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**THE EFFECT OF MOTHERS' EMPLOYMENT  
ON YOUTH GENDER ROLE ATTITUDES:  
EVIDENCE FROM EGYPT**

**Maia Sieverding, Rania Roushdy  
and May Gadallah**

**Working Paper No. 1125**

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## Abstract

Cross-nationally, having a working mother during childhood is associated with more egalitarian attitudes among both adult men and women. However, no previous studies have explored this relationship in the Middle East and North Africa, where women's employment rates have remained persistently low. In this paper, we examine the impact of having a working mother during childhood on Egyptian young people's attitudes towards women's roles in the public sphere, gender roles in the household, and ideals around number of children and women's age at marriage that are related to gender roles. In order to address the potential endogeneity of mother's work and attitudes formation, we use an instrumental variable approach with panel data from the Survey of Young People in Egypt 2009 and 2014 waves. Mother's employment is instrumented using the governorate-level female labor force participation rate and percentage of women working in the public sector in 2009. We find that having a working mother during childhood led to significantly more egalitarian attitudes towards women's roles in the public sphere among both young men and women. However, there was no effect on young people's attitudes towards gender roles in the household. Having a working mother led to lower ideal number of children among sons, but did not have any effect on views of the ideal age of marriage for women among children of either gender. In the Egyptian context, having a working mother during childhood thus appears to lead to more egalitarian attitudes around women's roles outside the household but not necessarily their roles inside the household. This suggests that attitudes around gender roles in the household may be more strongly socially conditioned and thus less affected by individual experience, and is also consistent with the finding from labor market research that women continue to bear the brunt of housework and childcare in Egypt even when they are employed. Thus, while having an employed mother does have some liberalizing effect on individual attitudes, broader change in attitudes around gender roles both inside and outside the home may be needed in order to foster increased female labor force participation.

**JEL Classification:** J1

**Keywords:** Mothers' employment, youth, gender role attitudes; Egypt

## ملخص

على الصعيد الوطني، ترتبط الأم العاملة أثناء مرحلة الطفولة بمواقف أكثر مساواة بين الرجال والنساء البالغين. ومع ذلك، لم تستكشف أي دراسات سابقة هذه العلاقة في الشرق الأوسط وشمال أفريقيا، حيث ظلت معدلات عمالة المرأة منخفضة باستمرار. في هذا البحث، ندرس تأثير وجود أم عاملة خلال مرحلة الطفولة على مواقف الشباب المصري من أدوار المرأة في المجال العام، وأدوار الجنسين في الأسرة، والمثل العليا حول عدد الأطفال وعمر المرأة عند الزواج. ومن أجل معالجة التجانس المحتمل لعمل الأم وتشكيل المواقف، نستخدم نهجاً متغيراً فعالاً مع بيانات مسوحات الشباب في مصر 2009 و2014. ويتم توظيف عمالة الأم باستخدام نسبة مشاركة الإناث في القوى العاملة على مستوى المحافظة ونسبة النساء العاملات في القطاع العام في عام 2009. ونجد أن وجود أم عاملة أثناء مرحلة الطفولة أدى إلى مواقف أكثر مساواة بكثير تجاه أدوار المرأة في المجال العام فيما بين الإثنيين الشباب والشابات. ومع ذلك، لم يكن هناك تأثير على مواقف الشباب من أدوار الجنسين في الأسرة المعيشية. وقد أدى وجود أم عاملة إلى انخفاض العدد المثالي للأطفال بين الأبناء، ولكن لم يكن له أي تأثير على آراء السن المثالية لزوج النساء بين الأطفال من الجنسين. وفي السياق المصري، يبدو أن وجود أم أثناء العمل في مرحلة الطفولة يؤدي إلى مواقف أكثر مساواة حول أدوار المرأة خارج المنزل ولكن ليس بالضرورة أدوارها داخل الأسرة. ويشير ذلك إلى أن المواقف المتعلقة بأدوار الجنسين في الأسرة قد تكون أكثر تشدداً من الناحية الاجتماعية وبالتالي فهي أقل تأثراً بالخبرة الفردية وتتسق أيضاً مع نتائج أبحاث سوق العمل بأن المرأة لا تزال تتحمل العبء الأكبر من الأعمال المنزلية ورعاية الأطفال في مصر حتى عندما وهم يعملون. وهكذا، فبينما يكون للأمم العاملة بعض التأثير التحرري على المواقف الفردية، قد تكون هناك حاجة إلى تغيير أوسع في المواقف المتعلقة بأدوار الجنسين داخل المنزل وخارجه من أجل تعزيز مشاركة المرأة في القوى العاملة.

## **1. Introduction**

Young people's experiences in their natal household have an important formative effect on their gender role attitudes, an effect that persists over time as they grow into adulthood (Fan and Marini 2000). Gender role attitudes, or support for the idea of separate spheres for men and women, in turn have wide-ranging consequences for outcomes including female labor force participation, the household division of labor, age at marriage, and gender-based violence (Cunningham et al. 2005; Corrigall and Konrad 2007; Davis and Greenstein 2009). One experience that may impact the formation of gender role attitudes among young people is that of having a working mother during childhood, which has historically been a non-traditional family dynamic in both developed and developing countries. Across a wide range of high- and a few middle-income countries, studies have consistently found that having a working mother leads to more egalitarian gender role attitudes among both men and women (Fan and Marini 2000; Berrington et al. 2008; Kawaguchi and Miyazaki 2007; Johnston, Schurer, and Shields 2014; McGinn, Ruiz Castro, and Lingo 2015).

