Three-Phase Longitudinal Family Planning Data from PMA

October 24th, 2023

9am – 10:30am Central Time

Webinar Outline

- Introduction to IPUMS PMA

- Sample Design of the Longitudinal Panel

- How to create a data file online

- Understanding the data format

- Longitudinal analysis examples

Zoom Logistics

- **Webinar is being recorded** & will be posted
- Will post written **Q&A document** and **Stata/R code** following webinar
- **Real-time closed captions** are being generated
  - Turn on/off by clicking "CC" button in Zoom controls
- Send **questions about Zoom directly to host** (IPUMS)
- Submit **content questions using Q&A tool**

IPUMS: WHAT WE DO

What is IPUMS?

IPUMS provides census and survey data from around the world integrated across time and space. IPUMS **integration and documentation** makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community context. Data and services available **free of charge.**

IPUMS USA

U.S. Census and American Community Survey microdata from 1850 to the present. Learn More

VISIT SITE

IPUMS CPS

Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present. Learn More

VISIT SITE

IPUMS INTERNATIONAL

World's largest collection of census microdata covering over 100 countries, contemporary and historical. Learn More

VISIT SITE

IPUMS GLOBAL HEALTH

Health survey data for Africa and Asia, including harmonized data collections for DHS ☐, MICS ☐, and PMA ☐. Learn More

VISIT SITE

IPUMS NHGIS

Tabular U.S. Census data and GIS boundary files from 1790 to the present. Learn More

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IPUMS IHGIS

Tabular and GIS data from population, housing, and agricultural censuses around the world. Learn More

VISIT SITE

IPUMS TIME USE

Historical and contemporary time use data from 1930 to the present. Learn More

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IPUMS HEALTH SURVEYS

Historical and contemporary U.S. health survey data from NHIS ☐ (1963-present) and MEPS ☐ (1996-present). Learn More

VISIT SITE

IPUMS HIGHER ED

Survey data on the science and engineering workforce in the U.S. from 1993 to the present. Learn More

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Performance Monitoring for Action

- High frequency, recent surveys on **family planning, sexual and reproductive health** since 2013

- Currently 9 countries in **Africa and Asia**

- Designed to monitor progress towards FP2020 goals

- Data collected by a team at Johns Hopkins University

- Funded by the Bill & Melinda Gates Foundation

200+ SAMPLES · 9000+ VARIABLES · OVER 2 MILLION RECORDS

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PMA Countries
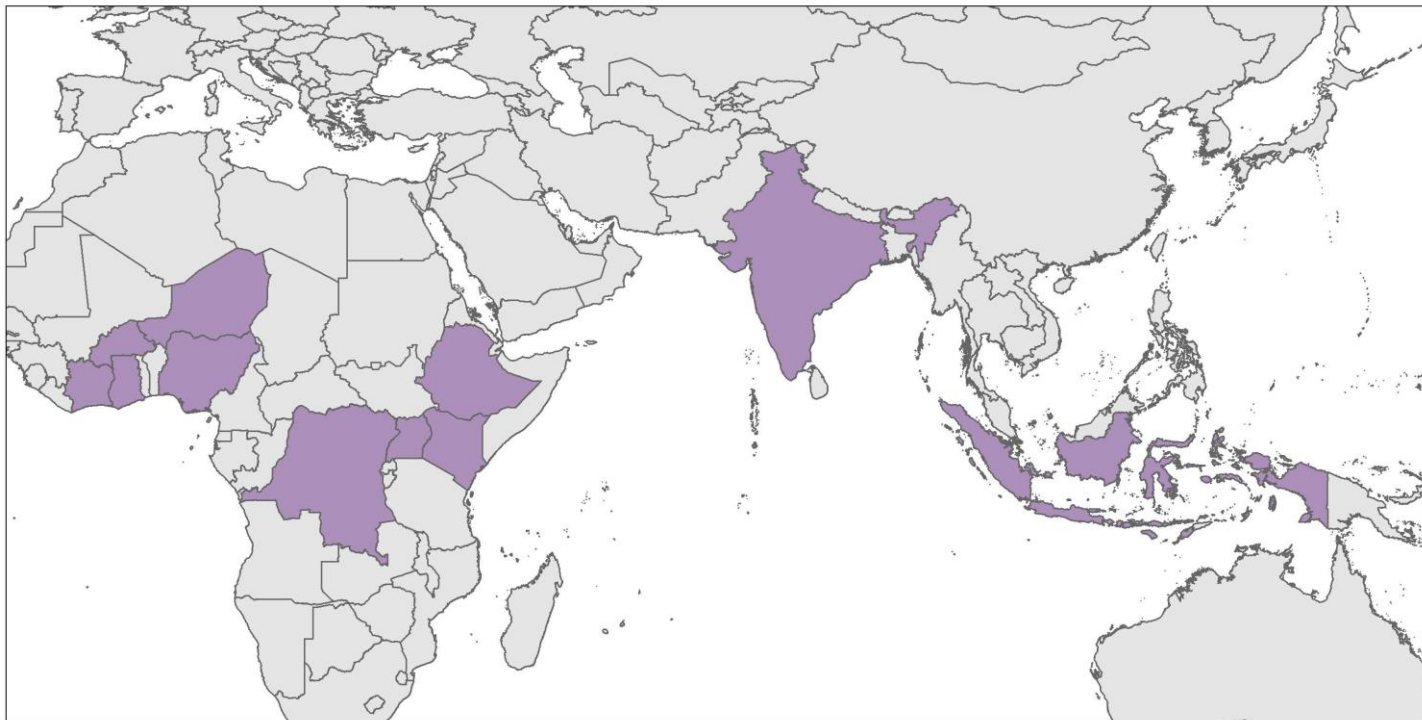
Survey types

