# JFR JOURNAL OF FAMILY RESEARCH

# Women's agency and childbirth: The effect of transition to motherhood and subsequent births on women's agency in Egypt

### Carmen Friedrich<sup>1</sup>

<sup>1</sup>University of Bamberg

Address correspondence to: Carmen Friedrich, University of Bamberg, Department of Sociology, Feldkirchenstr. 21, D-96052 Bamberg (Germany). Email: carmen.friedrich@uni-bamberg.de

#### Abstract

**Objective:** This study investigates whether women's agency changes with birth transitions in Egypt and if this change differs by education or rural vs. urban residence.

**Background:** In the patriarchal context of Egypt, childbearing is almost universal and essential for women's social position; therefore, it is a potentially relevant factor for agency. However, research on the relationship between childbirth and agency is rare, and little is known about the circumstances under which childbirth might increase agency.

**Method:** Drawing on longitudinal data from the Egypt Labor Market Panel Survey (2006, 2012, 2018), this study uses fixed effects regression models to estimate the link between birth transitions and women's agency.

**Results:** The results show that the transition from having one child to having at least two children is positively associated with women's decision-making power but not their financial autonomy or freedom of movement. This positive relationship is stronger for low-educated women and those living in rural areas than for women with at least an intermediate education and those living in urban areas. Indeed, women living in urban areas have less agency after childbirth.

**Conclusion:** Overall, the results indicate that birth transitions might affect agency, although not across all dimensions, and that the potential positive impact on agency is substantial only for women who are more restricted to the mother role and live in more patriarchal contexts.

Key words: women's empowerment, fertility, Middle East and North Africa, ELMPS



#### 1. Introduction

Women's agency refers to their ability to "define their own life-choices and to pursue their own goals, even in the face of opposition from others" (Kabeer 1999, p. 438). While women's agency is important in itself, several scholars also stress its positive impact on societal development and children's health (Doan & Bisharat, 1990; Kishor, 2000; Klugman et al., 2014; Shroff et al., 2009, 2011). Women's agency is context specific (Yount et al., 2016) and is especially limited in societies with strong patriarchal values. Countries in the Middle East and North Africa (MENA) are characterized as "neopatriarchal societies," in which the husband is traditionally expected to financially provide for and protect his wife and children, while the wife is expected to obey her husband and is responsible for household and childrearing tasks (Moghadam, 2004). In this context, relatively low levels of women's decision-making, financial autonomy, and freedom of movement can be found (Charmes et al., 2015; Friedrich et al., 2021).

Restricting women to roles as mothers and wives leads to high social pressure on women to marry and bear children (Tadros, 2010). While fertility has declined substantially since the 1980s in the MENA region (Eltigani, 2009; Engelhardt et al., 2018), motherhood remains nearly universal, and marriage is "a culturally defined precondition" for the transition to parenthood (Gebel & Heyne, 2014, p. 189). In Egypt, the most populous MENA country, the total fertility rate declined from 4.5 in 1988 to 3.0 in 2008 before increasing to 3.5 in 2014 (Ambrosetti et al., 2021) and then falling again to 3.1 in 2018 (Krafft et al., 2022). From 1988 to 2014, the average ideal number of children in Egypt remained relatively stable at around three (Ambrosetti et al., 2019). Percentages of childlessness are very low: Between 1994 and 2000, only 2.8% of Egypt's married women aged 40–44 had no children (Rutstein & Shah, 2004).

Since childbearing is an integral part of women's life course, and since the literature indicates that bearing children has a positive impact on women's value and social position in patriarchal contexts (Kabeer, 1999; Yount et al., 2016), the question arises whether birth transitions might influence women's agency. However, research on the effect of childbirth on women's agency is rare (MENA: Friedrich et al., 2021; Samari, 2017a; India: Reed, 2021). Samari (2017a) and Friedrich et al. (2021) have shown positive associations between motherhood and women's agency in countries in the MENA region. Both studies provide valuable first insights into the relationship between childbirth and agency in this region; however, their methods rest on the strong assumption of exogeneity of the time-constant unobserved heterogeneity, which is likely to be violated.

This study extends the previous literature in three ways: First, the study is unique by using a fixed effects panel research design in the MENA context, aiming to determine whether the transition to motherhood and subsequent birth transitions change married women's agency. It uses large-scale panel data from three waves of the Egypt Labor Market Panel Survey (ELMPS; Economic Research Forum & Central Agency for Public Mobilization and Statistics, 2019). Egypt is a typical example of a MENA country with low levels of childlessness and a neopatriarchal gender regime (Moghadam, 2020). Second, this paper shows how the association between childbirth and agency varies by women's educational attainment and rural or urban residence. Until now, little is known about the circumstances under which childbirth might increase women's agency. Third, this study provides insights into the variability or stability of women's agency over the life course and draws attention to possible reverse causality in the relationship between women's agency and fertility behavior.

#### 2. Women's agency in Egypt

Women's agency is a multidimensional and context-specific construct (Kabeer, 1999; Yount et al., 2016). According to Kabeer's (1999) definition, women's agency is a component of women's empowerment, a process that takes place over time which includes (1) resources, (2) agency, and (3) achievements. Women acquire resources through this process, which enhances their agency and, in turn, their achievements (Kabeer, 1999). Decision-making, freedom of movement, financial autonomy, and gender norms are common measures and direct indicators of agency (Richardson, 2018; Thorpe et al., 2016) that have been empirically validated in the Egyptian context (Cheong et al., 2017; Samari, 2019b; Yount et al., 2016). While the first three capture instrumental agency, gender norms capture intrinsic agency (Kabeer, 1999). This study focuses on women's instrumental agency, which is relatively limited in the Egyptian context. For example, according to a 2005 study in rural Minya, Egypt, less than 15% of ever-married women aged 22 to 65 reported

making independent decisions about their healthcare or visiting relatives (Yount et al., 2014). Among married Egyptian women, the spouse is more likely to have the final say in household decisions in rural areas than in urban areas (Keo et al., 2022). Notably, the share of Egyptians living in rural areas is very high (60% in 2018; Krafft et al., 2022).

Egyptian women's agency should be considered against the backdrop of persistent patriarchal values. MENA countries are characterized as "neopatriarchal societies" in which modernization processes have eroded classic patriarchy and the extended household unit (Moghadam, 2004). However, women's roles are still mainly restricted to household and childrearing tasks, while the husband is expected to protect and financially provide for his wife and childrean and is considered the head of the household (Hoodfar, 1997). Defining women as a protected group—and an existing perception that family honor depends on women's conformity to norms—limits women's freedom of movement and participation in the public sphere (Miles, 2002; Yount et al., 2016). The "patriarchal contract" (Moghadam, 2004) is also institutionalized in Egypt's personal status law, which regulates family matters and domestic relations. As in several other MENA countries, an Egyptian wife is legally required to obey her husband, which can restrict women's freedom of movement and labor market participation (OECD, 2017).

The traditional gender division of labor is reflected in the female labor force participation rate in Egypt, which is among the lowest in the world (15% in 2020; International Labour Organization, 2022). This situation persists despite Egyptian women's high educational attainment and nearly closed education gender gap (Krafft et al., 2022; World Economic Forum, 2021), which is also known as the "MENA paradox" (Assaad et al., 2020). Education and employment can serve as resources for women's agency: Women with more education realize higher levels of agency than low-educated women (Friedrich et al., 2021; Samari & Pebley, 2018; Yount, 2005). Salem et al. (2018) shows that women in rural Minya, Egypt who engage in subsistence or market work have greater freedom of movement than women who do not. Employed Egyptian women are also more likely to have access to household money than women who do not work (Hendy, 2015).