Much of the research on working mothers' impact on their children's gender role attitude formation has been conducted in contexts where female labor force participation (FLFP) rates have risen substantially over recent decades. Change in FLFP often goes hand-in-hand with attitudinal change, and cross-nationally support for women's employment is one of the strongest predictors of FLFP (Fortin 2005). The causality between attitude change and FLFP is difficult to establish, however, and is likely reciprocal. Women who have more egalitarian attitudes are more likely to enter the labor force, where those egalitarian attitudes may be reinforced (Cunningham et al. 2005; Corrigall and Konrad 2007; Farré and Vella 2013). These more egalitarian working mothers also appear to have children with more egalitarian attitudes, and who demonstrate different behaviors with regards to women's work. The daughters of working mothers are more likely to work themselves, (Johnston, Schurer, and Shields 2014; McGinn, Ruiz Castro, and Lingo 2015), and the sons of working mothers to be married to women who work (Fernández, Fogli, and Olivetti 2004). Rising FLFP and broad change in attitudes around women's roles in society, and particularly in the workforce, were thus mutually reinforcing in Western contexts (Bolzendahl and Myers 2004; Fernández, Fogli, and Olivetti 2004; Fortin 2005).

The relationship between gender role attitudes and women's labor force participation is of particular interest in the Middle East and North Africa (MENA) region, where FLFP is the lowest of any world region (UNDP 2006). There are important structural aspects of the regional labor market that hinder women's employment, constraints that also apply in the case of Egypt, the focus of this study (Moghadam 1998; Assaad 1997, 2007). However, social norms around women's mobility (Assaad and Arntz 2005), the challenge of combining work and marriage (Hendy 2015) and the privileging of the housewife role in social expectations for young women (Sieverding and Hassan 2016) are also important constraints on women's work in Egypt. How the experience of having a working mother may influence the attitudes of younger generations in the region is an as-yet unexplored dimension of women's employment in MENA, and one that has important implications for long-term trends in FLFP. In this paper, we use nationally representative data from the Survey of Young People in Egypt to address two main research questions: (1) How does mothers' employment affect their children's gender role attitudes? and (2) Is the impact of mothers' employment on their daughters' gender role attitudes stronger than the impact on their sons?

## **2. Literature Review**

The finding that having an employed mother during childhood is associated with more egalitarian gender role attitudes is quite robust across high-income countries. In a study of 24 countries in Europe, North and South America, Israel and East Asia using data from 2002 to 2012, mothers' employment was associated with more egalitarian gender role attitudes among

both their sons and daughters (McGinn, Ruiz Castro, and Lingo 2015). A larger number of single-country studies have produced similar findings. In the United States, mothers' employment is consistently associated with more egalitarian attitudes among both daughters and sons when using nationally representative surveys (Fan and Marini 2000; Davis 2007; Farré and Vella 2013).<sup>1</sup> Having an employed mother also predicts more egalitarian gender role attitudes among men and women in the UK (Berrington et al. 2008; Johnston, Schurer, and Shields 2014), women in Australia (Vella 1994), and men in Japan (Kawaguchi and Miyazaki 2007). It is worth noting that all of these studies use measures of gender role attitudes that capture attitudes towards women and work, and not other domains of gender roles, and thus more specifically conclude that having a working mother leads to children having more egalitarian attitudes regarding women's labor force participation and its consequences for family life.

Several different mechanisms have been argued to drive this association between women's work and their children's attitudes. One prominent argument is that the relationship is driven by socialization, i.e. that children are exposed to certain ideas and behaviors in their natal household and model those behaviors when they themselves become adults (Moen, Erickson, and Dempster-McClain 1997; Cunningham 2001). Thus, exposure to a less traditional family model in childhood (e.g. having a working mother) may lead children to have more favorable attitudes toward this model and to be less accepting of gender stereotypes, and thus to be more likely to follow this model in their own family life (Bolzendahl and Myers 2004). Socialization of ideas may also happen in young people's natal household, as evidenced, for example, by the fact that there is often correlation between mothers' and children's gender role attitudes (Moen, Erickson, and Dempster-McClain 1997; Farré and Vella 2013; Johnston, Schurer, and Shields 2014). As women who work tend to have more egalitarian attitudes (Fan and Marini 2000), we would thus expect their children to have more egalitarian attitudes as well.

Another explanation, however, for the congruence between parents' and children's attitudes could be direct transmission of ideas. If parents believe that their own attitudes are beneficial, they may actively cultivate the development of similar attitudes in their children as a utility maximization behavior (Johnston, Schurer, and Shields 2014). Yet another argument is that of status attainment, or that because parents and their children tend to occupy similar spaces in the social structure, this tends to foster similarities in attitudes (Moen, Erickson, and Dempster-McClain 1997). As gender is an important factor influencing social position, the latter argument suggests that there should be greater congruence between the attitudes of mothers and daughters than mothers and sons. That the association between mothers' employment and daughters' attitudes is stronger than that for sons has indeed been found in several studies (Fan and Marini 2000; McGinn, Ruiz Castro, and Lingo 2015).

Regardless of the mechanism, the impact of having a working mother on their children's attitudes is particularly important because these attitudes may also mediate behaviors. More egalitarian attitudes have been found to mediate the relationship between mothers' employment and their daughters' more positive labor market outcomes (McGinn, Ruiz Castro, and Lingo 2015) and sons' greater contributions to carework and housework (Cunningham 2001; McGinn, Ruiz Castro, and Lingo 2015). Men whose mothers worked are also more likely to have wives who work, suggesting that these men's experiences in their natal household generate attitudes or preferences that lead them towards working wives (Fernández, Fogli, and Olivetti 2004; Johnston, Schurer, and Shields 2014). The spread of more egalitarian attitudes

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<sup>1</sup> Several older and more localized studies in the U.S., in contrast, found no evidence that mothers' employment affects children's attitudes. However, these studies were not based on broadly representative samples (Thornton, Alwin, and Camburn 1983; Tallichet and Willits 1986; Moen, Erickson, and Dempster-McClain 1997). The studies cited that use nationally representative data from the U.S. all rely on the National Longitudinal Survey of Youth.

and more egalitarian behaviors that encourage women's labor force participation are thus closely linked.

