# Using paradata to monitor interviewers' behavior: A case study from a national household survey in Ghana 

Comparative Survey Design and Implementation (CSDI)
2016 Workshop

## Overview

- Background and instrument
- How does instrument design affect instrument navigation?
- Instrument blocks as nodes in a network
- How does interview navigation affect interview length?
- Order of interview initiation
- Movements between blocks
- Conclusions \& Next Steps


## Ghana Socioeconomic Panel Survey

- Yale University and the Institute for Statistical, Social and Economic Research (ISSER) at the University of Ghana
- First wave on paper 2009-2010
- Sample size of 5009 households, ~ 18000 individuals
- Revisit households at 3-4 year intervals for 20 years


## Parallel Block Instrument

Instrument types:
(1) Personal + Household
(2) Personal + Household + Plot
(3) Personal + Household + Enterprise
(4) Personal + Household + Plot + Enterprise

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## INSTITUTE FOR SOCIAL RESEARCH - SURVEY RESEARCH CENTER

## SURVEY RESEARCH OPERATIONS

## university of michigan


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Conclusions \& Next Steps SURVEY RESEARCH OPERATIONS
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## Most Common Block Moves All Types

Edge Weight >= 500
Movement within sections dominates
Exceptions are rosters and Personal to Household


Blaise 4.8 Data Entry - c:lblprojlghana_plwork|householdsurvey

## Forms Answer Help

HOUSEHOLD SURVEY
Person Status
Enterprise Status
Agriculture

| Name | Background | Employment | Education | Migration | Health | Womens Health | th Mens Health | Children | Pysch/Social |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ADAM K (AK) | Started | Done | Done | Done | Started | --n/a-- | Not Started | --n/a-- | Not Started |
| AMINAA (MINA) | Not Started | Not Started | Not Started | Not Started | Not Started | Not Started | --n/a-- | --n/a- | Not Started |
| ABDUL A | Not Started | Not Started | Not Started | Not Started | Not Started | -n/a- | Not Started | --n/a-- | Not Started |
| TANLIDOW A | Not Started | Not Started | Not Started | Not Started | Not Started | --n/a-- | --n/a- | Not Started | --n/a- |
| YUSSIF A | Done | --n/a-- | Not Started | --n/a-- | Not Started | --n/a-- | --n/a- | Not Started | --n/a- |
| LAILATU A | Done | -n/a- | --n/a-- | --n/a-- | Not Started | --n/a- | --n/a-- | Not Started | --n/a- |

## Most Common Block Moves All Types

Tendency to move laterally or within the same questionnaire content
Optional sections introduce multiple, common paths
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## Most Common Block Moves All Types

Tendency to work down the columns
Non-resident Relatives and Consumption introduce multiple common paths
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## Moving Out of a Section

Type 4 interviews showing moves out of the Enterprise section "fourlmportant" block has most exit moves No cues to influence where to go after finishing a section

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## $\mathrm{N}=4223$ interviews

- Type 1) Personal + Household
- Type 2) Personal + Household + Plot
- Type 3) Personal + Household + Enterprise
- Type 4) Personal + Household + Plot + Enterprise



## Interview Length

- Adjusted mean 290 (+/-156) minutes
- Ranged from ~30 minutes to 22 hours
- Type 4 longer than all others ( $\mathrm{P}<0.05$ )
- Type 1 shorter than all others $(P<0.05)$
- Type 2 \& 3 not different


## Order of Section Entry

- Split sample into two groups:
- Completed rosters first
- Others
- T-test comparison of IW length

- Rosters-first group showed significantly lower interview lengths
- Ave Roster First: 257.3
- Ave Others: 280.3
- $P<.0001$


## Number of Block Moves Per Block

- On a per household basis
- Number of Block Entries / Total Number of Available Blocks
- Minimum of 1.0 indicates every section completed when started
- No upper bound (observed = 2.39)


Number of Block Moves Per Block by Interview Type

## Differences by Interview

 Type- Less movement in Type 2 (Plot only, $\mathrm{P}<.05$ )
- Type 3 (Enterprise only) more movement than Type 1/2 ( $\mathrm{P}<$ 0.05), trending toward more than Type 4



## Interview Length \& Number Block Moves Per Block

- Interview length increases with increasing movement between blocks
- IW Length $=80.6$ * MovesPerBlock + 216
- $\mathrm{P}=.028 ; \mathrm{R}^{2}=0.302 ;$ Adj $\mathrm{R}^{2}=0.255$
- Non-linear relationship?


Average Moves Per Block \& Interview Length


## Interview Length \& Number of Block Moves Per Section

Number interviews ranges from $\mathrm{N}=1277$ to 2
Interviews are clustered under 1.5 Block Moves Per Section

## Interview Length \& Number Block Moves Per Block By Type






## Conclusions \& Next Steps

- Design cues apparent with high degree of noise
- Lack of between-section cues apparent
- Initial order important
- Design cues affect the interview process
- Movement between blocks are with a cost
- Refine and compare


## Acknowledgements

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## End

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## Most Connected Vertices

Greater than 30 connections where maximum is 40

## 30 or more connections



## 15 or fewer connections




## Edge Properties

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