#### 3. Childbirth and women's agency

A large body of research shows an inverse relationship between women's instrumental agency and realized or ideal family size (for a review, see: Upadhyay et al., 2014; more recent studies include, e.g., Ambrosetti et al., 2021; Atake & Gnakou Ali, 2019; Doepke & Tertilt, 2018; Haque et al., 2021), meaning that women with more agency have or prefer to have fewer children than women with less agency. Most studies rely on cross-sectional data and focus on South Asian or sub-Saharan African countries. Only three studies focus on the MENA region (Egypt); they show a negative association between women's involvement in decisions about visits and their ideal number of children (Ambrosetti et al., 2021), but, surprisingly, a positive association between higher instrumental agency (decision-making, financial autonomy, freedom of movement) and their actual number of children (Samari, 2017b, 2019a).

One partial explanation for the positive associations between realized fertility and instrumental agency could be reverse causality, meaning that motherhood or a higher number of children might positively affect women's agency in the Egyptian context. However, research on the effect of childbirth on women's agency is rare (MENA: Friedrich et al., 2021; Samari, 2017a; India: Reed, 2021), and results are mixed. A study in India using data from two waves of the Indian Human Development Study (IHDS) and estimating fixed effects regression models shows that women's freedom of movement and access to enabling resources, but not decision-making power, are higher after the transition to motherhood (Reed, 2021). This is consistent with the findings for Egypt by Friedrich et al. (2020), who use a cross-sectional design. However, another study in Egypt finds that first birth and subsequent births are positively associated with involvement in decision-making and freedom of movement but not with financial autonomy (Samari, 2017a).

Both previous studies in the MENA region (Friedrich et al., 2021; Samari, 2017a) rest on the strong assumption of exogeneity of the time-constant unobserved heterogeneity. Although Samari (2017a) uses longitudinal data from the ELMPS 2006 and 2012, the study's methodological design does not take full advantage of the panel data. The analysis accounts for causal ordering by regressing the number of births in 2006 on agency in 2012 but cannot protect against bias arising from unobserved time-invariant heterogeneity. Therefore, the present study extends the previous literature, particularly the findings of Samari (2017a) and Friedrich et al. (2020), by using a fixed effects panel research design in the MENA context. The study further examines how the association between childbirth and agency varies by women's educational attainment and

rural or urban residence. Little is known about the factors influencing the relationship between childbirth and agency and the circumstances under which childbirth might increase women's agency. Apart from the study by Friedrich et al. (2020), which finds a negative relationship between motherhood and agency among highly educated women in Egypt, I am not aware of any study that examines moderators of the relationship between childbirth and agency.

#### 4. Theory and hypotheses

A popular explanation for findings from longitudinal research in Western contexts that show a shift towards a more traditional gender division of labor after the transition to parenthood (e.g., Baxter et al., 2008; Killewald & García-Manglano, 2016; Kühhirt, 2012; Musick et al., 2020) is that childbirth changes relative bargaining power, which strongly depends on each partner's resources, such as paid employment. According to classical resource theory, the spouse with the most valued resources has more power over the other within a marriage (Blood & Wolfe, 1965). In family research, bargaining models have been widely used to examine the distribution of resources and power in couples (Abraham et al., 2010; Bittman et al., 2003; Bünning, 2020; Cooke, 2006; Lundberg & Pollak, 1996).

Within this theoretical framework, women's instrumental agency can be seen to be affected by the relative bargaining power of spouses—that is, agency is not fixed but can be negotiated. If a woman's relative bargaining power within her marriage increases, her involvement in decision-making, access to household money, and freedom of movement will likely increase. In the following, I present arguments as to why, in the patriarchal Egyptian context, (1) motherhood and (2) subsequent births can be considered resources that can increase married women's bargaining power and, in turn, their instrumental agency.

(1) In Egypt, motherhood is essential for a woman's social position within her family (Kandiyoti, 1988; Yount et al., 2016). Therefore, assuming that women's value and social position improve with the transition to motherhood, having children can be seen as a resource for women. Additionally, the traditional gender division of responsibilities associated with the mother role allows women to argue that they need more agency to adequately perform childrearing tasks and the additional household tasks required after the transition to motherhood. For example, a woman could say that she needs access to household money, freedom of movement to go to the market, and decision-making power regarding household purchases and meals to adequately take care of daily household needs and cooking. A husband may allow his wife more freedom than before the transition to parenthood to ensure a well-functioning everyday family life and good care for the children. Having children comes with many responsibilities for both spouses; allowing the wife more agency concerning her household responsibilities can disburden the husband. Also, Heer (1963) argues that a woman's ability to fulfill her role as a mother to her children can be seen as a significant resource for women. In the Egyptian context, the results of a qualitative study show that some women "hesitated to challenge fixed role stereotypes [...] because this would mean giving up the only form of power they could have" (Henry, 2011, p. 258). Regarding freedom of movement, a woman might have more mobility as a mother because taking her children to public places indicates that she is married. The first hypothesis, H1a, therefore, refers to the transition from being childless to having at least one living child (motherhood):

H1a: The transition to motherhood increases women's instrumental agency.

(2) Subsequent births could also affect women's agency. A higher number of children increases the number of household and child-rearing responsibilities and thus further expands women's opportunities to ask for more agency. In addition, having more children could improve women's social position as well. However, I do not assume a linear association between number of children and women's agency. For example, having a second or a third birth might improve women's social position, while having a fourth birth might not, as the average ideal number of children in Egypt remained stable at around three during the 1988–2014 period (Ambrosetti et al., 2019). The following hypothesis, H1b, refers to the transition from having one child to *having two or more children*, which I call the transition to a higher-order birth:

H1b: The transition to a higher-order birth increases women's instrumental agency.

Notably, these arguments and hypotheses are valid only in highly patriarchal contexts with a traditional gender division of responsibilities in which having children is tied to a woman's value or social position.

Therefore, births should have a higher positive impact on agency for women living in a more patriarchal context and women who are more limited to the mother role.

Under classic patriarchy, women have restricted access to education and marry at a young age (Kandiyoti, 1988; Moghadam, 2004). Today, in the neopatriarchal Egyptian society (Moghadam, 2020), women's rising educational attainment gives them the opportunity to take on alternative roles beyond wife and mother, especially in the labor market, but presumably in other public spheres as well (e.g., social contacts, leisure). Even though female labor market participation is low, women in Egypt with a higher level of education are more likely to be employed than lower-educated women (Gebel & Heyne, 2014; Selwaness & Krafft, 2021). Therefore, I expect that women with only compulsory education are generally more limited to the mother role and a traditional division of labor than women with a higher level of education. This could change the effect of birth transitions on women's agency: If the transitions to motherhood and a higher-order birth reduce higher-educated women's access to alternative roles in the public sphere because of their increased time spent on domestic labor, the impact of birth transitions on agency could be weaker (or even negative). Therefore, I hypothesize the following regarding the positive shift in women's agency in relation to education:

H2a: The positive effect of the transition to motherhood on women's agency is stronger for low-educated women than for women with at least an intermediate education.

H2b: The positive effect of the transition to a higher-order birth on women's agency is stronger for loweducated women than for women with at least an intermediate education.

An essential indicator of the patriarchal context in which a woman lives is her residence. Rural areas are characterized by stricter patriarchal familial and societal structures than urban areas (Moghadam, 2004). Thus, childbearing should be more likely to increase women's agency in a rural context than in an urban context, leading to the following two hypotheses:

H3a: The positive effect of the transition to motherhood on women's agency is stronger for women living in rural areas than for women living in urban areas.

H3b: The positive effect of the transition to a higher-order birth on women's agency is stronger for women living in rural areas than for women living in urban areas.

#### 5. Method

#### 5.1 Data and sample

I used data from the last three waves of the ELMPS (2006, 2012, and 2018; Economic Research Forum & Central Agency for Public Mobilization and Statistics, 2019). This national large-scale representative household panel survey collects labor market, socio-economic, and demographic information from individuals over time (Krafft et al., 2019). As information on women's births and agency has only been available since the 2006 wave, data from the first wave, carried out in 1998, could not be used for the analysis.