### ***2.1 Women's employment and gender role attitudes in the Egyptian context***

The question of how mothers' employment may influence their children's gender role attitudes is of particular interest in MENA because female labor force participation in the region is so low. Using the market definition of labor force participation, FLFP in Egypt among the working age population (age 15 – 64) has stagnated over the last several decades, increasingly somewhat from 21.4% in 1998 to 27.3% in 2006, only to fall back to 23.1% by 2012 (Hendy 2015). The structure of women's employment in Egypt is heavily influenced by the legacy of a policy that guaranteed public sector jobs to all graduates of vocational secondary and tertiary education from the 1960s through the early 1990s. As a result of the public employment guarantees, higher educational attainment is strongly predictive of women's participation in the (formal) labor market (Assaad and El Hamidi 2009). The public sector has also come to set the standard for socially acceptable employment for women, as it is both accommodating of women's household roles and government workplaces are considered safe and respectable (Barsoum 2004; Assaad 2007). With the effective cancellation of the public employment guarantees since the 1990s, FLFP has declined both among educated women (Assaad and El Hamidi 2009) and female youth (Roushdy and Selwaness 2015), who nevertheless continue to express the preference for public sector work (Barsoum 2014). Meanwhile, the private sector is a less desirable outcome for many women, and marriage is a common point of labor market exit for women who are employed in this sector (Amin and Al-Bassusi 2004; Barsoum 2004; Hendy 2015).

At the same time, national surveys have shown that Egyptian youth have persistently conservative gender role attitudes towards topics including women's employment, the gender division of labor in the household, and gender-based violence (Mensch et al. 2003; Population Council 2010; Salemi and Rashed 2015). Underlying these conservative attitudes in domains related to men's and women's social roles is a strong expectation among both young men and young women that a woman's primary role will be that of wife and mother. Adherence to the traditional male breadwinner-female homemaker among young people is associated both with an expectation of men's authority in the household, and a general discounting of women's employment outside the home (Sieverding and Hassan 2016). In this context, mothers who work are all the more likely to deviate from the norm on a variety of dimensions, including observable (e.g. education, presence of men in the household) and unobservable (e.g. intrinsic motivation) characteristics. We therefore expect that, following the international literature, the children of these women will be more egalitarian in their gender role attitudes.

However, in the region, and specifically Egypt, studies of intergenerational dynamics have focused on children's socioeconomic rather than attitudinal outcomes. This literature has found a positive association between mothers' educational attainments and that of their children, (El Hamidi 2006; Nugent and Saleh 2009; Assaad 2010; Krafft 2015), as well as that mothers' educational attainment is more predictive of their daughters' educational attainment than is fathers' (Sieverding 2012). Similarly, mothers' employment status is highly predictive of daughters' labor force outcomes, whereas the same is not true for fathers (Sieverding 2015). To the best of our knowledge, the only study of intergenerational dynamics in MENA to address gender role attitudes is a study by Schvaneveldt et al. (2005), who examine gender role attitudes among 33 female students of a university in the United Arab Emirates and their mothers. The study found that the daughters, who were on average much more educated than their mothers, had more egalitarian gender role views. It did not address how differences in mothers' characteristics may have been associated with daughters' gender role attitudes.

### 3. Methods

#### 3.1 Data and sample

The data for this study come from the Survey of Young People in Egypt (SYPE), which is a nationally representative panel of young people who were surveyed in 2009 and 2014. The original 2009 survey captured 15,029 young people aged 10 – 29 from 11,372 households (Population Council 2010). Seventy-three percent (10,916) of these individuals, now aged 13 – 35, were successfully interviewed in a follow-up survey conducted in 2014.<sup>2</sup> Weights based on the probability of non-response were constructed to adjust the 2014 SYPE sample for attrition. For a detailed discussion of the SYPE survey design, see Roushdy and Sieverding (2015).

The SYPE data are particularly well suited for our research questions because of the breadth of topics covered in the survey. In addition to socioeconomic characteristics such as education, employment, household structure, wealth, and parents' characteristics, SYPE included modules on gender role attitudes, ideals regarding family formation, and social values. These modules allow us to examine the impact of mother's employment on a range of measures related to gender role attitudes, beyond attitudes about women and work specifically.

#### 3.2 Young people's gender role attitudes outcome measures

We use several outcomes, all measured in 2014, that capture young people's gender role attitudes across a range of domains. Attitudes towards gender roles in the public and household spheres are measured through a series of questions that asked for respondents' agreement with statements about women and girls' education, employment, and role in household decision making, as well as sexual harassment and boys' role in domestic work (Appendix Table A1). The first outcome measure, the women's roles in the *public sphere index* was constructed using three questions about women's employment, girls' education and sexual harassment. The variable is a binary coded 1 if the respondent agreed with at least two of the three statements.<sup>3</sup> The second outcome measure combines the four items about household roles for men and women into a gender roles in the *household index* using factor analysis. Both outcome measures are coded such that a higher value indicates more conservative gender role attitudes.

Secondly, we examine two outcomes related to young people's views on family formation: (1) the *ideal age of marriage for women*, and (2) *ideal number of children*. Although not a direct measure of gender role attitudes, these items capture important aspects of family formation that are closely linked to women's empowerment. Early marriage typically curtails a girl's opportunities for education and employment in Egypt (Brady et al. 2007). As women bear the bulk of responsibility for housework and childcare in Egypt, the desire for a larger family also likely curtails women's ability to work outside the home, and employment is not generally seen as a reason for having fewer children (Sieverding and Hassan 2016). Young people's ideals for women's age at marriage and total number of children are thus important indicators of their family formation intentions that have implications for broader gender equality.

Young people's views of the ideal age of marriage for women is coded in two categories: below 21, which is below the median age at marriage for younger cohorts of women<sup>4</sup>; and 21 or older,

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<sup>2</sup> Data collection for SYPE 2014 started in late 2013 and continued until mid-2014. So, respondents should have been age 14-34 during the second SYPE interview. However, it appears that some respondents were below age 10 or above age 29 during the 2009 interview, but misreported (or approximated) their age. This often occurs at the boundaries of the eligible age group in household surveys. In the SYPE 2014 data, the age is left as reported during the 2013/ 2014 interview without any adjustment, after carefully checking respondents' exact age.

<sup>3</sup> The results were substantively the same when this index was constructed using factor analysis. However, we prefer using the probit specification due to the small number of indicators and hence the few possible factor analysis outcomes.

