FORGOTTEN MARRIAGES? MEASURING THE RELIABILITY OF RETROSPECTIVE MARRIAGE HISTORIES

Sophia Chae
Population Studies Center
University of Pennsylvania

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Introduction

- Retrospective marriage histories are often the best way to collect information on past marriages
  - Limitations
    - Recall error
    - Definition of marriage?
  - Unclear to what extent results are affected by these limitations
  - Validity vs. reliability

Research Questions

- What are the characteristics of marriages that are misreported?

- What are the characteristics of respondents who misreport marriages?

- How are marriage analyses affected by misreporting of marriages?

Marriage in Malawi

- Marriage is universal
- High rates of divorce
- Patrilineal & matrilineal kinship systems
- Polygamy is common
- Regional differences
  - North
  - Central
  - South

Data

- Malawi Longitudinal Study of Families and Health (MLSFH)
  - Formerly known as the Malawi Diffusion and Ideational Change Project (MDICP)
  - Three rural sites
    - Rumphi (North), Mchinji (Central), Balaka (South)
  - 2006 (MLSFH4) and 2010 (MLSFH6)
    - Detailed marriage histories and interviewer data
  - Analytic sample (1,148 women & 719 men)
    - Ever been married by 2006
    - Interviewed by main survey team in 2006 & 2010
    - Reports of number of times married = number of spouses reported in marriage history

Methods (1)

- <u>Part I:</u> Match marriages across surveys using spouse names and dates of marriage

Matching process, by gender, 2006 and 2010

	<u>Men</u>	<u>Women</u>
Number of marriages reported in 2006	1225	1593
Number of marriages reported in 2010	1109	1480
Difference (2006-2010)	116	113
Match rates		
% marriages reported in 2006 also reported in 2010	84.7	89.5
% marriages reported in 2010 also reported in 2006	93.6	96.3

Methods (2)

- Part II: Reconstruct marriage histories (RMH)
  - Marriage order
  - Year marriage began
  - Status of marriage
    - Still married
    - Separated/divorced
    - Widowed
  - Year marriage ended

RMH Match Statistics

	Men	Women
Marriage-level		
Unmatched marriages (%)	18.8	12.9
Number of marriages	1369	1728
Individual-level		
Did not report at least one marriage (%)		
All respondents	26.2	16.3
Married more than once[a]	51.8	46.0
Did not report multiple marriages[b] (%)	22.5	15.6
Number of respondents	729	1138

[a] Refers to respondents married more than once by 2006 survey

[b] Among those who did not report at least one marriage

Statistical Analyses

- **Outcome 1: unmatched marriage**
  - Restricted to marriages that took place before 2006
  - <u>Regression</u>: multinomial logistic regression
    - Base outcome = matched terminated marriage
    - Other outcomes = unmatched terminated marriage, current marriage
- **Outcome 2: reported consistent marriage start date**
  - Restricted to matched marriages
  - <u>Regression</u>: logistic regression
- **Outcome 3: reported consistent marriage end date**
  - Restricted to matched terminated marriages
  - <u>Regression</u>: logistic regression

Independent Variables

- Individual
  - Age, age squared, region of residence, education, inconsistent reporting of survey responses (level of education, number of children ever born, number of lifetime sexual partners)
- Marriage
  - Marriage order, years since marriage began, short duration marriage, status of marriage
- Survey
  - Interviewer knows respondent's family (2006), degree of cooperation, length of survey time (2010)
- Interviewer (2010)
  - Age, age squared, male, ever married, has prior interviewing experience, lives outside district of respondent
    - <u>Problem</u>: 2006 interviewer data is missing for 28% of sample

Marriage Statistics: 2006/2010 vs. RMH

- Marriage Statistics
  - Age at first marriage
  - Number of times married
  - Ever divorced
  - Number of times divorced
  - Ever widowed
- Paired t-test or Wilcoxon signed rank sum test

Reported Number of Times Married in 2006 & 2010, Men

		2010							
		1	2	3	4	5	6	7	Total
	1	337	51	6	0	0	0	0	394
	2	**58**	137	19	4	2	0	0	220
	3	**13**	**23**	36	9	1	1	1	84
	4	**8**	**4**	**3**	5	1	1	0	22
2006	5	**1**	0	**3**	**1**	2	0	0	7
	6	0	0	0	0	0	1	0	1
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	**1**	0	0	0	0	0	1
	Total	417	216	67	19	6	3	1	729

