

Mother-in-law co-residence and fertility in Egypt

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OBJECTIVE

- To explore how intergenerational co-residence with a mother-in-law influences parity progression

INTRODUCTION

- Evidence from Pakistan, Bangladesh, and Algeria has supported the hypothesis that mothers-in-law have a pronatalist influence on their sons and daughters-in-law; however, due to the increase in chronic disability among older adults as well as growing trends in circular migration patterns among men seeking work in urban centers, co-residing in-laws may actually mitigate the effect of the extended family on both desired family size and fertility.
- In this study we explore whether there is an association between intergenerational co-residence and length of closed birth intervals. Using the 1998 and 2006 waves of the Egyptian and Labor Market Survey (ELMS) and the 2008 Egyptian Demographic and Health Survey (EDHS), this study compares the parity progression of reproductive-age women with and without co-resident mother-in-laws.
- We used Cox regression to model the hazard of progressing to a third birth for women of parity 2 (ELMS) and the hazard of progressing to parity n among women parity n-1 (for n>1) where the value of n is determined by the parity of the most recent birth (EDHS).
- Of primary interest is co-residence with a mother-in-law; however we also explore how various individual and household level characteristics affect the association between mother-in-law co-residence and parity progression.

METHODS

This study uses 2 data sources: the 2008 Egyptian DHS (EDHS) and the 1998 and 2006 waves of the Egyptian Labor Market Survey (ELMS). The EDHS is a nationally representative sample of 16,957 households with 15,573 women age 15-45. The 1998 ELMS is a nationally representative sample of 4,816 households. Of these, 3,684 households were surveyed again in 2006 along with new households that split from original households (n=8,349). Two selection criteria are employed to arrive at a sample for analysis of the EDHS: 1) women are of reproductive age (15-49); and 2) women have reached parity equal to or greater than 1. For the ELMS analysis we restricted our analysis to ever-married women (as of 1998) who had reached a parity of 3 or more by 2006.

ANALYSIS

- The dependent variable employed for both ELMS and EDHS analyses is the duration in months of the birth interval.
- For women who have reached parity n at the time of the EDHS survey, the dependent variable captures the time that has elapsed between births n-1 and n.
- For ELMS, we restrict the sample to women of parity 2 and 3 and the dependent variable is time between second and third birth.
- The key independent variable explored in this analysis is co-residence with a mother-in-law.
- Other independent variables include age, education, average household size, log income reported three months prior to the survey, age of spouse, average age of household members, and place of residence.
- Sample sizes for analysis are 11767 and 1053 for EDHS and ELMS, respectively.
- A Cox-proportional hazards model is used to estimate the effect of co-residing mothers-in-law on women's parity progression.

RESULTS

Table 1: Means and frequencies of the analytic sample (ELMS Data)

	Co-residing MILS n=162	No Co-residing MILS n=894	p-value
Individual-Level Factors			
Age, Mean(SD)	28.31 (5.91)	32.65 (5.91)	
Education, N(%)			0.06
Illiterate	66 (40.74)	276 (30.9)	
Reads & writes	5 (3.1)	64 (7.2)	
< Intermediate	30 (18.5)	156 (17.5)	
Intermediate	44 (27.2)	265 (29.7)	
Above Intermediate	9 (5.6)	55 (6.2)	
University & higher	8 (4.9)	78 (8.7)	
Proportion whose first child was a boy, N(%)	86 (53.1)	460 (51.5)	0.702
Household-Level Factors			
Household Size, Mean(SD)	8.63 (2.54)	5.57 (1.92)	<0.001
Number of Adult Females in HH, Mean (SD)	2.84 (1.08)	1.42 (0.79)	<0.001
Average Age in HH, Mean(SD)	26.39 (5.06)	20.09 (4.64)	<0.001
Spouse's Age,* Mean(SD)			
Household Income over past 3 months,** Mean (SD)			
Urban residence, N (%)	82 (50.6)	582 (65.1)	<0.001

Table 2. ELMS Analysis of Hazard Ratio of 3rd Birth

	Model 1 Hazard ratio	Model 2 Hazard ratio	Model 3 Hazard ratio	Model 4 Hazard ratio
Co-residing mother-in-law	1.31***	1.28**	1.28*	1.33*
Age		1.00		0.99
Education level		0.87***		0.89***
Household Size			1.06***	1.04***
Log Household Income over past 3 months			.094*	0.99
Urban Residence			0.93	0.97
Average Age of HH			0.98**	0.98**
Spouse's Age			1.01*	1.01

Significant at *p<0.05; **p<0.01; ***p<0.001

Table 3. EDHS Analysis of Hazard ratio of most recent birth

	Model 1 Hazard ratio	Model 2 Hazard ratio	Model 3 Hazard ratio
Co-residing mother-in-law	1.14***	1.13***	1.09**
Age		0.99	0.99
Sex of second to most recent child		1.04*	1.04*
Education			0.97**
Place of residence			
Urban			1
Rural			1.02
Household income			0.96***

Significant at *p<0.05; **p<0.01; ***p<0.001

CONCLUSIONS

- Women who co-reside with mothers-in-law are fundamentally different with regards to individual and household characteristics (Table 1). Co-residing daughters-in-law tend to be younger with younger spouses and slightly larger households and reside in rural areas as compared to non-co-residing women.
- Preliminary findings suggest that the presence of a co-residing mother-in-law has a pronatalist effect on women, even after controlling for other confounding variables (Table 2).
- These results are consistent across the two surveys, EDHS and ELMS (Tables 2 and 3)
- Additional research needed to understand whether this association is confounded by the daughter-in-law's own fertility intentions.

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