The ELMPS includes information on three dimensions of women's instrumental agency: (1) involvement in decision-making, (2) financial autonomy, and (3) freedom of movement.

*Involvement in decision-making* was measured using six items. Women were asked who in the family usually has the final say on several types of decisions: (1) making large household purchases; (2) making household purchases for daily needs; (3) visits to family, friends, or relatives; (4) what food should be cooked each day; (5) getting medical treatment or advice for oneself; and (6) buying clothes for oneself. The response options for all items included "respondent alone," "husband," "respondent and husband jointly," "in-laws," "respondent, husband, and in-laws jointly," and "others." I recoded each item to indicate whether or not the woman is involved in the decision and created a count variable to capture the number of decisions in which the woman is involved (range: 0–6). In this context, "involved" means that the respondent makes the decision alone or with another person. "Not applicable" was coded as missing.

*Financial autonomy* was a dichotomous variable, coded as 1 if the woman has access to household money and 0 if the woman has no access to household money.

*Freedom of movement* was measured using three items. Women were asked whether they cannot go alone, need permission to go, only have to inform someone, or can go without permission to several places: (1) the local market, (2) the local health center or doctor, and (3) the home of relatives, friends, or neighbors. I recoded each item into a binary variable, coded as 1 if the woman only has to inform or can go without permission and 0 if the woman cannot go alone or needs permission. I also created a count variable to measure the number of places a woman can go freely (range: 0–3). "Not applicable" was coded as missing.

My explanatory variables of interest are having at least one child and having at least two children. I operationalized having at least one child and having at least two children as dummy variables, coded as 1 if the woman has the respective number of children and 0 otherwise.

The original ELMPS data set from the 2006, 2012, and 2018 waves consists of 79,634 individuals providing 147,557 person-years. A refresher sample of 2,000–3,000 households was added at each wave. I restricted the sample to married women aged 15–49 whose husband is present in the household (16,665 person-years from 9,433 women) because births outside this age range are rare and may be associated with unusual circumstances. Women who reported fewer number of children in a subsequent wave were excluded (547 person-years from 201 women). I dropped an additional 4,534 women who were interviewed in only one wave and 1,139 person-years due to missing values on agency or other variables needed in the analysis. After these restrictions, I eventually excluded women for whom only one observation remained (507 women). The final sample thus comprises 9,938 person-years from 4,152 women. The two subsamples for the analyses of the transition to motherhood and the transition to a higher-order birth include 1,291 person-years from 554 women and 2,616 person-years from 1,098 women, respectively. The construction of these subsamples and the respective restrictions are explained in the next subsection. Although the restrictions considerably reduced the sample size, they were necessary to obtain unbiased fixed effects estimates.

#### 5.2 Analytical strategy

I used fixed effects (FE) regression models to investigate the impact of childbirth on women's agency. Such models have been widely used to estimate causal effects of childbearing on, for example, life satisfaction (Matysiak et al., 2016; Myrskylä & Margolis, 2014), gender role attitudes (Baxter et al., 2015), and employment and wages (Budig & England, 2001; Hsu, 2021). I used Stata 16 for all analyses.

For *involvement in decision-making* and *freedom of movement*, I estimated FE Poisson regression models because the outcome variables are discrete counts (the number of decisions in which the woman is involved and the number of places to which a woman can move freely). Poisson regression assumes that the mean must be equal to the variance—that is, there is no overdispersion. This assumption is violated in the case of the outcome variable involvement in decision-making. One solution would be to use FE negative binomial regression, but it has been shown that this is not a true FE method (Allison & Waterman, 2002). Therefore, I decided to use FE Poisson regression models with adjusted standard errors, as suggested by Allison and Waterman (2002). The Poisson regression coefficients can be interpreted as changes in the logs of the expected counts, and thus exp(b) can be interpreted in terms of percent changes. As a robustness check, I estimated FE linear models for women's involvement in decision-making and freedom of movement, and the main results were similar.

*For access to household money*, I estimated FE linear probability models. Several scholars recommend using the linear probability model for binary dependent variables (e.g., Angrist & Pischke, 2010; Mood, 2010; Breen et al., 2018) because it offers a clear interpretation of the coefficients as a set of average discrete changes in the probability of the outcomes (Wooldridge, 2010). This is much easier to interpret than odds ratios or logit coefficients.

Due to the possibility of effect heterogeneity, assuming a linear association between number of children and women's agency is problematic. For example, the effect on women's agency of having a first birth and having a second birth are likely to differ since, unlike having a second birth, having a first birth comes with a completely new role: motherhood. Therefore, the effect of each childbirth should ideally be estimated separately. However, due to the significant long time gap between the waves of the ELMPS (six years), analyzing each birth transition separately is not reasonable because it would involve studying a highly selective group: women who have a first child late after getting married and women who have long birth intervals (at least six years). This would limit the generalizability of the results. In addition, the sample sizes would be small since the majority of Egyptian women experience the transition to first birth soon after marriage (Eltigani, 2000; Gebel & Heyne, 2014) and have birth intervals shorter than six years (Ministry of Health and Population [Egypt] et al., 2015). Based on these circumstances, models were estimated separately, not for each birth transition but for the transition to motherhood (having at least one child, H1a) and the transition to a higher-order birth (having at least two children, H1b).

I constructed two subsamples including only women who were at risk of experiencing the respective birth transition (transition to motherhood or a higher-order birth) during the observation period. Eventually, women with only one person-year remaining were excluded to obtain meaningful FE estimates. According to this procedure, the two subsamples include and exclude the following person-years:

(1) Subsample 1 for estimating the relationship between the transition to motherhood and women's agency includes all person-years where women were childless and all person-years where women had at least one child. Women who already had at least one child at the first observation were excluded.

(2) Subsample 2 for estimating the relationship between the transition to a higher-order birth and women's agency includes only person-years where women were already mothers. It contains all person-years where women had one child and all person-years where women had at least two children. Women who already had at least two children at the first observation and person-years where women were childless were excluded.

FE regression models do not rest on the strong assumption of exogeneity of the time-constant unobserved heterogeneity since they use only within-individual variation in the dependent and independent variables. Therefore, they rest on weaker assumptions for identifying causal effects than pooled OLS or random-effects regression models (Brüderl & Ludwig, 2015). However, time-varying heterogeneity can still bias the FE estimates. In the models, I included women's *employment* and *household wealth* as time-varying covariates, which I expect to affect both women's agency and childbearing. I used a dichotomous variable for employment, coded as 1 if the woman was employed in the past three months (market definition, i.e., economic activity for purposes of market exchange) and 0 otherwise. Household wealth was captured by an index provided by the ELMPS based on household assets and durable goods. In addition, the models controlled for *age groups* and *wave* (single-wave dummy variables) to account for maturation effects and possible period effects, respectively. I used five-year age groups to avoid the age–period–cohort identification problem.

As very few women experienced considerable changes in their education status and rural or urban residence during the observation period, both were treated as time-constant variables. They were, therefore, not included as time-varying control variables in the models. In Egypt, most women finish or leave their education before marriage (Gebel & Heyne, 2014). I also estimated the models while including educational level and residence as time-varying controls, and the results were similar. Moreover, employment could mediate the effect of births on agency; if so, its inclusion in the models would lead to overcontrol bias (Elwert & Winship, 2014). Therefore, as a sensitivity analysis, I estimated the models without the time-varying covariate employment. The main results did not differ.

While time-constant covariates cannot be included in FE models, interactions between time-constant and time-varying variables can be included (Allison, 2009). To investigate whether the relationship between childbirth and agency varies by education or rural vs. urban area, I included interaction terms between the birth transition and women's educational level and between the birth transition and women's residence. Women's educational level and residence are dichotomous variables: below intermediate (1) vs. intermediate and above (0) and urban (1) vs. rural (0), respectively. "Below intermediate" corresponds to ISCED levels 0, 1, and 2 (compulsory education), and "intermediate and above" refers to ISCED level 3 or higher.