Reported Number of Times Married in 2006 & 2010, Women

		2010							
		1	2	3	4	5	6	7	Total
2006	1	733	49	3	0	0	0	0	785
	2	**70**	165	32	2	1	0	0	270
	3	**12**	**21**	31	5	0	0	0	69
	4	**1**	**2**	**4**	3	0	0	0	10
	5	**2**	0	0	0	0	0	1	3
	6	0	0	0	**1**	0	0	0	1
	Total	818	237	70	11	1	0	1	1138

Odds Ratios of Unmatched vs. Matched Marriage

Statistically Significant Variables	Men	Women
Individual Characteristics		
Age	1.00	1.20***
Age squared	1.00	1.00***
Inconsistent reporting of:		
# lifetime sexual partners	1.26	3.64***
Marriage Characteristics		
Short duration marriage	3.51***	4.61***
Interviewer Characteristics (2010)		
Has prior interviewing experience	0.53*	1.62+

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Discrepancies in Marriage Start Dates

Figure 1. Discrepancies in Marriage Start Dates (MLSFH4 - MLSFH6)

Note: Restricted to marriages where marriage start date was reported in both MLSFH4 and MLSFH6.
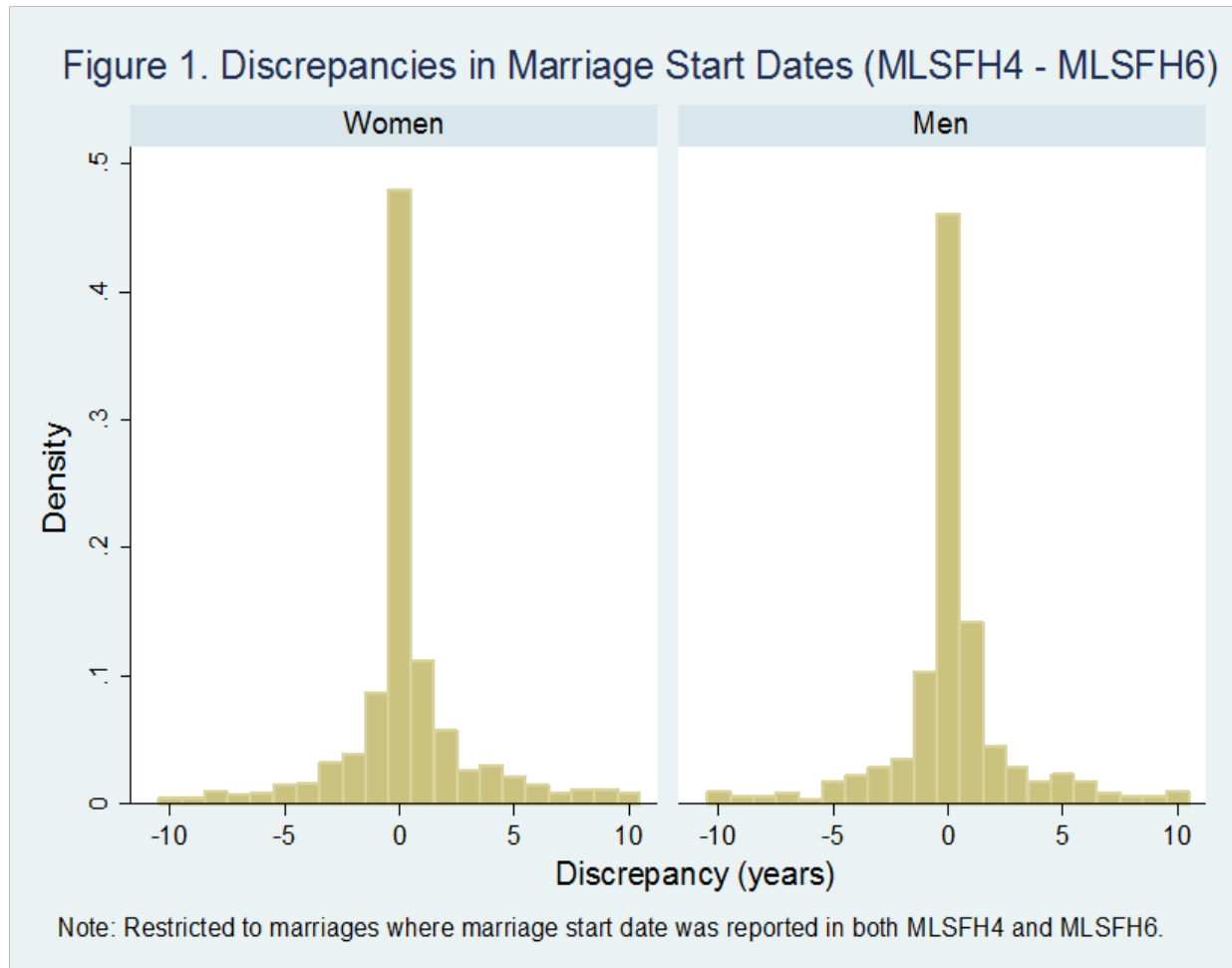
Discrepancies in Marriage End Dates

