

Motivated Memory and the Intergenerational Transmission of Fertility Preferences

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Introduction

Research Question: How do people form beliefs over long-term processes in life that they later pass on to the next generation?

Context: Evolution of Kenyans' reproductive desires & outcomes over 11 years, recollection of past desires and recommendations to next generation

- 1 How do reproductive realizations compare to initial desires?
- 2 How does memory of past desires compare to actual past desires?
- 3 Why is memory of past reproductive desires inaccurate and biased?
- 4 Does memory affect intergenerational transmission of fertility values?

Cultural Transmission & Persistence

- 1 Why do young people adopt views of old generations over time? Why do parents/elders advise to paths similar to their own?
 - ▶ From Poor to Rich (Di Tella et al. (2007))
 - ▶ Intergenerational (Im-)Mobility in Education (Black et al. (2011))
- 2 Why do certain norms persist, are certain values transmitted across generations? Bisin and Verdier (2000, 2001, 2011)
 - ▶ **Genital Cutting** (Bellemare et al. (2015)): *Women who underwent FGC 16pp more likely to support continuance of practice*
 - ▶ **Gender Roles** (Fernández and Fogli (2009); Farré and Vella (2013); Fernández et al. (2004))
 - ▶ **Fertility** (Fernández and Fogli (2006, 2009); Murphy and Wang (2001); Murphy and Knudsen (2002))

Setting

- Long-Running Kenyan Life Panel Survey (KLPS) of ca. 6,500 respondents in Western Kenya (follow-up work to Miguel and Kremer (2004))
- Combine Data from Survey Round 4 (2018 - present) & Survey Round 2 (2007 - 2009)
 - ▶ Overlap of around 4,000 respondents interviewed in both rounds
 - ▶ Still in field, ca. 3,200 observations so far
 - ▶ 49% of sample female, today: focus on women
 - ▶ Median Age in Two Survey Rounds approx. 22 & 33

Timeline - Survey Rounds & Available Data 1

2003-2005 ● Round 1

2007-2009 ● Round 2: Reproductive Desires & Outcomes
Median Age: 22

2011-2014 ● Round 3

2018-present ● Round 4: Reproductive Desires & Outcomes,
Recall of Round 2 Desires & Information Offer
Median Age: 33

Timeline - Evolution of Reproductive Desires & Outcomes

2003-2005 ● Round 1

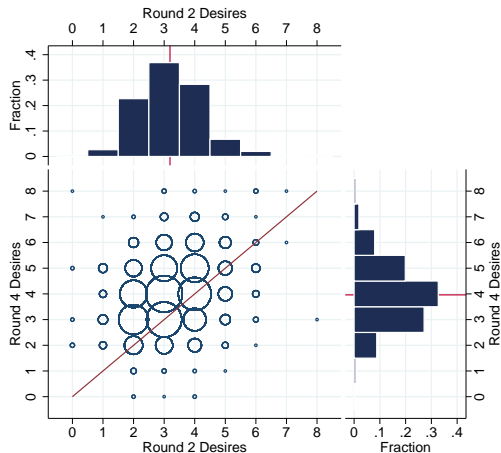
2007-2009 ● Round 2: Reproductive Desires & Outcomes
Median Age: 22

2011-2014 ● Round 3

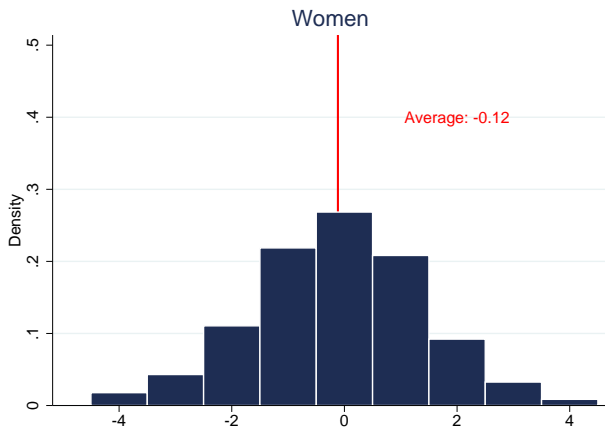
2018-present ● Round 4: Reproductive Desires & Outcomes,
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Fertility Desires Today and 11 Years ago [x_2 & x_4]