#### 6. Results

#### 6.1 Descriptive results

Tables 1 and 2 below present descriptive results for the three outcome variables of interest (involvement in decision-making, access to household money, and freedom of movement). Table 3 displays descriptive results for all variables used in the analyses.

Table 1 shows that women's agency changed over the three survey years of the ELMPS (2006, 2012, and 2018). All dimensions of women's agency are highest in the last survey year, 2018. While involvement in decision-making increased continuously from 2006 to 2018, access to household money and freedom of movement are lowest in the second survey year, 2012. These results demonstrate the importance of

accounting for maturation or period effects in the model since the changes in women's agency observed over the survey years could be partly a result of these effects. Women's agency is most limited in terms of freedom of movement. In 2006 and 2012, women are, on average, unable to move freely to at least one of the three places listed. In all survey years, women are, on average, involved in more than four (out of six) household decisions, and most women have access to household money.

*Table 1*: Women's involvement in decision-making (range: 0–6), access to household money (range 0–1), and freedom of movement (range 0–3) by survey year

	Mean (S.D.)			
	2006	2012	2018	
Women's agency Involvement in decision-making	4.26 (1.71)	4.35 (1.86)	4.86 (1.66)	
Access to household money	0.63 (0.48)	0.56 (0.50)	0.76 (0.43)	
Freedom of movement	0.92 (0.96)	0.64 (0.93)	1.24 (1.30)	
Number of persons	2,200	4,071	3,667	

*Note:* Based on all 9,938 person-years from 4,152 married women aged 15–49 whose husband is present in the household and who were observed in at least two waves.

*Table 2*: Women's agency after and before the transition to motherhood (person-years subsample 1) and after and before the transition to a higher-order birth (person-years subsample 2) for women who experienced the respective transition

	Mean						
	Transition to motherhood			Transition to	Transition to higher-order birth		
Women's agency	After 1 <sup>st</sup> birth	Before 1 <sup>st</sup> birth	Diff.	After 2 <sup>nd</sup> birth	Before	Diff.	
Involvement in decision-making	4.65	4.00	0.66	4.70	4.17	0.54	
Access to household money	0.66	0.52	0.14	0.71	0.57	0.14	
Freedom of movement	0.96	0.56	0.40	1.07	0.75	0.32	
Number of persons	439	439		1,002	1,002		
Person-years	595	446		1,399	1,010		

*Note*: All differences are statistically significant (p < 0.001; two sample t-test).

Table 2 shows the level of women's agency for the person-years after and before the transition to motherhood and after and before the transition to a higher-order birth for the respective analytic subsample, but only for women who experienced the respective transition during the observation period. In subsample 1, 79% (439 of 554 women) experienced the transition to motherhood; in subsample 2, 91% (1002 of 1,098 women) experienced the transition to a higher-order birth. The results show that women's agency changed across both transitions. All dimensions of women's agency are higher after the transitions than before, and all differences between agency levels before and after the transition are statistically significant (p < 0.001; two sample t-test). However, since these shifts in women's agency levels can be due to changes in other observable or unobservable characteristics of individuals occurring together with these transitions, a causal relationship cannot be drawn from these descriptive results. The analyses in the next section account for important observed time-variant characteristics and all observed and unobserved time-constant characteristics.

	Subsample 1: Transition to	Subsample 2: Transition to higher-	All person-years
	motherhood	order birth	
	Mean (S.D.) or %	Mean (S.D.) or %	Mean (S.D.) or %
Women's agency			
Involvement in decision-	4.38 (1.89)	4.48 (1.77)	4.52 (1.78)
making			
Access to household	0.60 (0.49)	0.65 (0.48)	0.65 (0.48)
money			
Freedom of movement	0.79 (1.08)	0.93 (1.11)	0.93 (1.12)
Number of children			
No child	52.44%		6.81%
One child	5.81%	45.99%	12.65%
Two children	23.24%	22.44%	27.03%
Three children	13.94%	24.27	29.90%
Four or more children	4.57%	7.3%	23.65%
Control variables			
Age	28.98 (6.57)	29.36 (5.91)	32.63 (6.97)
Employed	0.17 (0.38)	0.16 (0.37)	0.19 (0.40)
Household wealth	-0.02 (0.82)	-0.04 (0.81)	-0.07 (0.85)
Education			
Below intermediate	38.42%	36.24%	44.36%
Intermediate and above	61.58%	63.76%	55.64%
Residence			
Rural	58.87%	54.93%	58.34%
Urban	41.13%	45.07%	41.66%
Number of persons	554	1,098	4,152
Person-years	1,291	2,616	9,938
Mean person-years per	2.43	2.48	2.49
person			

#### Table 3: Descriptive statistics for sample person-years

Table 3 presents the descriptive results for all variables used in the analyses for the overall sample and the two subsamples (distributions of the sample person-years). On average, women in subsample 1 (transition to motherhood) spent 52% of the observation time childless and 48% of the observation time as mothers. In subsample 2 (transition to a higher order-birth), women spent, on average, 46% of the observation time with one child and 54% of the observation time with at least two children. On average, most women have at least an intermediate education level (more than 60% of person-years in the two subsamples) and live in a rural area (59% and 55% of person-years in subsamples 1 and 2, respectively). In all samples, women spent, on average, less than 20% of the observation time employed.

#### 6.2 Relationship between childbirth and agency

Figure 1 presents the coefficient estimates of the FE linear probability model for access to household money and the FE Poisson regression models for involvement in decision-making and freedom of movement.

*Transition to motherhood.* The results showed a statistically non-significant and non-substantial negative association between motherhood and women's involvement in decision-making and between motherhood and access to household money. There is a substantial but not statistically significant positive association between motherhood and freedom of movement. The results, therefore, do not support hypothesis H1a ("The transition to motherhood increases women's instrumental agency").

*Transition to a higher order-birth.* The number of decisions in which women are involved is 8% higher after the birth of (an) additional child(ren). This association is statistically significant (p < 0.05). Women are also more likely to have access to household money after the transition to a higher-order birth, but the

association is small and not statistically significant. Women's freedom of movement is 11% lower after this birth transition, but the association is also not statistically significant. Hence, the results only confirm hypothesis H1b ("The transition to a higher-order birth increases women's instrumental agency") with respect to women's decision-making power.

*Figure 1:* Fixed effects Poisson regression coefficients of transition to motherhood and transition to a higher-order birth on women's involvement in decision-making and freedom of movement, and fixed effects linear regression coefficients of transition to motherhood and transition to a higher-order birth on women's access to household money



Note: All models controlled for employment, household wealth, age groups, and wave. Full models are presented in Table A1.

Table <u>A1</u> also presents results of pooled OLS and pooled Poisson models without the sample restrictions that were necessary for the FE models (n = 15,063 person-years, i.e., person-years in which women were not at risk of experiencing the birth transition and person-years of women who were observed only once are included). Comparing the coefficients of the pooled models with those of the FE models reveals two major differences: (1) Contrary to the FE models, the pooled models show a statistically significant positive association between motherhood and agency (access to household money and freedom of movement), and (2) the pooled models show no positive association between the transition to a higher-order birth and women's decision-making power. This suggests that women may select themselves into birth transitions based on unobserved factors that also affect their agency. For example, infertility may negatively affect both motherhood and agency (due to its associated stigma). This could explain the positive association in the pooled models. The FE models account for all time-constant heterogeneity and, therefore, also for infertility. Other possible unobservable factors include social background and personality traits. One explanation for the absent association between the transition to a higher-order birth and women's agency in the pooled models could also involve the selection of women with lower agency into a higher-order birth.