- Household and female surveys

- Service delivery points

- Maternal and Newborn Health panel

- Client exit interview

- Nutrition

Sample Design - Core

- Multistage stratified cluster sampling
- Small areas were randomly selected (EA)
  - ~200 households
- Households are randomly selected (~35 per EA)
  - Household survey
  - Survey for all females 15 to 49

IPUMS PMA

- Harmonize codes and variable names

- Document variables

- Disseminate custom data files in multiple formats

- Add calculated fields

- Link longitudinal records

DATA ANALYSIS HUB

March 22, 2023

Matt Gunther

ABORTION INCIDENCE WITH THIRD PARTY REPORTING

DATA ANALYSIS   ABORTION   MEASUREMENT

Recent PMA surveys from Côte d'Ivoire and Nigeria include questions about the abortion experiences of both respondents and other women of reproductive age with whom they share personal information.

Feb. 15, 2023

Matt Gunther
Devon Kristiansen

COMPARING MEASURES OF ABORTION INCIDENCE WITH A SHINY DASHBOARD

DATA ANALYSIS   ABORTION   SHINY   DPLYR

New abortion data from PMA includes women who reported doing something to remove a pregnancy, or to regulate a late period because of a suspected pregnancy.

ESTIMATED ONE-YEAR ABORTION INCIDENCE
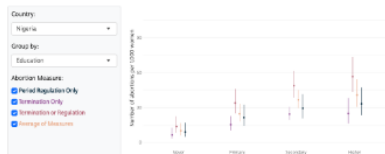
CATEGORIES

[Articles](#) (52)

[Abortion](#) (3)

[ACLED](#) (1)

[across](#) (2)

[Agriculture](#) (1)

[Animation](#) (1)

[Armed Conflict](#) (1)

[Bar Charts](#) (2)

[bootstraps](#) (1)

[CHIRPS](#) (1)

[Client Exit Interviews](#) (6)

[Climate](#) (2)

[Cluster Sampling](#) (2)

[Codebook](#) (1)

[Contraceptive Calendar](#) (3)

[COVID-19](#) (5)

[cowplot](#) (1)

[cur_data](#) (1)

[Data Analysis](#) (18)

NEW PANEL DESIGN

Overview of Panel Design

- **Open** panel of women of childbearing age over 3 years

- Contraceptive and fertility dynamics

- Overlapping contraceptive calendar

- Additional households sampled for cross-sectional subsample

Panel membership

- All women aged 15-49 in sampled households

- Age out/age in

- Move out/move in

Cross-section Subsample

Household attrition > 10% in an EA

New households sampled

Data Collection

	2019		2020												2021												2022										2023	
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Burkina Faso		P1												P2										P3																
Cote d'Ivoire							P1									P2																				P3				
DRC		P1								P2								P3																						
Rajasthan (India)						P1									P2													P3												
Kenya	P1								P2							P3																								
Niger									P1						P2																						P3			
Nigeria		P1								P2						P3																								
Uganda							P1								P2													P3												

Available on IPUMS!   Release in spring 2024!