Figure 2. Discrepancies in Marriage End Dates (MLSFH4 - MLSFH6)
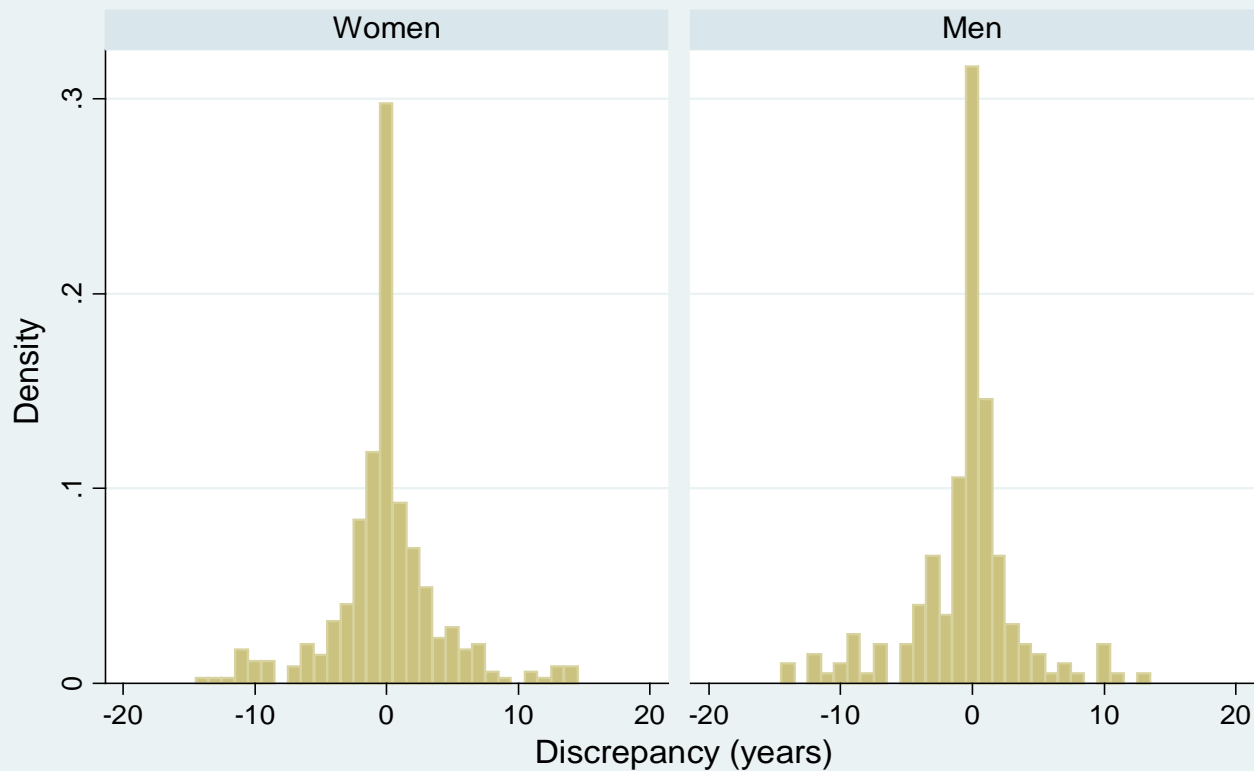
Note: Restricted to terminated marriages where marriage end date was reported in both MLSFH4 and MLSFH6.