*Figure 2:* Fixed effects Poisson regression coefficients of transition to motherhood and transition to a higher-order birth on women's involvement in decision-making and freedom of movement, and fixed effects linear regression coefficients of transition to motherhood and transition to a higher-order birth on women's access to household money; includes an interaction term between birth transition and educational level



Note: All models controlled for employment, household wealth, age groups, and wave. Full models are presented in Table A2.

#### 6.3 Heterogeneity analyses

#### 6.3.1 Education

To investigate whether the association between childbirth and agency varies by education, I included an interaction term between the birth transition and women's educational level in all models. Figure 2 presents the coefficient estimates.

*Transition to motherhood.* There are no statistically significant interaction effects between the transition to motherhood and education; therefore, hypothesis H2a ("The positive effect of the transition to motherhood on women's agency is stronger for low-educated women than for women with at least intermediate education") is not supported.

*Transition to a higher-order birth.* For women's involvement in decision-making, the results show that the number of decisions in which a low educated woman is involved is 17% higher after the transition to a higher-order birth. For women with at least an intermediate education, this increase is only 6%. The interaction effect is statistically significant (p < 0.01). No statistically significant interaction effects are found for women's access to household money and freedom of movement, which means that hypothesis H2b ("The positive effect of the transition to a higher-order birth on women's agency is stronger for low-educated women than for women with at least an intermediate education") is confirmed only concerning women's decision-making power.

#### 6.3.2 Rural or urban residence

Figure 3 presents the coefficient estimates of the models that include an interaction term between the birth transition and women's residence (urban or rural).

*Transition to motherhood.* The results show negative associations between agency and the transition to motherhood for women living in urban areas but positive associations for women living in rural areas. However, only the interaction effect for women's involvement in decision-making is statistically significant (p < 0.05): After the transition to motherhood, the number of decisions in which women are involved is 4% higher for women living in rural areas but 9% lower for women living in urban areas. Hence, the findings confirm hypothesis H3a ("The positive effect of the transition to motherhood on women's agency is stronger for women living in rural areas than for women living in urban areas") concerning women's decision-making power, by even showing a negative association between motherhood and agency among women living in urban areas.

*Transition to a higher-order birth.* For involvement in decision-making and freedom of movement, the results show statistically significant interaction effects (p < 0.01 and p < 0.05, respectively): After the transition to a higher-order birth, decision-making power is 14% higher for women living in rural areas but only 3% higher for women living in urban areas. For women's freedom of movement, the results show a negative association for women living in urban areas (19%) but not for women living in rural areas. These results, therefore, support hypothesis H3b ("The positive effect of the transition to a higher-order birth on women's agency is stronger for women living in rural areas than for women living in urban areas"). However, no statistically significant interaction effect is found for access to household money.

Figure 3: Fixed effects Poisson regression coefficients of transition to motherhood and transition to a higher-order birth on women's involvement in decision-making and freedom of movement, and fixed effects linear regression coefficients of transition to motherhood and transition to a higher-order birth on women's access to household money; includes an interaction term between birth transition and residence (rural or urban)



Note: All models controlled for employment, household wealth, age groups, and wave. Full models are presented in Table A3.

#### 6.4 Additional analysis of involvement in decision-making

The results showed a positive association between having at least two children and women's decision-making power. Since the variable "involvement in decision-making" is a count variable based on six different decisions, I conducted an additional analysis to determine whether this positive association is driven entirely by greater involvement in decisions related to household responsibilities (decisions about household purchases or what food should be cooked) or also by other decisions (decisions about visits, medical care, or buying clothes).

Figure 4 shows the results separately for the different decisions. Each decision was coded as a dichotomous variable (the woman is involved vs. not involved in the respective decision), and FE linear regression models were estimated. The models controlled for employment, household wealth, age groups, and wave. The association with the transition to a higher-order birth is only statistically significant for deciding what food should be cooked. However, the heterogeneity analyses show substantially higher decision-making power in several domains after the birth of a second child among women with only compulsory education and women living in rural areas. The interaction term between the transition to a higher-order birth and education is statistically significant for decisions about large household purchases, medical care, and buying clothes. For example, women with only a compulsory education are 15% more likely to be involved in decisions about large household purchases after the second birth. For women with at least an intermediate education, this probability is only 5% higher after the second birth. Looking at the interaction term between the transition to a higher-order birth and residence, a statistically significant coefficient is found for decisions about daily-need household purchases, cooking food, and medical care.



*Figure 4:* Fixed effects linear regression coefficients of transition to a higher-order birth on women's involvement in decision-making, shown separately for each item

Note: All models controlled for employment, household wealth, age groups, and wave. Full models are presented in Tables A4-A6.

#### 7. Discussion and conclusions

This study investigated whether birth transitions change women's agency in Egypt, the most populous country in the MENA region. To do so, I used panel data from the Egypt Labor Market Panel Survey and estimated fixed effects regression models. Since these models account for all time-constant individual-specific unobserved heterogeneity, they rest on weaker assumptions for identifying causal effects than those of methods used in previous studies. The study's results add to knowledge about the variability of women's instrumental agency over the life course. They indicate that births might change agency, although not necessarily across all of its dimensions, highlighting the importance of considering the multidimensionality of agency. Moreover, observed differences by educational attainment and rural or urban residence indicate that the potential impact of birth transitions on women's agency might not be equal for all groups of women.

In the analysis, I compared women's agency before and after their first birth (transition to motherhood) and before and after their second birth (transition to a higher-order birth). The results showed no evident association between motherhood and women's decision-making power, which is at odds with Samari's (2017a) findings for Egypt, but consistent with Friedrich et al.'s (2021) findings for three MENA countries and Reed's (2021) results in India. One explanation could be an anticipation effect due to the short time gap between marriage and first birth in Egypt. If a newly married couple is already preparing for parenthood and expects a first birth soon, the woman's status might not increase further with the transition to motherhood. On the other hand, the results showed a positive association with women's involvement in decision-making for the transition to a higher-order birth. This finding is in line with those from Samari (2017a), who also found a positive association between subsequent births and women's decision-making power in Egypt.

Moreover, the results indicate that the potential impact of the transition to a higher-order birth on women's involvement in decision-making might differ by women's educational attainment and rural or urban residence. The association between women's involvement in decision-making and the transition to a higher-order birth is stronger for low-educated women and those living in rural areas than for women with at least an intermediate education and those living in urban areas. This supports the theoretical argument that the ways in which a woman could increase her agency through childbearing are based on a patriarchal context with a traditional gender division of responsibilities in which a woman's value is tied to having children. Thus, the potential positive impacts of childbearing on agency appear greater for women who are more limited to the mother role and live in a more patriarchal context. For women living in urban areas, the results even showed a negative association between decision-making power and the transition to motherhood. An additional analysis of women's decision-making indicates that the higher decision-making involvement of low-educated women and women living in rural areas after having (an) additional child(ren) is not entirely driven by greater participation in decisions related to household responsibilities but also by greater involvement in decisions about their own health care or buying clothes. This gain in decision-making power suggests that women's greater agency might result not only from an increase in household tasks but also from an increase in women's value and position after childbirth transitions.

The results on freedom of movement and financial autonomy do not closely match the findings of previous studies. For access to household money, the results showed no substantial positive associations between birth transitions and agency, which is at odds with the findings of Reed (2021) for India and the results of Friedrich et al. (2021), a cross-sectional study that found positive associations between women's financial autonomy and motherhood in three MENA countries. Samari (2017a), Friedrich et al. (2021), and Reed (2021) also found a positive association between motherhood and women's mobility, but in this study, the influence of childbearing on women's freedom of movement was less clear. However, the heterogeneity analyses by women's residence revealed an intriguing result: After the transition to a higher-order birth, women's freedom of movement is lower for women living in urban areas but not for women living in rural areas.

One possible explanation for the positive associations between motherhood and agency in previous analyses in Egypt (Friedrich et al., 2021; Samari, 2017a) and the pooled regression models in Table <u>A1</u> may be that they could not account for infertility, about which the ELMPS does not provide information. Infertility might act as a confounder of the relationship between motherhood and agency, as it can be expected to affect both motherhood and agency negatively. The FE models account for infertility.