Lost to Follow-up

- Dwelling
  - replaced or destroyed
- Household
  - whole household moved out of study area
- Household Roster
  - woman moved out of study area or died
- Female
  - refused or was unavailable

Types of Missing Data

- **Record linked (PMA created record in later Phase)**
  - Panel member found but not interviewed (RESULTLFQ)
  - Phase 2 or 3 data = NIU code
- **Record not linked (No record in later Phase)**
  - Phase 2 or 3 data = missing/blank/NA
- **New panel member**
  - Earlier phase data = missing/blank/NA
- **Household members**
- **Variables not available**

CREATING A CUSTOM DATA FILE

PMA.IPUMS.ORG

Long Form

	fqinstid	phase	resultfq	age	mcp
35786	uuid:8c7ba613-c115-444f-9330-bf4d6f59a094	phase 1	completed	40	no
35787	uuid:8c7ba613-c115-444f-9330-bf4d6f59a094	phase 2	completed	41	no
35788	uuid:8c7ba613-c115-444f-9330-bf4d6f59a094	phase 3	completed	42	no
35789	uuid:8c7d95b7-2baa-41e1-91e2-1553c76cbc00	phase 1	completed	27	yes
35790	uuid:8c802f69-a204-4a80-87a6-0054fa6fb792	phase 1	completed	25	no
35791	uuid:8c802f69-a204-4a80-87a6-0054fa6fb792	phase 2	completed	26	no
35792	uuid:8c802f69-a204-4a80-87a6-0054fa6fb792	phase 3	completed	27	no
35793	uuid:8c897895-9485-4e8b-9c64-67ce89543bd0	phase 2	completed	17	no resp...
35794	uuid:8c8a6552-e74f-462b-a734-cdb634d8ad88	phase 3	completed	21	no
35795	uuid:8c8b7bab-a751-40ad-97c1-72a471bc233c	phase 2	completed	19	no
35796	uuid:8c903129-c89b-4c94-b37d-b64e3bcb878b	phase 1	completed	46	no
35797	uuid:8c903129-c89b-4c94-b37d-b64e3bcb878b	phase 2	completed	47	no
35798	uuid:8c903129-c89b-4c94-b37d-b64e3bcb878b	phase 3	completed	48	no
35799	uuid:8c9a0cd0-2e14-4715-8a29-83d22d26ff4f	phase 1	completed	17	no
35800	uuid:8c9a0cd0-2e14-4715-8a29-83d22d26ff4f	phase 2	completed	18	no

Wide Form

	fqinstid	age_1	age_2	age_3	mcp_1	mcp_2	mcp_3
23504	uuid:2e22ccbd-39b7-4c3b-9cf0-412908...	16	17	19	yes	no	yes
23505	uuid:7160b63a-58ed-44d6-a103-e636e...	20	21	22	no	no	no
23506	uuid:55fe71b7-987d-4df5-ab92-e60753...	28	29	30	no	no	yes
23507	uuid:c7e99601-df5c-4642-8dcc-c838ad...	42	43	43	no	no	no
23508	uuid:8b2445de-bc6c-48aa-8e06-67349...	19	20	.	no	no	.
23509	uuid:7e65aebf-521a-4745-9aee-5b779...	42	42	44	yes	yes	yes
23510	uuid:964e2534-a456-47e6-bffa-33e029...	23	24	24	no	no	no resp...
23511	uuid:e2e2c6e6-bab7-4467-89ca-f97ee7...	27	28	29	no	no	no
23512	uuid:ea5fee1e-c5e5-4f02-bb4c-4b4054...	48	48	.	no	no	.
23513	uuid:1fa22bd3-494b-4dd5-864f-231f2c...	40	41	42	yes	yes	yes
23514	uuid:dbe0cd0c-2fb2-47c4-a72d-d38128...	20	not inter...	niu (not ...	yes	not inter...	niu (not ...
23515	uuid:d669b0d0-3635-4346-a6f9-38b66...	21	22	23	no	no	no
23516	uuid:4034cec2-3d63-46f2-8f58-6d97f8f...	38	39	40	no	no	no
23517	uuid:dbf182d4-5864-4d78-a4d8-63077...	16	17	niu (not ...	no	no	niu (not ...
23518	uuid:61abda99-dab0-42ad-a216-2f39d...	47	48	49	no	yes	no
23519	uuid:759e232e-c77f-4770-bdb0-10ae1...	36	37	38	no	no	no

ANY QUESTIONS?

LONGITUDINAL ANALYSIS

Which weight to use?

- Cross sectional
  - Female level, normalized (**FQWEIGHT**)
  - Household level, normalized (**HQWEIGHT**)
 - De-normalized population-weighted (**POPWT**)

Which weight to use?