<sup>4</sup> The median age at marriage for women in Egypt aged 25 – 29 in 2014 was 21.3 years (Ministry of Health and Population, El-Zanaty and Associates, and ICF International 2015).



which is at or above the median age at marriage and would generally be post-university. Ideal number of children is defined as a binary indicator of whether the respondent wanted three children or more (yes=1), as compared to two children or less. We chose the cut-off of two children as the total fertility rate in Egypt has stagnated at around three children per woman, despite national campaigns to further reduce total fertility rate to replacement fertility level of 2.1.<sup>5</sup>

### ***3.3 Econometric modeling***

We model young people attitudes towards women's role in the public sphere using a probit specification, whereas attitudes towards household roles is modeled using OLS regression as this outcome is constructed as a continuous index. Ideal number of children and ideal age of marriage for women are also modeled using a probit specification. The analysis of ideal number of children is limited to unmarried young people only, as marriage is closely linked to the timing of the first birth in Egypt and married respondents' current number of children is likely to affect their ideal family size. All models are estimated separately for young men and young women because previous research has shown that young men have consistently more conservative gender role attitudes (Salemi and Rashed 2015; Sieverding and Hassan 2016). Following the international literature, we also expect that mother's work will affect their sons' and daughters' gender role attitudes differently.

In each model, we control for the same set of the household and individual characteristics. These are the respondent's age in 2014 and its square, a dummy for whether the respondent is the eldest child in their natal household, and educational attainment in 2014 measured categorically as no schooling (omitted category), primary or preparatory education, secondary education, and above secondary education. For the attitudes models, we measure employment status in 2009, as a change in respondents' own employment between 2009 and 2014 may affect their gender role attitudes. Employment status is measured categorically as working (omitted category), unemployed and out of the labor force at the time of the survey.<sup>6</sup> We also control for family formation status as a categorical variable of not married (omitted category), married with children and married without children, and household wealth quintile. The wealth quintiles are derived from a household asset index; the poorest quintile is the omitted category.

Our primary variable of interest is the reported mother's work status when the respondent was aged 15; where available we take this information from the 2009 household roster. When mother's employment was missing from the 2009 roster, we take this value from the 2014 survey.<sup>7</sup> We use two different specifications of the mother's employment variable. The first is a dummy variable (yes=1) capturing whether the respondent's mother was engaged in any type of work, including wage work, self-employment and unpaid family work, when the respondent was age 15. The second is a dummy coded 1 only if the respondent's mother was employed in the public sector, with all other forms of work and non-activity coded as 0. This specification is used to reflect the importance of the public sector in the history of women's employment in Egypt, and particularly for the generations of SYPE respondents' parents.

A challenge in estimating the impact of mothers' work on their children's attitudes, even when mothers' work status is measured prior to attitudes, is that omitted variables may render mothers' work endogenous. For instance, latent community attitudes may affect both mothers'

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<sup>5</sup> After several decades of steady decline, the Total Fertility Rate (TFR) in Egypt rose from 3.0 in 2008 to 3.5 in 2014 (Ministry of Health and Population, El-Zanaty and Associates, and ICF International 2015).

<sup>6</sup> In some models the number of young women who were unemployed was so small as to lead to empty cells that prevented model convergence; in these cases, the unemployed and working are grouped together as a category for in the labor force (versus out of the labor force).

<sup>7</sup> For respondents who were under age 15 in 2009, this variable captures the mother's current work status at the time of the 2009 interview. However, in these cases, mother's work status is still measured prior to attitudes, as the attitudes measures were captured in 2014.

work and children's attitudes. If local attitudes were (or for some reason became) conservative during respondents' childhood, this may have both decreased the likelihood of their mothers working and increased the conservatism of their own attitudes. In this case, conservative attitudes are not caused only by the mother not working, but actually conservative local attitudes caused both. This would still be a problem even if local attitudes were becoming more liberal during respondents' childhood. To minimize the effect of this omitted variable bias, we include several community controls and natal household characteristics (such as the child's place in the birth order), as well as governorate or region level dummies in all model specifications.<sup>8</sup>

We also use an instrumental variable (IV) technique to mitigate this possible endogeneity problem in all model specifications. We use the governorate-level female labor force participation rate in 2009 to instrument for mother's work in the any work model specification and the percent of women working in the public sector in 2009 to instrument mother's work in the public-sector specification.<sup>9</sup> The year 2009 is used because for almost 60% of the sample, the mother's work information is taken from the 2009 household roster (see above). We believe that these instruments are good proxies for mothers' work, since they are highly correlated with the likelihood of woman's work in the community, but are unlikely to be correlated with gender role attitudes. For instance, the supply of public sector jobs is determined by a central government allocation system rather than local preferences regarding women's work.

Moreover, for each model specification, we test the exogeneity of mother's work to children's attitudes using the Wald test of exogeneity. The null hypothesis in these tests is that mother's work is exogenous. If we cannot reject this null hypothesis, the results of the single equation model would be more efficient than the IV model estimation. On the other hand, if we cannot accept the null hypothesis (i.e., we cannot reject that the unobservables that affect children's attitudes also influence the likelihood of mother's work), we expect the size of coefficient on the mother's work variable to be substantially larger in the corrected IV models than in the uncorrected single equation models.

## **4. Results**

### ***4.1 Sample descriptives***

Table 1 presents the characteristics of our sample of young people by gender. As expected, a relatively small percentage of young people had mothers who worked when they were age 15, at 13.0% of sons and 14.3% of daughters. When looking only at public sector employment, around eight percent of the sample had mothers who worked, meaning that about five percent had mothers who engaged in any other type of economic activity, including private sector wage work, self-employment or unpaid family labor.

The young people in our sample were on average just under 23 years of age in 2014, and slightly over a quarter were the eldest child in their family. Reflecting the fact that women marry at younger average ages than men, 38.0% of young women were married with children compared to only 17.4% of young men. The small percentage of young people of both genders who were married but without children is expected since, as noted above, marriage and the birth of the first child tend to coincide closely in Egypt.