Although the method used in this study is better suited to answer whether childbearing changes women's agency in the MENA region than the methods used in previous studies, this study's analyses have some shortcomings. First, although FE regression models do not rest on the strong assumption of exogeneity of

the time-constant unobserved heterogeneity, time-varying heterogeneity can still bias the FE estimates. Although I attempted to account for all relevant observable time-variant confounders, I cannot eliminate the possibility that the assumption of exogeneity of time-varying unobserved heterogeneity may be violated. Thus, a causal effect cannot be identified with confidence. Second, due to the six-year time gap between the ELMPS waves, it was impossible to analyze the effect of each birth transition on women's agency separately. This is a limitation, as I do not assume a linear association between number of children and women's agency. Instead, the effects of the first and second birth on agency likely differ, and an upper bound probably exists for example, the fourth or fifth birth might have no additional effect on agency. Third, in the analytic subsamples, the number of women who experienced the transition to motherhood is much smaller (439) than the number of those who experienced the transition to a higher-order birth (1002). This is because Egyptian women give birth to a first child on average about one year after marriage (Gebel & Heyne, 2014). Fourth, I analyzed only one country (Egypt), and generalizations of this study's findings to other MENA countries or other countries with a patriarchal context require further investigation. Additional panel analyses on women's agency and childbirth in other countries are needed, especially since Friedrich et al. (2021) found differences in the association between motherhood and agency across three MENA countries (Egypt, Jordan, and Tunisia).

Finally, this paper draws attention to several other aspects that should be investigated in future studies. First, it remains an open question why this study found a positive influence of birth transitions on women's decision-making power but no apparent impact on other dimensions of women's instrumental agency (access to household money and freedom of movement). It seems that women's constraints on financial autonomy and mobility are more persistent than constraints on decision-making-at least according to the results of this study. To shed light on this matter, further research should explore the specific mechanisms behind the impact of fertility on each dimension of women's agency. The causal mechanisms through which childbirth transitions might influence agency are neither well understood nor sufficiently discussed. Qualitative data on the importance of childbearing for women's social position and on work-family conflict in the MENA region would help to further our understanding of these mechanisms. Second, future research could examine not only how each birth transition influences agency but also whether the effect of a first birth differs by the gender of the child. This would require panel data with shorter time intervals between survey waves. Due to son preference in Egypt (El-Zeini, 2008; Yount, 2005), the birth of a son as a first child might improve women's social position more than the birth of a daughter, a phenomenon observed in the context of China (Li & Wu, 2011). Lastly, this paper demonstrates the variability of women's instrumental agency over their life course. Future research could also study whether other critical life course transitions, such as marriage or school-to-work transitions, influence women's agency. Moreover, the finding that births might change women's agency draws attention to possible reverse causality when studying the impact of women's agency on fertility. Future studies on this topic must consider and address this issue.

#### Acknowledgments

This work was supported by the German Research Foundation under grant number 504049463. I would like to thank Henriette Engelhardt and Michael Gebel for their insightful comments on earlier drafts of this paper. An earlier version of this article was presented at the Population Association of America 2023 Annual Meeting, New Orleans, USA.

#### Data availability statement

This study used data from three waves of the Egypt Labor Market Panel Survey (ELMPS 2006, 2012, 2018). The data can be requested at http://www.erfdataportal.com/index.php/catalog/.

#### References

- Abraham, M., Auspurg, K., & Hinz, T. (2010). Migration decisions within dual-earner partnerships: A test of bargaining theory. *Journal of Marriage and Family*, 72(4), 876–892. https://doi.org/10.1111/j.1741-3737.2011.00868.x
- Allison, P. D., & Waterman, R. P. (2002). Fixed-Effects negative binomial regression models. Sociological Methodology, 32(1), 247–265. https://doi.org/10.1111/1467-9531.00117
- Ambrosetti, E., Angeli, A., & Novelli, M. (2019). Ideal family size and fertility in Egypt: An overview of recent trends. *Statistica*, *79*(2), 223–244. https://doi.org/10.6092/issn.1973-2201/8811
- Ambrosetti, E., Angeli, A., & Novelli, M. (2021). Childbearing intentions among Egyptian men and women: The role of gender-equitable attitudes and women's empowerment. *Demographic Research*, 44(51), 1229– 1270. https://doi.org/10.4054/DemRes.2021.44.51
- Angrist, J. D., & Pischke, J.-S. (2010). The credibility revolution in empirical economics: How better research design is taking the con out of econometrics. *Journal of Economic Perspectives*, 24(2), 3–30. https://doi.org/10.1257/jep.24.2.3
- Assaad, R., Hendy, R., Lassassi, M., & Yassin, S. (2020). Explaining the MENA paradox: Rising educational attainment yet stagnant female labor force participation. *Demographic Research*, 43(28), 817–850. https://doi.org/10.4054/DemRes.2020.43.28
- Atake, E. H., & Gnakou Ali, P. (2019). Women's empowerment and fertility preferences in high fertility countries in Sub-Saharan Africa. *BMC Women's Health*, *19*(54), 1–14. https://doi.org/10.1186/s12905-019-0747-9
- Baxter, J., Buchler, S., Perales, F., & Western, M. (2015). A life-changing event: First births and men's and women's attitudes to mothering and gender divisions of labor. *Social Forces*, 93(3), 989–1014. https://doi.org/10.1093/sf/sou103
- Baxter, J., Hewitt, B., & Haynes, M. (2008). Life course transitions and housework: Marriage, parenthood, and time on housework. *Journal of Marriage and Family*, *70*(2), 259–272. https://doi.org/ht10.1111/j.1741-3737.2008.00479.x
- Bittman, M., England, P., Sayer, L., Folbre, N., & Matheson, G. (2003). When does gender trump money? Bargaining and time in household work. *American Journal of Sociology*, 109(1), 186–214. https://doi.org/10.1086/378341
- Blood, R. O., & Wolfe, D. M. (1965). Husbands and wives. The dynamics of married living. Free Press.
- Breen, R., Karlson, K. B., & Holm, A. (2018). Interpreting and understanding logits, probits, and other nonlinear probability models. *Annual Review of Sociology*, 44, 39–54. https://doi.org/10.1146/annurev-soc-073117-041429
- Brüderl, J., & Ludwig, V. (2015). Fixed-effects panel regression. In H. Best & C. Wolf (Eds.), Regression analysis and causal inference (pp. 327–358). Sage. https://doi.org/10.4135/9781446288146
- Budig, M. J., & England, P. (2001). The wage penalty for motherhood. American Sociological Review, 66(2), 204–225. https://doi.org/10.2307/2657415
- Bünning, M. (2020). Paternal part-time employment and fathers' long-term involvement in child care and housework. *Journal of Marriage and Family*, 82(2), 566–586. https://doi.org/10.1111/jomf.12608
- Charmes, J., Dedeoglu, S., Guessoam, S., & Jabiri, A. (2015). Enhancing women's voice, agency and participation in the economy. Studies in Egypt, Jordan, Morocco, Tunisia and Turkey. European Bank of Reconstruction and Development. https://www.ebrd.com/documents/comms-and-bis/enhancing-womens-voice-agencyand-participation-semed-and-turkey.pdf
- Cheong, Y. F., Yount, K. M., & Crandall, A. A. (2017). Longitudinal measurement invariance of the women's agency scale. *Bulletin de Methodologie Sociologique*, 134(1), 24–36. https://doi.org/10.1177%2F0759106317693787
- Cooke, L. P. (2006). "Doing" gender in context: Household bargaining and risk of divorce in Germany and the United States. *American Journal of Sociology*, *112*(2), 442–472. https://doi.org/10.1086/506417
- Doan, R. M., & Bisharat, L. (1990). Female autonomy and child nutritional status: The extended-family residential unit in Amman, Jordan. *Social Science and Medicine*, 31(7), 783–789. https://doi.org/10.1016/0277-9536(90)90173-p
- Doepke, M., & Tertilt, M. (2018). Women's empowerment, the gender gap in desired fertility, and fertility outcomes in developing countries. *AEA Papers and Proceedings*, *108*, 358–362. https://doi.org/10.1257/pandp.20181085