- Longitudinal, female level, normalized
  - **FULLPANELWEIGHT**: analyses using all 3 phases
  - **PANEL1_2_WEIGHT**: analyses using data from 1 and 2
 - **PANEL1_3_WEIGHT**: analyses using data from 1 and 3
  - **PANEL2_3_WEIGHT**: analyses using data from 2 and 3

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Attrition and Sample Size

	Phase 1	Attrition	Phase 2	Attrition	Phase 3
Burkina Faso	6,764	-1,278	5,486	-931	4,555
			+1,465	-539	926
					+1,159
					163
DRC	4,601	-1,066	3,535	-812	2,723
			+1,486	-451	1,035
					+1,368
					137
Kenya	9,549	-2,535	7,014	-869	6,145
			+3,050	-783	2,267
					+2,086
					409
Nigeria	2,627	-496	2,131	-347	1,784
			+589	-190	399
					+508
					53

Research questions

- ***Descriptive:*** do women's fertility preferences change between phases?

- ***Predictive:*** do fertility preferences predict contraceptive adoption?

Proportion of Women Wanting Another Child
by Age, Country and Phase
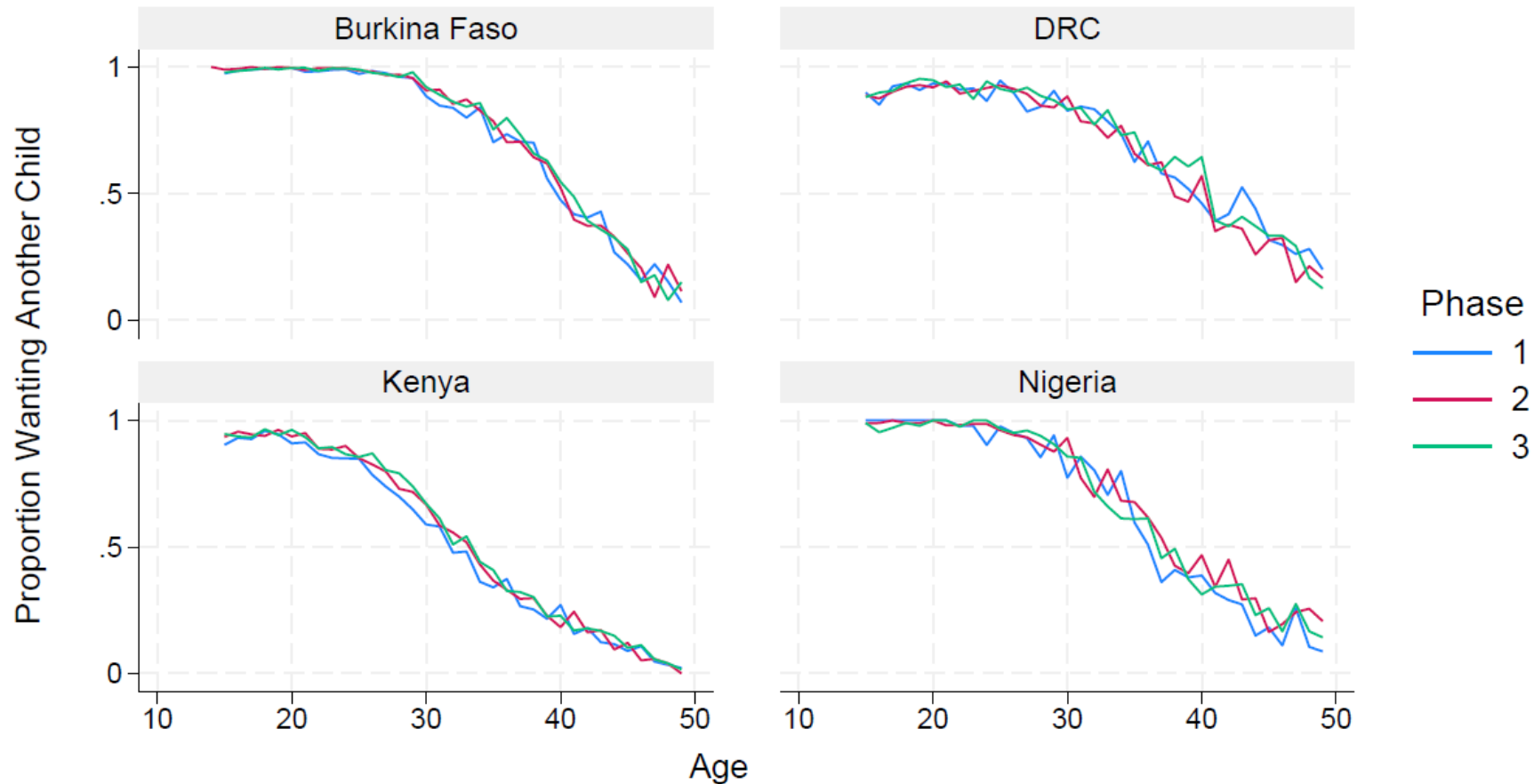
Proportion of Women Using Modern Contraceptives by Age, Country and Phase
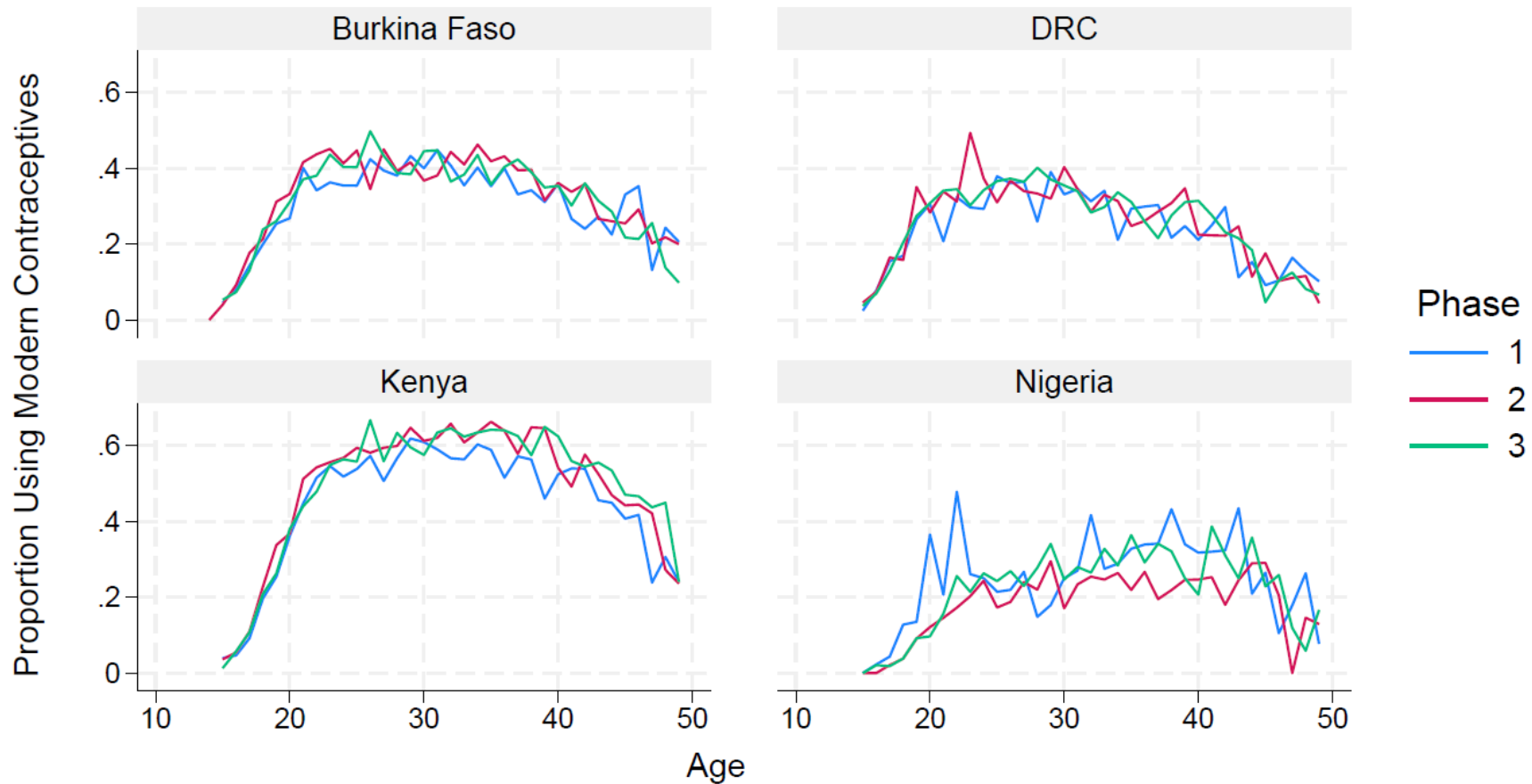
Fertility preferences across three longitudinal phases
## Four Sub-Saharan countries, 2019−2021
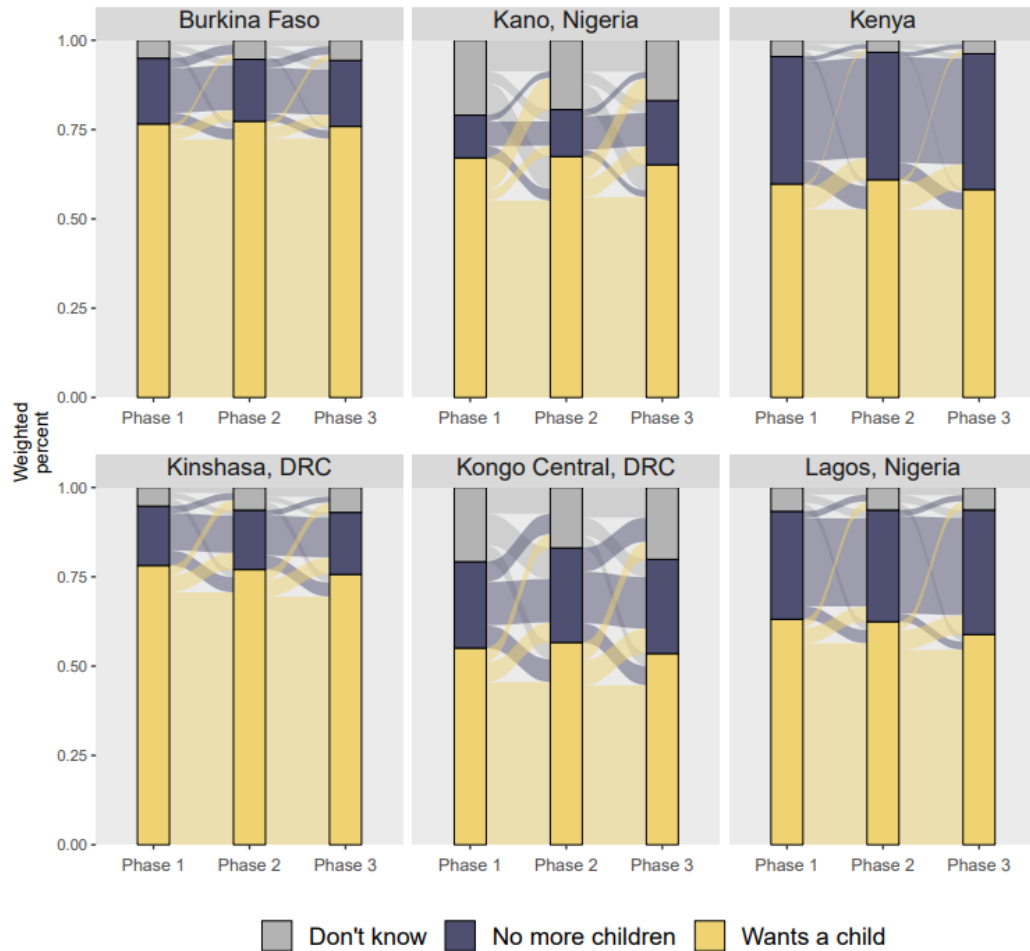
Predictive Analyses