The distribution of educational attainment within the sample also reflects the fact that girls in Egypt are more likely to never attend school than boys, with 11.6% of young women in the

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<sup>8</sup> We use governorate level controls where possible, however in a few cases the model did not converge with governorate controls so we use controls for Egypt's six major geographic regions instead.

<sup>9</sup> The source of the governorate-level female labor force participation rate and percent of women working in the public sector data is the 2009 Labor Force Survey (LFS). The LFSs are implemented quarterly by the Central Agency for Public Mobilization and Statistics (CAPMS).

lowest educational category (no schooling) compared to only 4.9% of young men. Secondary education was the most common level of educational attainment, at half of young men and 44.8% of young women. About a quarter of both young men and women had tertiary education. Low female labor force participation rates have persisted into this younger generation of women, who were even less likely to be working than their mothers, with 5.7% working and an additional 2.9% unemployed. Over ninety percent of young women were out of the labor force, as well as nearly sixty percent of young men; these high rates of inactivity are due in part to the fact that many respondents were still studying at the time of the survey.

#### ***4.2 The effect of mother's work on young people's gender role attitudes***

Table 1 also confirms the finding that young men have more conservative gender role attitudes than young women, reflected in their higher scores on both the public spheres and household roles indices. Similar results for the effect of mother's work on the public sphere index are observed in all the models for both young men and women (Table 2). The effect of mother's work is negative – indicating more liberal attitudes – and significant at the  $p < 0.05$  level for sons and  $p < 0.01$  level for daughters. In other words, young men and women whose mothers were engaged in work when they were growing up are more likely to accept egalitarian attitudes regarding women's role in the public sphere. For both young men and women, the magnitude of the effect is larger when examining only those whose mothers worked in the public sphere. In contrast, the models for young people's views on gender roles in the household showed no significant effects for either gender under either specification of the mother's employment variable.

Very few of the individual or other household characteristics included as controls were significant predictors of young people's gender role attitudes in either domain. For the public spheres index, secondary education predicted more liberal attitudes among daughters across both models. Somewhat surprisingly, higher wealth predicted more conservative attitudes among daughters, but only in the model where mother's employment was restricted to the public sector.

#### ***4.3 The effect of mother's work on young people's ideals regarding family formation***

Turning to young people's ideals regarding family formation, Table 1 shows that while youth of both genders maintain a preference for larger family sizes, young men are somewhat more likely to do so. Among young men, 58.2% saw three or more children as ideal, compared to 53.0% of young women. The probit estimation also shows that young men were the only ones for whom having a working mother decreased the ideal number of children; although women whose mothers worked also preferred fewer children, the result was not significant (Table 4). The magnitude of the effects was again higher when examining only mothers who worked in the public sector.

Finally, young people's views on ideal age at marriage for women were fairly consistent across gender, with 69.4% of young men and 65.7% of young women saying that women should marry between the ages of 18 and 21. About six percent of young people of both genders saw the ideal age of marriage for women to be less than 18. The effect of mother's work on ideal age at marriage was not significant in any of the model specifications. .

Nevertheless, ideal age at marriage for women was also the only outcome for which significant effects of several of the individual and household characteristics were seen. Secondary and particularly tertiary educational attainment predicted greater support for higher age at marriage among both young men and women, as did household wealth in the fourth or fifth quintiles. Interestingly, whereas own labor force participation had a weak positive effect on ideals of marriage age among young women (Table 4), young men who were in the labor force were less likely to support higher ages at marriage for women.

Finally, in almost all models where the effect of mother's work is significant, the Wald test shows that we cannot reject the endogeneity of mother's work ( $p < 0.1$ ). Hence, in these models the estimates of the two equation IV models are more efficient.

## 5. Discussion

Cross-nationally, having a working mother during childhood is consistently associated with more egalitarian gender role attitudes – particularly as related specifically to women and work – among both men and women (Fan and Marini 2000; Johnston, Schurer, and Shields 2014; Farré and Vella 2013; McGinn, Ruiz Castro, and Lingo 2015). From a policy perspective, the positive relationship between mother's work and egalitarian gender attitudes is particularly important because this relationship is mutually reinforcing; evidence from countries in which women's labor force participation rates have risen substantially over the past half-century demonstrates that this rise has been concurrent with widespread change in views on the acceptability and consequences of women's employment (Bolzendahl and Myers 2004; Fernández, Fogli, and Olivetti 2004; Fortin 2005). Understanding the dynamics of women's employment and attitudinal change around gender roles is thus of great importance to Egypt and other countries in the Middle East and North Africa region where FLFP rates have been persistently low.

In this paper, we examine the effect of having a working mother on young people's views not only on women's roles in the public sphere, but also gender roles in the household and ideals around family formation – attitudinal domains that also have important implications for women's roles in the home and their ability to engage in outside employment. Overall, our results indicate that having a working mother during childhood does lead to more egalitarian attitudes among their sons and their daughters. However, this relationship is both domain and gender specific.

Our most consistent findings across young men and women are related to the attitude indices. Consistent with the international literature on mother's employment and their children's more egalitarian attitudes around women and work (Fan and Marini 2000; Kawaguchi and Miyazaki 2007; Davis 2007; Berrington et al. 2008; Farré and Vella 2013; Johnston, Schurer, and Shields 2014; McGinn, Ruiz Castro, and Lingo 2015), having an employed mother led to more egalitarian attitudes regarding women's role in the public sphere, as captured through education, employment and acceptance of sexual harassment, among our sample of youth. In contrast, mother's employment did not affect attitudes about decision-making and the gender division of labor in the household among either sons or daughters. The results regarding ideals around age at marriage for women and ideal number of children were more mixed. Having a working mother did not affect ideals around age of marriage for women. It is surprising that having a working mother did not increase support for young women marrying at ages that would allow them to complete more education and potentially work prior to marriage. This insignificant result thus suggests that the domain of marriage age lies closer to the household attitudes index than to the public spheres index.