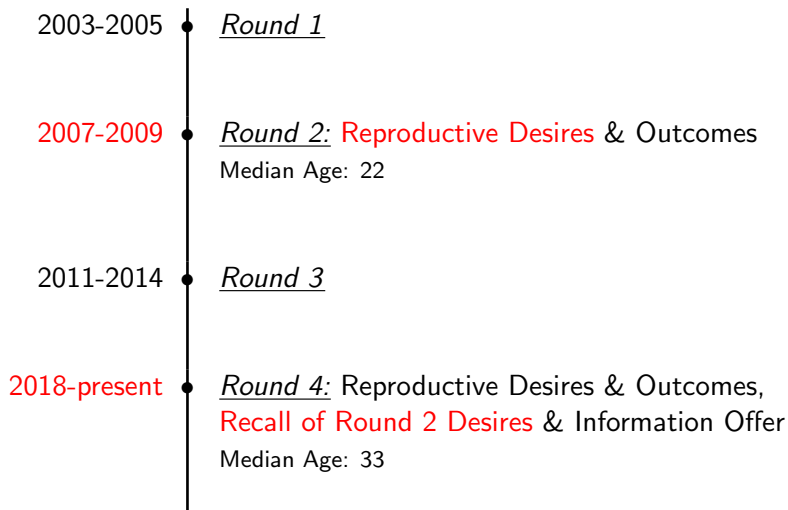
Women's Desires in Rounds 2 and 4



Notes: Average Desires increased from 3.19 in Round 2 to 3.96 in Round 4

Excess Fertility (against Preferences 11 Years ago) [$f_4 - x_2$]Figure: # of Living Children Rd 4 (f_4) - Desired # of Children Rd 2 (x_2)

Timeline - Evaluating Recall

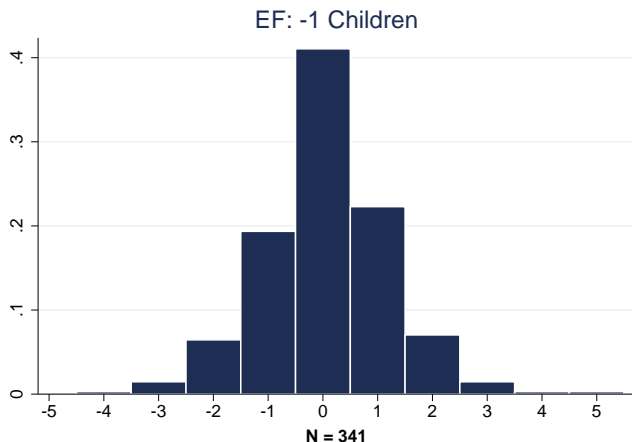


Recall Question, Measures & Notation

Round 4 Recalled Desires for Round 2 (Control Version): $x_{2|4}^R$

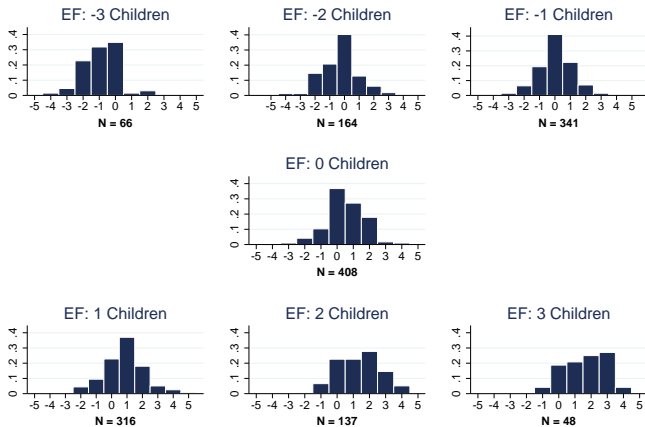
“Now think back to the year of 2007/2008/2009. If we had asked you back then, how many children in total would you have said you would like you or your partner to give birth to, including any who had already been born?”