- Economic Research Forum, & Central Agency for Public Mobilization & Statistics (2019). Egypt Labor Market Panel Survey, ELMPS (2018).
- El-Zeini, L. O. (2008). The path to replacement fertility in Egypt: Acceptance, preference, and achievement. *Studies in Family Planning*, *39*(3), 161–176. https://doi.org/10.1111/j.1728-4465.2008.164.x
- Eltigani, E. E. (2000). Changes in family-building patterns in Egypt and Morocco: A comparative analysis. *International Family Planning Perspectives*, 26(2), 73–78. https://doi.org/10.2307/2648270
- Eltigani, E. E. (2009). Toward replacement fertility in Egypt and Tunisia. *Studies in Family Planning*, 40(3), 215–226. https://doi.org/10.1111/j.1728-4465.2009.00204.x
- Elwert, F., & Winship, C. (2014). Endogenous selection bias: The problem of conditioning on a collider variable. *Annual Review of Sociology*, *176*(40), 31–53. https://doi.org/10.1146/annurev-soc-071913-043455
- Engelhardt, H., Schulz, F., & Büyükkeçeci, Z. (2018). Demographic and human development in the Middle East and North Africa. University of Bamberg Press. https://doi.org/10.20378/irbo-50993
- Friedrich, C., Engelhardt, H., & Schulz, F. (2021). Women's agency in Egypt, Jordan, and Tunisia: The role of parenthood and education. *Population Research and Policy Review*, 40(5), 1025–1059. https://doi.org/10.1007/s11113-020-09622-7
- Gebel, M., & Heyne, S. (2014). Transitions to adulthood in the Middle East and North Africa: Young women's rising? Palgrave Macmillan. https://doi.org/10.1057/9781137355560
- Haque, R., Alam, K., Rahman, S. M., Keramat, S. A., & Al-Hanawi, M. K. (2021). Women's empowerment and fertility decision-making in 53 low and middle resource countries: a pooled analysis of demographic and health surveys. *BMJ Open*, *11*(6), 1–12. https://doi.org/10.1136/bmjopen-2020-045952
- Heer, D. M. (1963). The measurement and bases of family power: A rejoinder. *Marriage and Family Living*, 25(2), 133–139. https://doi.org/10.2307/349050
- Hendy, R. (2015). Women's participation in the Egyptian labor market. In R. Assaad & C. Krafft (Eds.), *The Egyptian labor market in an era of revolution* (pp. 147–161). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198737254.003.0008
- Henry, H. M. (2011). Egyptian women and empowerment: A cultural perspective. Women's Studies International Forum, 34(3), 251-259. https://doi.org/10.1016/j.wsif.2011.03.001
- Hoodfar, H. (1997). Between marriage and the market: Intimate politics and survival in Cairo. University of California Press.
- Hsu, C.-H. (2021). Parity-specific motherhood penalties: Long-term impacts of childbirth on women's earnings in Japan. *Advances in Life Course Research*, *50*, 100435. https://doi.org/10.1016/j.alcr.2021.100435 International Labour Organization (2022). International Labour Organization. ILOSTAT Database. Labour
- Force Participation Rate by Sex and Age. https://ilostat.ilo.org/data/ [retrieved September 15, 2022]
- Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435–464. https://doi.org/10.1111/1467-7660.00125
- Kandiyoti, D. (1988). Bargaining with patriarchy. *Gender and Society*, 2(3), 274–290. https://doi.org/10.1177/089124388002003004
- Keo, C., Krafft, C., & Fedi, L. (2022). Rural Women in Egypt. In C. Krafft & R. Assaad (Eds.), The Egyptian labor market: A focus on gender and vulnerability (pp. 225–256). Oxford University Press. https://doi.org/10.1093/oso/9780192847911.003.0009
- Killewald, A., & García-Manglano, J. (2016). Tethered lives: A couple-based perspective on the consequences of parenthood for time use, occupation, and wages. *Social Science Research*, 60, 266–282. https://doi.org/10.1016/j.ssresearch.2016.03.007
- Kishor, S. (2000). Empowerment of women in Egypt and links to the survival and health of their infants. In H. Presser & G. Sen (Eds.), *Women's empowerment and demographic processes* (pp. 119–156). Oxford University Press.
- Klugman, J., Hammer, L., Twigg, S., Hasan, T., McCleary-Sills, J., & Santamaria, J. (2014). Voice and agency: Empowering women and girls for shared prosperity. World Bank Publications. https://www.worldbank.org/content/dam/Worldbank/document/Gender/World\_bank\_gender\_voice\_L OWRES.pdf
- Krafft, C., Assaad, R., & Keo, C. (2022). The evolution of labor supply in Egypt, 1988–2018. A gendered analysis. In C. Krafft & R. Assaad (Eds.), *The Egyptian labor market: A focus on gender and vulnerability* (pp. 13–48). Oxford University Press. https://doi.org/10.1093/oso/9780192847911.003.0002
- Krafft, C., Assaad, R., & Rahman, K. W. (2019). Introducing the Egypt Labor Market Panel Survey 2018 (ERF Working Paper Series No. 1360). https://doi.org/10.2478/izajodm-2021-0012