- Do fertility preference in earlier phases predict contraceptive adoption in later phases?

- **Denominator:** married women not using contraception at phase 1

Predictive Analyses

- **Outcome:** modern contraceptive use (phase 3)

- **Predictor:** wants to have children (phase 1)

- **Controls:** age, education, household wealth score, country of residence (phase 1)

- **Weight variable:** PANEL1_3_WEIGHT

Predicted Probability of Using Modern Contraception (Phase 3)
by Fertility Preferences (Phase 1) (with 95% CI)
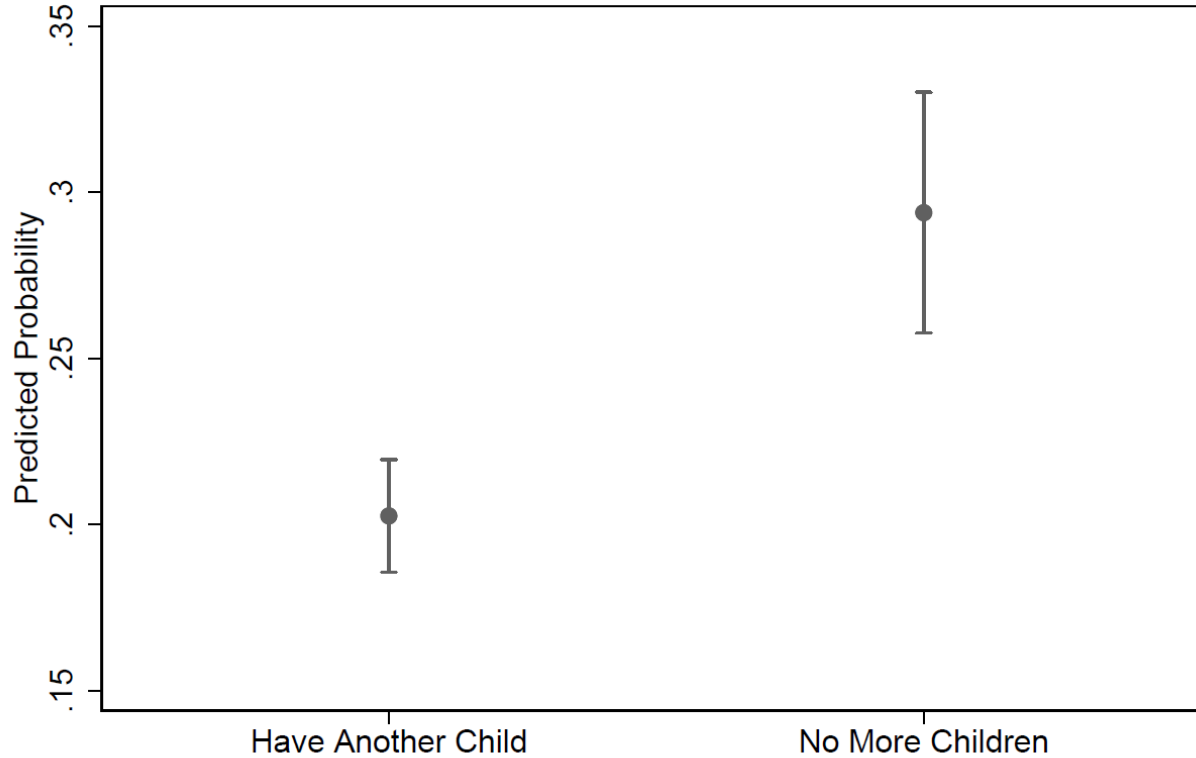
Predictive Analyses

- **Follow-up question:** does the stability of fertility preference predict contraceptive adoption?

- **Weight variable:** FULLPANELWEIGHT

Predicted Probability of Using Modern Contraception (Phase 3) by Fertility Preferences (Phases 1 and 2) (with 95% CI)
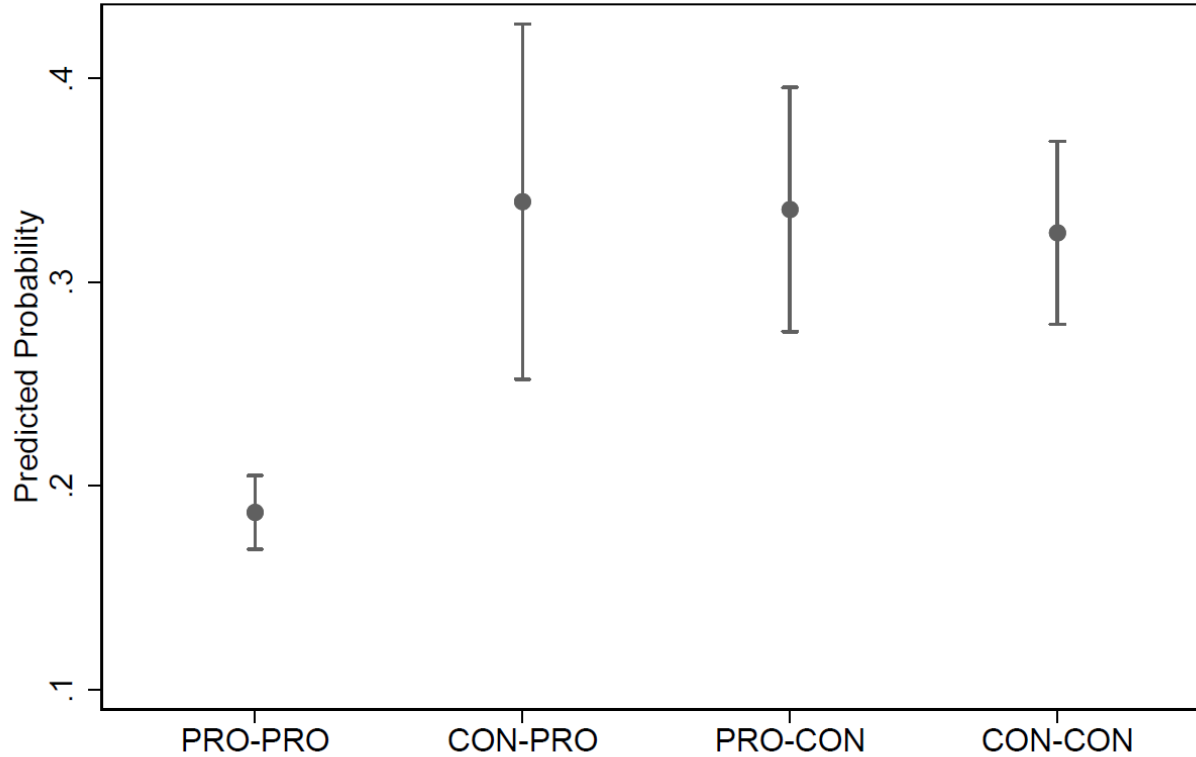
Predictive analyses