The results for ideal number of children lie somewhat in the middle of these findings; although having an employed mother reduced ideal family size among both young men and women, the results were only significant (and marginally so for some models) for young men. Childbearing may thus be somewhat between the public and household domains captured by our other indicators. Having fewer children may increase women's ability to work outside the home and allow her to take on more of a role in the other areas of life captured through our public spheres index, particularly as women bear the bulk of the responsibility for housework and childcare in Egypt regardless of whether or not they work (Hendy 2015). At the same time, children are clearly part of the dynamics of the household sphere. It may be that number of children is a

more mutable preference than ideals around marriage, which is a single transition that is the primary marker of adult status in Egypt.

Although our analysis cannot speak directly to the mechanisms behind the relationship between mothers' employment and their children's attitudes, the fact that the attitudinal and age at marriage outcomes show similar results for men and women suggests that status attainment explanations are less relevant than socialization or direct transmission of attitudes. The contrast between our results in the two attitudinal domains is particularly striking in this regard, as it suggests that youth who grow up with a working mother are socialized to and/or instilled with attitudes that are more favorable to an expanded role for women in employment and potentially other areas of public life, but not to a concomitant increase in gender egalitarianism at home. One possible explanation for this contrast would be that attitudes towards gender roles in the household are more strongly determined by social context and cultural norms, and thus are relatively less affected by individual experiences with maternal role modeling or work-family arrangements.

The lack of an effect of mother's employment on their children's attitudes towards household roles and ideal age at marriage is of particular importance given the persistently low levels of female labor force participation in Egypt and elsewhere in the region. If individual experience with non-typical gender dynamics and work-family arrangements does not impact attitudes about household roles – or if having a working mother does not in fact mean that work-family arrangements are very different from households in which the mother stays home – this suggests that broader attitudinal change about gender roles in the household would have to come from more systemic social change. Whether such change is needed in order to spur higher employment rates among women is a topic for debate, but the international literature suggests that it is an enabling factor. On the other hand, our results do show that there are intergenerational impacts of mother's work, such that policies and programs that are able to increase women's labor force participation may have additional indirect benefits in terms of fostering wider acceptability of women's employment among future generations.

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**Table 1: Sample Descriptives**

|                                                         | <b>Men</b> | <b>Women</b> |
|---------------------------------------------------------|------------|--------------|
| <b>COVARIATES</b>                                       |            |              |
| <b>Mother employment</b>                                |            |              |
| Mother worked                                           | 13.0%      | 14.3%        |
| Mother worked in public sector                          | 8.6%       | 8.0%         |
| <b>Age in 2014 (mean)</b>                               | 22.7       | 22.8         |
| <b>Eldest sibling</b>                                   | 28.6%      | 26.4%        |
| <b>Education</b>                                        |            |              |
| No schooling                                            | 4.9%       | 11.6%        |
| Primary/preparatory education                           | 19.2%      | 20.4%        |
| Secondary education                                     | 50.4%      | 44.8%        |
| Tertiary education                                      | 25.5%      | 23.1%        |
| <b>Employment</b>                                       |            |              |
| Working                                                 | 34.8%      | 5.7%         |
| Unemployed                                              | 5.8%       | 2.9%         |
| Out of labor force                                      | 59.4%      | 91.4%        |
| <b>Marital status</b>                                   |            |              |
| Not married                                             | 77.6%      | 55.5%        |
| Married, no children                                    | 5.0%       | 6.5%         |
| Married with children                                   | 17.4%      | 38.0%        |
| <b>Wealth</b>                                           |            |              |
| First wealth quintile                                   | 19.9%      | 20.3%        |
| Second wealth quintile                                  | 19.5%      | 20.7%        |
| Middle wealth quintile                                  | 19.6%      | 18.5%        |
| Fourth wealth quintile                                  | 20.2%      | 19.4%        |
| Richest wealth quintile                                 | 20.8%      | 21.0%        |
| <b>OUTCOMES</b>                                         |            |              |
| <b>Attitudes</b>                                        |            |              |
| Mean public spheres index                               | 0.61       | 0.43         |
| Mean household index                                    | 0.17       | -0.14        |
| <b>Ideal number of children (unmarried sample only)</b> |            |              |
| Two or less                                             | 41.8%      | 47.0%        |
| Three or more                                           | 58.2%      | 53.0%        |
| <b>Ideal age of marriage for women</b>                  |            |              |
| <18                                                     | 5.6%       | 6.1%         |
| 18-21                                                   | 69.4%      | 65.7%        |
| >21                                                     | 25.0%      | 28.3%        |
| <b>Observations</b>                                     | 4,269      | 4,907        |