Derived Variable Recall Error: $x_{2|4}^R - x_2$

Recall Errors by Excess Fertility, Example $EF = -1$ 

Recall Errors by Excess Fertility

Recall Error by Excess Fertility

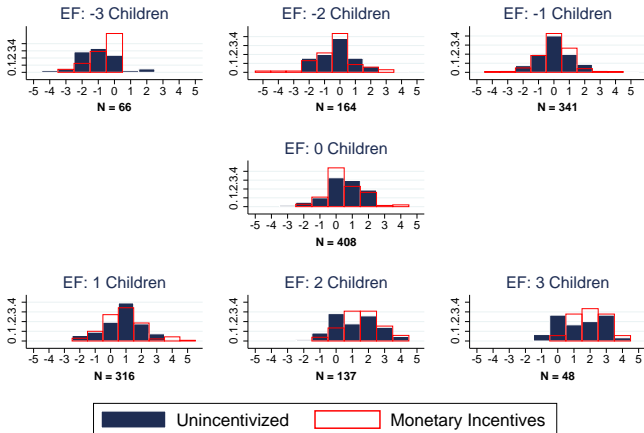


Recall

- Systematic deviations from unbiased recall
 - ▶ Overestimating 2x as likely as underestimating past desires
- Why recall inaccurate and biased?
 - ▶ Memories suppressed?
 - ▶ Memories forgotten?
 - ▶ Motivations behind suppressing/forgetting memories?

Recall Errors by EF & Monetary Incentives (\$0.2/\$0.4) 2

Recall Error by Excess Fertility



Recall: Additional Insights

- Recall improves for those w/o excess fertility, but does not for those w/ excess fertility
 - ▶ Those w/ excess fertility do react to incentives on a neutral recall question (past vice-president)
 - ▶ Both groups spend more time thinking when incentivized
- Accurate memory for those w/ excess fertility undesirable and forgotten over time (one child at a time)?

Timeline - Information Offer

2003-2005 • Round 1

2007-2009 • Round 2: Reproductive Desires & Outcomes
Median Age: 22

2011-2014 • Round 3

2018-present • Round 4: Reproductive Desires & Outcomes,
Recall of Round 2 Desires & **Information Offer**
Median Age: 33

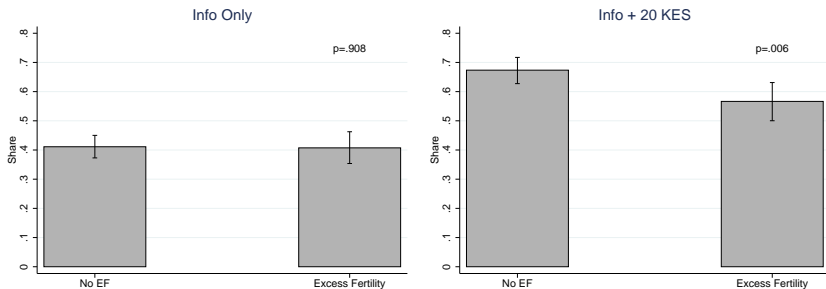
Information Offer

- At end of Fertility Section, offer to find out own past answer
- Randomized whether offer combined with monetary incentives or not
- Have to remind surveyor at end of survey (on average 25 minutes after offer)

Interviewed in Round 2?	Treatment		
	Info Only	Info + \$0.2	\$0.2 Only
Yes	60%	40%	-
No	-	-	100%

Information Take-Up by Treatment & Excess Fertility

Figure: Information Take-Up, by Excess Fertility



Information Offer: Additional Insights

- 1 Gap in take-up \uparrow w/ more children
 - 2 \$0.2 only vs. \$0.2+info: info \uparrow take-up for those with less than 3 children, \downarrow take-up for those with 4 or more children
 - 3 Time elapsed between offer and take-up decision: \uparrow gap
- \rightarrow Info undesirable for some, time helps forget undesirable offer
- \rightarrow Recall + Info: memory both forgotten and not completely forgotten?!