Odds Ratios of Reporting Consistent Marriage Start Date (1)

Statistically Significant Variables	Men	Women
Individual Characteristics		
Region of residence (ref = Central)		
South	0.42***	0.40***
North	0.82	0.88
Completed 5+ grades of schooling	1.50*	2.03***
Inconsistent reporting of:		
# children ever born	1.05	0.50**
# lifetime sexual partners	1.06	0.69*
Marriage Characteristics		
Marriage order (ref = First)		
Second	0.53**	0.68+
Third or higher	0.61+	0.97
Short duration marriage	0.85	0.63*

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Odds Ratios of Reporting Consistent Marriage Start Date (2)

Statistically Significant Variables	Men	Women
Marriage Characteristics (cont'd)		
Status of marriage (ref = still married)		
Divorced	0.81	0.75
Widowed	0.35*	0.58*
Survey Characteristics		
Degree of cooperation in 2010 (ref = good)		
Very good	1.01	1.10
Average/bad	1.01	0.68*
Length of survey time in 2010 (ref = middle)		
Short	0.64*	1.12
Long	0.95	1.00
Interviewer Characteristics (2010)		
Has prior interviewing experience	1.68*	0.86

* $p < 0.05$

Odds Ratios of Reporting Consistent Marriage End Date

Statistically Significant Variables	OR
Age	0.89*
Completed 5+ grades of schooling	2.25**
Short duration marriage	0.45**

Significant Gender Interactions	OR
Male	2.21*
Ended in Widowhood	2.14*
Male X Ended in Widowhood	**0.19****
Interviewer lives outside district of respondent (2010)	2.25*
Male X Interviewer lives outside district of respondent (2010)	**0.10****

Marriage-related Statistics (means)

Men

Variables	2006	RMH		2010	RMH	
Age at first marriage	22.2	22.0	***	22.4	22.0	***
# times married	1.68	1.78	***	1.62	1.88	***
# times divorced	0.47	0.53	***	0.43	0.64	***
Ever divorced (%)	34.6	37.4	***	30.0	41.8	***
Ever widowed (%)	7.6	8.7	**	7.8	9.7	**

Women

Variables	2006	RMH		2010	RMH	
Age at first marriage	17.8	17.7	***	17.8	17.7	
# times married	1.40	1.45	***	1.37	1.52	***
# times divorced	0.42	0.45	***	0.39	0.54	***
Ever divorced (%)	34.0	35.2	*	29.0	37.3	***
Ever widowed (%)	10.0	10.6	*	12.7	12.4	

% Respondents Who Report Inconsistent Number of Times Married Across Survey Waves

Men			Later Survey				
			2004	2006	2008	2010	Total
	Earlier Survey	2001	7.3	7.3	14.6	15.2	328
		2004	-	11.6	15.9	17.5	447
		2006	-	-	14.1	15.1	608
		2008	-	-	-	10.5	608

Women			Later Survey				
			2004	2006	2008	2010	Total
	Earlier Survey	2001	9.9	10.2	15.3	15.4	629
		2004	-	7.3	11.1	11.6	765
		2006	-	-	10.6	10.1	976
		2008	-	-	-	9.2	976

Main Findings

- Significant amount of underreporting of marriages exists in MLSFH
  - Men are more likely to misreport marriages than women
- Underreporting of marriages and inconsistent reporting of marriage dates do not appear to be random
- Marriage-related statistics are affected by underreporting of marriages
  - Underreporting is a more serious problem in 2010
    - Possible explanation → panel conditioning
- Limitation
  - Some respondents may consistently underreport the same marriages
    - True number of marriages is likely higher

Discussion & Implications

- Are retrospective marriage histories reliable?
    - 26.2% of men and 16.3% of women omitted at least one marriage
    - Better recall of marriage start dates than end dates
- How does misreporting of marriages affect research?
    - Depends largely on the research question and type of misreporting
- What does this mean for large-scale surveys collecting marriage data?
    - Retrospective marriage histories are probably not capturing all marriages
    - Levels of misreporting will depend on local marriage patterns

Thank you!

- Comments or questions?
  - sochae@sas.upenn.edu