- Kühhirt, M. (2012). Childbirth and the long-term division of labour within couples: How do substitution, bargaining power, and norms affect parents' time Allocation in West Germany? *European Sociological Review*, 28(5), 565–582. https://doi.org/10.1093/esr/jcr026
- Li, L., & Wu, X. (2011). Gender of children, bargaining power, and intrahousehold resource allocation in China. *Journal of Human Resources*, 46(2), 295–316. https://doi.org/10.3368/jhr.46.2.295
- Lundberg, S., & Pollak, R. A. (1996). Bargaining and distribution in marriage. *Journal of Economic Perspectives*, 10(4), 139–158. https://doi.org/10.1257/jep.10.4.139
- Matysiak, A., Mencarini, L., & Vignoli, D. (2016). Work-family conflict moderates the relationship between childbearing and subjective well-being. *European Journal of Population*, 32(3), 355–379. https://doi.org/10.1007/s10680-016-9390-4
- Miles, R. (2002). Employment and unemployment in Jordan: The importance of the gender system. World Development, 30(3), 413–427. https://doi.org/10.1016/S0305-750X(01)00123-1
- Ministry of Health and Population [Egypt], El-Zanaty and Associates [Egypt], & ICF International. (2015). Egypt Demographic and Health Survey 2014. Ministry of Health and Population and ICF International.
- Moghadam, V. M. (2004). Patriarchy in transition: Women and the changing family in the Middle East. *Journal of Comparative Family Studies*, 35(2), 137–162. https://doi.org/10.3138/JCFS.35.2.137
- Moghadam, V. M. (2020). Gender regimes in the Middle East and North Africa: The power of feminist movements. *Social Politics*, 27(3), 467–485. https://doi.org/10.1093/sp/jxaa019
- Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological Review*, 26(1), 67–82. https://doi.org/10.1093/esr/jcp006
- Musick, K., Bea, M. D., & Gonalons-Ponsc, P. (2020). His and her earnings following parenthood in the United States, Germany, and the United Kingdom. *American Sociological Review*, 85(4), 639–674. https://doi.org/10.1177/0003122420934430
- Myrskylä, M., & Margolis, R. (2014). Happiness: Before and after the kids. *Demography*, 51(5), 1843–1866. https://doi.org/10.1007/s13524-014-0321-x
- OECD (2017). Women's economic empowerment in selected MENA countries. The impact of legal frameworks in Algeria, Egypt, Jordan, Libya, Morrocco and Tunisia. OECD Publishing. https://doi.org/10.1787/9789264279322-en
- Reed, M. N. (2021). Reproductive transitions and women's status in Indian households. *Population Studies*, 75(3), 325–341. https://doi.org/10.1080/00324728.2021.1904147
- Richardson, R. A. (2018). Measuring women's empowerment: A critical review of current practices and recommendations for researchers. *Social Indicators Research*, 137(2), 539–557. https://doi.org/10.1007/s11205-017-1622-4
- Rutstein, S. O., & Shah, I. H. (2004). Infecundity, infertility, and childlessness in developing countries (DHS Comparative Reports No. 9). ORC Macro and the World Health Organization. https://dhsprogram.com/pubs/pdf/CR9/CR9.pdf
- Salem, R., Cheong, Y. F., & Yount, K. M. (2018). Is women's work a pathway to their agency in rural Minya, Egypt? Social Indicators Research, 136(2), 807–831. https://doi.org/10.1007/s11205-017-1573-9
- Samari, G. (2017a). First birth and the trajectory of women's empowerment in Egypt. BMC Pregnancy and Childbirth, 17(2), 43–55. https://doi.org/10.1186/s12884-017-1494-2
- Samari, G. (2017b). Women's agency and fertility: Recent evidence from Egypt. *Population Research and Policy Review*, 36(4), 561–582. https://doi.org/10.1007/s11113-017-9427-3
- Samari, G. (2019a). Education and fertility in Egypt: Mediation by women's empowerment. *SSM Population Health*, *9*, 1–9. https://doi.org/10.1016/j.ssmph.2019.100488
- Samari, G. (2019b). Women's empowerment in Egypt: the reliability of a complex construct. Sexual and Reproductive Health Matters, 27(1). https://doi.org/10.1080/26410397.2019.1586816
- Samari, G., & Pebley, A. R. (2018). Longitudinal determinants of married women's autonomy in Egypt. *Gender, Place & Culture, 25*(1), 1–22. https://doi.org/10.1080/0966369X.2018.1473346
- Selwaness, I., & Krafft, C. (2021). The dynamics of family formation and women's work: What facilitates and hinders female employment in the Middle East and North Africa? *Population Research and Policy Review*, 40(3), 533–587. https://doi.org/10.1007/s11113-020-09596-6
- Shroff, M. R., Griffiths, P., Adair, L., Suchindran, C., & Bentley, M. (2009). Maternal autonomy is inversely related to child stunting in Andhra Pradesh, India. *Maternal and Child Nutrition*, 5(1), 64–74. https://doi.org/10.1111/j.1740-8709.2008.00161.x

- Shroff, M. R., Griffiths, P. L., Suchindran, C., Nagalla, B., Vazir, S., & Bentley, M. E. (2011). Does maternal autonomy influence feeding practices and infant growth in rural India? *Social Science and Medicine*, 73(3), 447–455. https://doi.org/10.1016/j.socscimed.2011.05.040
- Tadros, M. (2010). Egypt. In S. Kelly & J. Breslin (Eds.), Women's rights in the Middle East and North Africa: Progress amid Resistance (pp. 89–120). Freedom House.
- Thorpe, S., VanderEnde, K., Peters, C., Bardin, L., & Yount, K. M. (2016). The influence of women's empowerment on child immunization coverage in low, lower-middle, and upper-middle income countries: A systematic review of the literature. *Maternal and Child Health Journal*, 20(1), 172–186. https://doi.org/10.1007/s10995-015-1817-8
- Upadhyay, U. D., Gipson, J. D., Withers, M., Lewis, S., Ciaraldi, E. J., Fraser, A., ... Pratad, N. (2014). Women's empowerment and fertility: A review of the literature. *Social Science and Medicine*, *115*, 111–120. https://doi.org/10.1016/j.socscimed.2014.06.014
- Wooldridge, J. M. (2010). Econometric analysis of cross section and panel data. MIT Press.
- World Economic Forum (2021). Global gender gap report 2021. Insight report. World Economic Forum. https://www3.weforum.org/docs/WEF\_GGGR\_2021.pdf
- Yount, K. M. (2005). Women's family power and gender preference in Minya, Egypt. *Journal of Marriage and Family*, 67(2), 410–428. https://doi.org/10.1111/j.0022-2445.2005.00125.x
- Yount, K. M., Dijkerman, S., Zureick-Brown, S., & VanderEnde, K. E. (2014). Women's empowerment and generalized anxiety in Minya, Egypt. Social Science and Medicine, 106, 185–193. https://doi.org/10.1016/j.socscimed.2014.01.022
- Yount, K. M., VanderEnde, K. E., Dodell, S., & Cheong, Y. F. (2016). Measurement of women's agency in Egypt: A national validation study. *Social Indicators Research*, 128(3), 1171–1192. https://doi.org/10.1007/s11205-015-1074-7

## Information in German

#### **Deutscher Titel**

Weibliche Handlungsfähigkeit und Geburten: Die Auswirkungen des Übergangs zur Mutterschaft und nachfolgender Geburten auf die Handlungsfähigkeit von Frauen in Ägypten

#### Zusammenfassung

**Fragestellung:** In dieser Studie wird untersucht, ob sich die Handlungsfähigkeit von Frauen bei Geburtenübergängen in Ägypten verändert und ob diese Veränderung nach Bildung und ländlichem oder städtischem Wohnsitz unterschiedlich ausfällt.

**Hintergrund:** Im patriarchalischen Kontext Ägyptens ist Mutterschaft nahezu universell und wichtig für die soziale Stellung der Frauen und damit ein potenziell relevanter Faktor für deren Handlungsfähigkeit. Es gibt jedoch nur wenige Untersuchungen zum Zusammenhang zwischen Geburten und Handlungsfähigkeit, und es ist wenig darüber bekannt, unter welchen Umständen eine Geburt die Handlungsfähigkeit erhöhen könnte.

**Methode:** Unter Rückgriff auf Längsschnittdaten des Egypt Labor Market Panel Survey (2006, 2012, 2018) werden in dieser Studie Fixed-Effects-Regressionsmodelle verwendet, um den Zusammenhang zwischen Geburtenübergängen und der Handlungsfähigkeit von Frauen zu schätzen.

**Ergebnisse:** Die Ergebnisse zeigen, dass der Übergang von einem Kind zu mindestens zwei Kindern positiv mit der Entscheidungsmacht von Frauen zusammenhängt, nicht aber mit finanzieller Autonomie und Bewegungsfreiheit. Dieser positive Zusammenhang ist bei Frauen mit niedrigem Bildungsniveau und bei Frauen, die in einem ländlichen Gebiet leben, stärker als bei Frauen mit einem mindestens mittleren Bildungsniveau und Frauen, die in der Stadt leben. Frauen, die in der Stadt leben, verfügen sogar über eine geringere Handlungsfähigkeit nach der Geburt von Kindern.

**Schlussfolgerung:** Insgesamt deuten die Ergebnisse darauf hin, dass Geburtsübergänge die Handlungsfähigkeit verändern können, wenn auch nicht in allen ihren Dimensionen, und dass eine potenziell positive Auswirkung auf die Handlungsfähigkeit nur bei Frauen substanziell ist, die stärker auf die Mutterrolle beschränkt sind und in einem stärker patriarchalen Umfeld leben.

Schlagwörter: Women's empowerment, Fertilität, Naher Osten und Nordafrika, ELMPS

JFR – Journal of Family Research, 2023, vol. 35, pp. 400–420.

doi: <u>https://doi.org/10.20377/jfr-907</u>

Submitted: January 9, 2023 Accepted: June 19, 2023 Published online: June 28, 2023

Carmen Friedrich: https://orcid.org/0000-0003-4148-7022



This work is licensed under a Creative Commons Attribution 4.0 International License.