Repercussions of Inaccurate Recall

Individual

- Under-Investment in Contraception
- Love for & Better Treatment of “Undesired Children”
- Improved Well-Being of Remembering Self, e.g. through avoiding feeling of loss of control, desire for consistency

Societal

- Transmission of High-Fertility Norms
 - ▶ Recommended Number of Children to a typical 18-year old girl (boy)
 - ▶ Recommended Age to Marry for a typical 18-year old girl (boy)

Repercussions of Inaccurate Recall

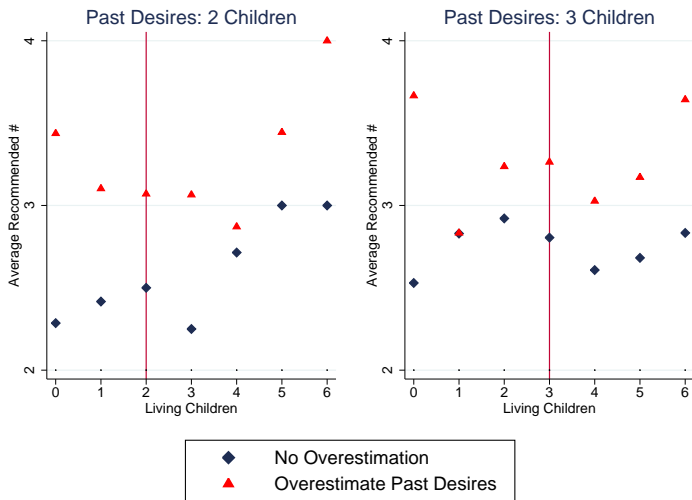
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Societal

- **Transmission of Fertility Norms/Preferences**
 - ▶ Recommended Number of Children to a typical 18-year old girl (boy)
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Recommendations, past desires & nr of children



Role of Memory: Transmission of Values 3

Table: Effect of Overestimating Past Desires

Outcome	Women	Mean	N
Recommended Number of Children	.47 (.11)	3.04 (1.13)	516
Recommended Age to Marry	-1.21 (.46)	25.22 (3.59)	297

Notes: Conditional on having more children than initially desired. Controlling for all combinations of Desired Number of Children at Round 2 and Living Number of Children.

Counterfactuals

Recommendations	Actual	Counterfactual "Accurate Memory"
Current	3.20	3.11
Forecast	3.29	3.12

Notes: Conditional on one's number of living children the counterfactual for Current Recommendations assigns everyone with excess fertility average recommendations of those who are not overestimating their past desires. The Forecast (Actual) Scenario assumes that respondents will have their total number of desired children and assigns them the current average recommendations of those who currently have that many children. For the Forecast (Counterfactual) Scenario, the procedure is the same, but respondents are now assigned the current average recommendations of those who currently have that many children AND are not overestimating their past desires.

Conclusions

- 1 People form biased beliefs in line with course of own lives
 - ▶ Changing views of “young” may not be enough to permanently change beliefs/traditions: “age” differences no guarantee for cohort shift
 - ▶ Changing circumstances may be necessary
- 2 “Technology”: Motivated selective memory & information avoidance
- 3 Memory associated with values transmitted to next generation
- 4 Potential externalities through effect on social norms, intergenerational transmission & advice to next generation
 - ▶ Cultural Persistence stronger than under perfect memory
 - ▶ “Memory banks” as help for “young” generations to de-bias “old” generations’ advice w/o harming “old” generations’ welfare?

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