- **Follow-up question:** do fertility preferences predict whether contraceptive adoption is temporary or persistent?

- **Weight variable:** FULLPANELWEIGHT

Predicted Probability of Using Modern Contraception (Phases 2 and 3) by Fertility Preferences (Phase 1) (with 95% CI)
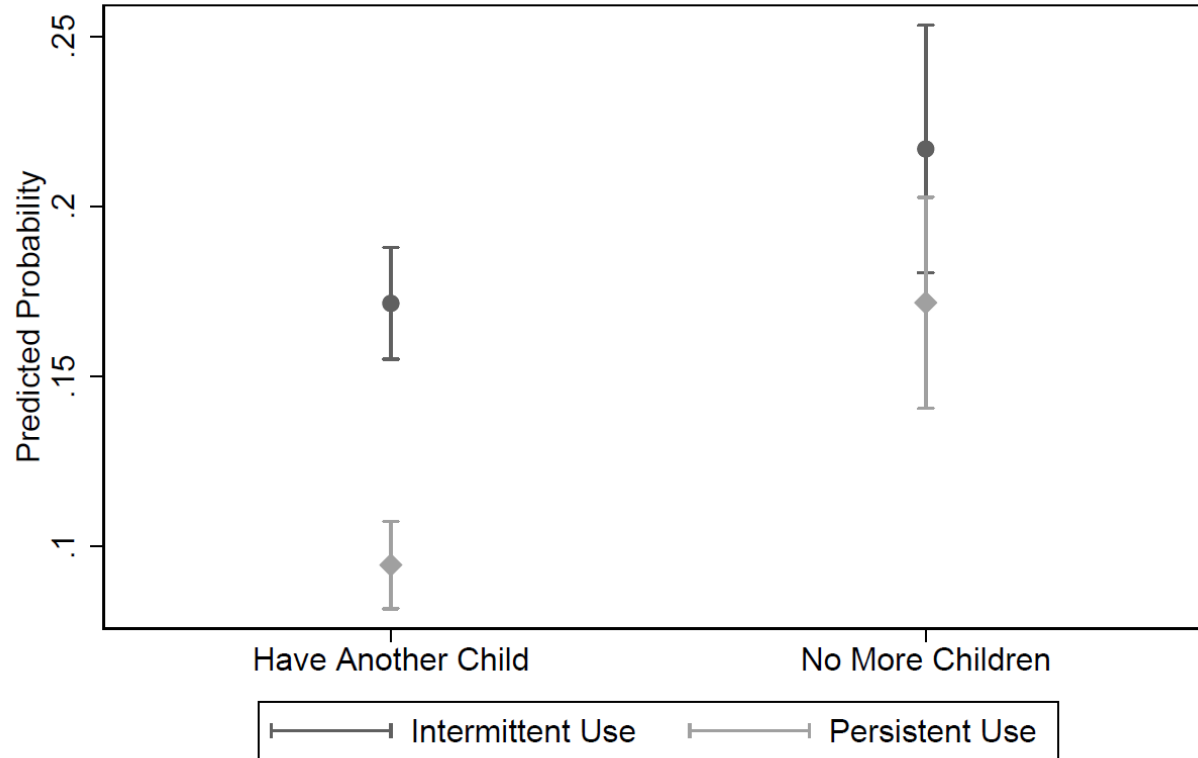
Further ideas

Investigate interactions of other characteristics on the association between fertility preferences and contraceptive adoption

Lots of potential for research!

User Support

IPUMS@UMN.EDU

Other Resources

Z.UMN.EDU/PMA_SUPPORT
Z.UMN.EDU/PMA_LONG

Webinar recording, Stata/R code, and Q&A will be posted at **ipums.org/support/tutorials**

Thanks for listening!

ANY QUESTIONS?