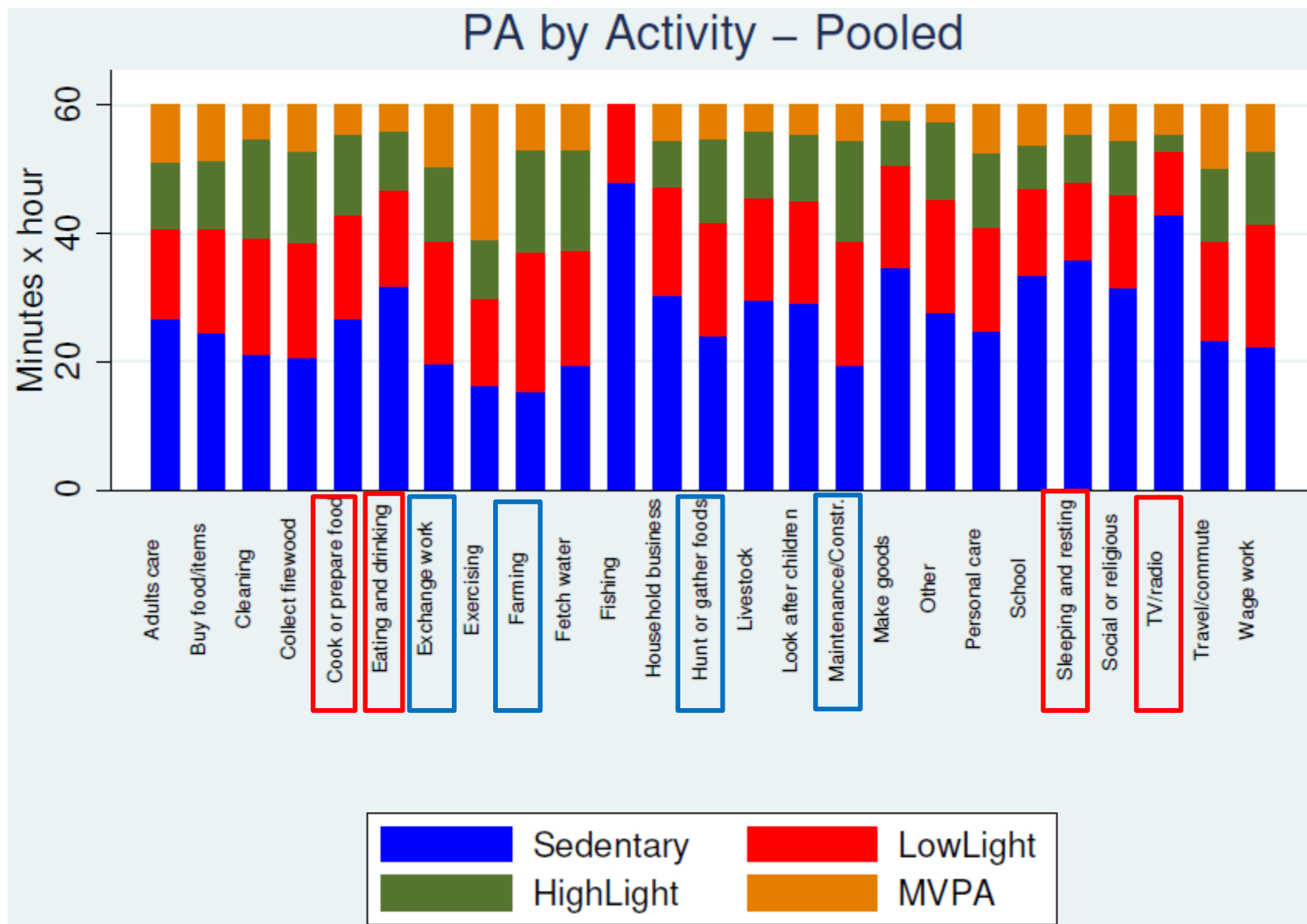
Gender Differences

Physical Activity by Sex

- Higher Sedentary & MVPA for Men vs. More Light/"High-Light" for Women

PA-Matched Time Use Data Analysis

PA by Activity – Pooled

Some Thoughts

- Validation of recall-based and technology-augmented time use data collection
  - What is the **gold standard**?

- Operationalizing smartphone-augmented time use data collection at scale
  - Contextualization needs?
  - Deployment on a sub-sample basis?
  - Scope for intra-household data collection?
  - Modifications to fieldwork organization?

- Use of accelerometers for time use research?
  - Insights from the Malawi Labor and Physical Activity Tracking Study
  - What are the right training data – likely not "recall-based", what about *Time Tracker?*
  - What are the right computational tools to deduce time use patterns?
  - Cost effectiveness anchored in broader uses?
    - Labor productivity measurement and analysis
    - Estimation of individual energy requirements - relevance for poverty and food security analysis
    - Estimation of physical activity levels – relevance for analysis of non-communicable diseases