**Table 2: Impact of Mother's Employment on Young People's Attitudes Towards Women's Roles in The Public Sphere**

|                                                   | Men                   |                      | Women                 |                       |
|---------------------------------------------------|-----------------------|----------------------|-----------------------|-----------------------|
|                                                   | (1)                   | (2)                  | (1)                   | (2)                   |
| Mother worked                                     | -1.544**<br>(0.720)   |                      | -2.117***<br>(0.784)  |                       |
| Mother worked in public sector                    |                       | -2.038**<br>(0.888)  |                       | -2.840***<br>(0.790)  |
| Age in 2014                                       | -0.0029<br>(0.0377)   | -0.0112<br>(0.0391)  | 0.0300<br>(0.0426)    | 0.0477<br>(0.0358)    |
| Age in 2014 squared                               | -7.18e-05<br>(0.0008) | 0.000136<br>(0.0008) | -0.0008<br>(0.0008)   | -0.00101<br>(0.0008)  |
| Eldest sibling                                    | 0.0124<br>(0.0530)    | 0.0180<br>(0.0518)   | 0.0653<br>(0.0429)    | 0.0491<br>(0.0423)    |
| Primary/preparatory education                     | 0.0171<br>(0.107)     | -0.00249<br>(0.103)  | -0.139<br>(0.0913)    | -0.0819<br>(0.0704)   |
| Secondary education                               | 0.0132<br>(0.101)     | -0.0119<br>(0.0939)  | -0.340***<br>(0.0864) | -0.290***<br>(0.0807) |
| Tertiary education                                | 0.0133<br>(0.161)     | 0.0399<br>(0.163)    | -0.209<br>(0.213)     | -0.105<br>(0.192)     |
| Unemployed                                        | 0.0267<br>(0.109)     | 0.0297<br>(0.106)    |                       |                       |
| Out of labor force                                | 0.00250<br>(0.0732)   | 0.0266<br>(0.0669)   | -0.0419<br>(0.0783)   | -0.00201<br>(0.0710)  |
| Married, no children                              | 0.000585<br>(0.108)   | -0.0562<br>(0.113)   | 0.0760<br>(0.0836)    | -0.170*<br>(0.0976)   |
| Married with children                             | 0.0886<br>(0.0806)    | 0.0428<br>(0.0851)   | 0.105<br>(0.0849)     | -0.0329<br>(0.0980)   |
| Second wealth quintile                            | -0.102<br>(0.0983)    | -0.111<br>(0.0925)   | 0.0243<br>(0.0606)    | 0.0821<br>(0.0585)    |
| Middle wealth quintile                            | -0.0465<br>(0.0919)   | -0.0317<br>(0.0880)  | 0.0912<br>(0.0708)    | 0.156**<br>(0.0697)   |
| Fourth wealth quintile                            | 0.0645<br>(0.107)     | 0.0928<br>(0.109)    | 0.112<br>(0.0742)     | 0.258***<br>(0.0919)  |
| Richest wealth quintile                           | 0.103<br>(0.157)      | 0.209<br>(0.189)     | 0.190<br>(0.148)      | 0.422**<br>(0.172)    |
| Governorate controls                              | YES                   | YES                  | YES                   | YES                   |
| Region controls                                   | NO                    | NO                   | NO                    | NO                    |
| Observations                                      | 4,218                 | 4,218                | 4,864                 | 4,864                 |
| Wald test of exogeneity (/athrho = 0) Prob > chi2 | 0.090                 | 0.068                | 0.094                 | 0.023                 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors in parentheses

**Table 3: Impact of Mother's Employment on Young People's Attitudes Towards Gender Roles in the Household, IV Estimates**

|                                                | Men                 |                     | Women               |                       |
|------------------------------------------------|---------------------|---------------------|---------------------|-----------------------|
|                                                | (1)                 | (2)                 | (1)                 | (2)                   |
| Mother worked                                  | 7.847<br>(8.311)    |                     | -2.703<br>(6.010)   |                       |
| Mother worked in public sector                 |                     | -0.485<br>(1.352)   |                     | 0.500<br>(1.478)      |
| Age in 2014                                    | 0.0730<br>(0.126)   | -0.0164<br>(0.0354) | 0.0106<br>(0.115)   | 0.0618**<br>(0.0277)  |
| Age in 2014 squared                            | -0.0004<br>(0.0019) | 0.0002<br>(0.0007)  | -0.0005<br>(0.0017) | -0.0012**<br>(0.0005) |
| Eldest sibling                                 | -0.114<br>(0.197)   | 0.0530<br>(0.0476)  | 0.0162<br>(0.126)   | -0.0435<br>(0.0370)   |
| Primary/preparatory education                  | 0.102<br>(0.174)    | 0.0591<br>(0.0924)  | -0.106<br>(0.417)   | 0.0894<br>(0.0720)    |
| Secondary education                            | -0.143<br>(0.208)   | 0.0148<br>(0.0875)  | -0.198<br>(0.309)   | -0.0601<br>(0.0661)   |
| Tertiary education                             | -1.183<br>(1.057)   | -0.126<br>(0.182)   | 0.0251<br>(0.492)   | -0.241<br>(0.159)     |
| Unemployed                                     | -0.0402<br>(0.240)  | 0.0686<br>(0.0861)  | -0.211<br>(0.319)   | -0.0754<br>(0.116)    |
| Out of labor force                             | 0.0189<br>(0.147)   | -0.0344<br>(0.0595) | -0.144<br>(0.360)   | 0.0191<br>(0.0693)    |
| Married, no children                           | 0.248<br>(0.289)    | 0.0648<br>(0.107)   | 0.0651<br>(0.186)   | 0.0311<br>(0.124)     |
| Married with children                          | 0.0751<br>(0.164)   | 0.0670<br>(0.0716)  | 0.120<br>(0.0744)   | 0.155<br>(0.0993)     |
| Second wealth quintile                         | -0.317<br>(0.255)   | -0.116*<br>(0.0652) | -0.0119<br>(0.107)  | -0.0649<br>(0.0738)   |
| Middle wealth quintile                         | -0.169<br>(0.220)   | 0.00752<br>(0.0667) | 0.0653<br>(0.178)   | -0.0239<br>(0.0859)   |
| Fourth wealth quintile                         | -0.598<br>(0.621)   | 0.0186<br>(0.108)   | 0.115<br>(0.330)    | -0.0732<br>(0.148)    |
| Richest wealth quintile                        | -1.320<br>(1.338)   | 0.0266<br>(0.232)   | 0.269<br>(0.840)    | -0.201<br>(0.280)     |
| Constant                                       | -0.943<br>(1.910)   | 0.607<br>(0.446)    | 0.225<br>(2.369)    | -0.845**<br>(0.355)   |
| Governorate controls                           | NO                  | NO                  | NO                  | NO                    |
| Region controls                                | YES                 | YES                 | YES                 | YES                   |
| Observations                                   | 4,218               | 4,218               | 4,864               | 4,864                 |
| Test of exogeneity Ho: variables are exogenous | 0.0997              | 0.2382              | 0.7848              | 0.9321                |

Notes: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4: Impact of Mother's Employment on Ideal Number of Children (Unmarried Youth only), IV Probit Estimates**

|                                                      | Men      |          | Women    |          |
|------------------------------------------------------|----------|----------|----------|----------|
|                                                      | (1)      | (2)      | (1)      | (2)      |
| Mother worked                                        | -1.016*  |          | -1.122   |          |
|                                                      | (0.594)  |          | (1.250)  |          |
| Mother worked in public sector                       |          | -1.365** |          | -1.916   |
|                                                      |          | (0.664)  |          | (1.238)  |
| Age in 2014                                          | 0.0246   | 0.0164   | 0.0815   | 0.0735   |
|                                                      | (0.0554) | (0.0542) | (0.0744) | (0.0765) |
| Age in 2014 squared                                  | -0.0006  | -0.0004  | -0.0016  | -0.0014  |
|                                                      | (0.0012) | (0.0012) | (0.0015) | (0.0016) |
| Eldest sibling                                       | 0.0004   | 0.004    | -0.118   | -0.149*  |
|                                                      | (0.0576) | (0.0577) | (0.0806) | (0.0844) |
| Primary/preparatory education                        | -0.120   | -0.119   | -0.0895  | -0.0849  |
|                                                      | (0.157)  | (0.150)  | (0.145)  | (0.135)  |
| Secondary education                                  | -0.0466  | -0.0487  | -0.187   | -0.161   |
|                                                      | (0.148)  | (0.141)  | (0.134)  | (0.137)  |
| Tertiary education                                   | -0.0245  | 0.0127   | -0.0430  | 0.0634   |
|                                                      | (0.178)  | (0.178)  | (0.248)  | (0.247)  |
| In Labor Force                                       | 0.0115   | 0.0066   | -0.0750  | -0.0452  |
|                                                      | (0.0784) | (0.0761) | (0.132)  | (0.135)  |
| Second wealth quintile                               | 0.0136   | 0.00489  | 0.150*   | 0.152*   |
|                                                      | (0.0956) | (0.0917) | (0.0883) | (0.0918) |
| Middle wealth quintile                               | 0.0883   | 0.0977   | 0.105    | 0.138    |
|                                                      | (0.0849) | (0.0836) | (0.0954) | (0.107)  |
| Fourth wealth quintile                               | 0.0733   | 0.0945   | 0.109    | 0.226    |
|                                                      | (0.113)  | (0.112)  | (0.111)  | (0.174)  |
| Richest wealth quintile                              | 0.136    | 0.221    | 0.305    | 0.597*   |
|                                                      | (0.144)  | (0.162)  | (0.230)  | (0.321)  |
| Governorate controls                                 | YES      | YES      | YES      | YES      |
| Region controls                                      | NO       | NO       | NO       | NO       |
| Observations                                         | 3,178    | 3,178    | 2,638    | 2,279    |
| Wald test of exogeneity ( $\theta = 0$ ) Prob > chi2 | 0.1195   | 0.0627   | 0.4228   | 0.2316   |

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: Impact of Mother's Employment on Views of the Ideal Age of Marriage for Women, IV Probit Estimates**

|                                                   | Men                   |                       | Women                 |                       |
|---------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                                                   | (1)                   | (2)                   | (1)                   | (2)                   |
| Mother worked                                     | -0.0025<br>(0.761)    |                       | -0.412<br>(1.334)     |                       |
| Mother worked in public sector                    |                       | -0.0167<br>(1.069)    |                       | -0.630<br>(1.725)     |
| Age in 2014                                       | 0.0082<br>(0.0471)    | 0.0082<br>(0.0469)    | -0.136***<br>(0.0417) | -0.136***<br>(0.0413) |
| Age in 2014 squared                               | -1.01e-05<br>(0.0010) | -1.14e-05<br>(0.0010) | 0.0023***<br>(0.0008) | 0.0023***<br>(0.0008) |
| Eldest sibling                                    | -0.0287<br>(0.0529)   | -0.0288<br>(0.0535)   | -0.00991<br>(0.0592)  | -0.0146<br>(0.0528)   |
| Primary/preparatory education                     | 0.0633<br>(0.133)     | 0.0635<br>(0.133)     | -0.0576<br>(0.138)    | -0.0495<br>(0.118)    |
| Secondary education                               | 0.229*<br>(0.130)     | 0.229*<br>(0.128)     | 0.327**<br>(0.133)    | 0.332***<br>(0.114)   |
| Tertiary education                                | 0.689***<br>(0.154)   | 0.690***<br>(0.163)   | 1.068***<br>(0.102)   | 1.094***<br>(0.123)   |
| In Labor Force                                    | -0.279***<br>(0.0796) | -0.279***<br>(0.0870) | 0.153<br>(0.108)      | 0.140*<br>(0.0815)    |
| Second wealth quintile                            | 0.340***<br>(0.103)   | 0.340***<br>(0.101)   | -0.0104<br>(0.0816)   | 0.000968<br>(0.0905)  |
| Middle wealth quintile                            | 0.392***<br>(0.0904)  | 0.392***<br>(0.0911)  | 0.152*<br>(0.0857)    | 0.164*<br>(0.0939)    |
| Fourth wealth quintile                            | 0.378***<br>(0.100)   | 0.378***<br>(0.107)   | 0.241***<br>(0.0934)  | 0.268*<br>(0.141)     |
| Richest wealth quintile                           | 0.666***<br>(0.137)   | 0.668***<br>(0.180)   | 0.443***<br>(0.164)   | 0.489*<br>(0.254)     |
| Governorate controls                              | YES                   | YES                   | YES                   | YES                   |
| Region controls                                   | NO                    | NO                    | NO                    | NO                    |
| Observations                                      | 3,949                 | 3,949                 | 4,655                 | 4,655                 |
| Wald test of exogeneity (/athrho = 0) Prob > chi2 | 0.5277                | 0.4622                | 0.5864                | 0.4697                |

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Appendix

**Table A1: Survey items measuring attitudes towards gender roles in the public and household spheres**

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| <b>Gender roles in the public sphere</b>                                             |
|--------------------------------------------------------------------------------------|
| Educating boys is more important than educating girls                                |
| When job opportunities are scarce, priority must go to men over women                |
| Women who are harassed in the streets deserve this if they are dressed provocatively |

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| <b>Gender roles in the household</b>                                 |
|----------------------------------------------------------------------|
| Boys should help with domestic work as much as girls do              |
| A girl must obey her brother, even if he is younger                  |
| Only the husband should decide how household money is spent          |
| A woman must obtain permission from her spouse before doing anything |

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