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How does the personal become political? Assessing the impact of mothers' employment on daughters' participation in political organizations

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ABSTRACT

The "Millennial" generation grew up in a period of changing gender roles, when labor force participation of mothers of young children was rapidly increasing. Past research has found that daughters of employed mothers are more likely to defy traditional gender scripts by seeking employment and authority positions. Building on this literature, I assess whether exposure to a full-time employed mother has an impact on Millennial women's participation in political organizations. I use prospective data on childhood context from the Panel Study of Income Dynamics, and apply propensity score weighting and a matching technique based on covariates. Evidence suggests that exposure to a full-time employed mother increases participation in political organizations for low-SES daughters. According to sensitivity tests, these findings are reasonably robust to unobserved confounders. In contrast, exposure to a full-time employed mother does not have a significant effect on the participation of sons or high-SES daughters.

1. Introduction

In 2014, women comprised only 18.5% of the elected officials in the US Senate and House of Representatives, and they held only 23.3% of statewide elective executive offices in the country (CAWP, 2014b). This is in stark contrast to women's representation in the national population, and is a reflection of women's traditionally lower levels of political participation, political interest, and confidence in their suitability to be political leaders, as well as gendered structural barriers to raising campaign funds and getting the support of political parties (Fox and Lawless, 2011). Needless to say, citizens' political engagement through the life-course is fundamental for democracy. Since a strong predictor of political interest and participation in adulthood is early involvement in political organizations (McFarland and Thomas, 2006), examining the determinants of this kind of activity is key to attaining gender parity in political empowerment.

I evaluate how childhood experiences determine participation in political organizations among women of the "Millennial" generation, born after 1980. The Millennial generation grew up in a period when labor force participation of mothers with young children was increasing (U.S. Bureau of Labor Statistics, 2009). Past research has shown that daughters of employed mothers are less likely to conform to traditionally feminine scripts: they are more likely to be employed, to have authority positions if employed, to work longer hours and to have higher wages than daughters of stay-at-home mothers (McGinn et al.,

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2015). Similarly, past research has shown maternal employment is linked to more positive opinions of women's suitability for political activity among exposed daughters (Kiecolt and Acock, 1988).

In this paper, I estimate the effect of childhood exposure to a full-time employed mother[1] on daughters' participation in political organizations in early adulthood. I test the theory that being exposed to a full-time employed mother leads daughters to engage in nontraditional feminine activities to a greater extent than becoming exposed to a stay-at-home or part-time employed mother. By nontraditional feminine activities, I refer to employment and political participation, as opposed to activities such as housework and care-work in the domestic sphere. Thus, I expect women who were exposed to a mother that was employed full-time during their childhood to have higher probabilities of participating in political organizations as young adults. My claim is not that this effect is necessarily acting through an ideological channel, or that daughters of full-time employed mothers automatically develop a feminist ideology. Instead, this paper contributes to the body of research that traces the effect of exposure to certain maternal behaviors on daughter's own behaviors as adults (Wickrama et al., 1999; Cunningham, 2001a,b). Throughout the paper, I will refer to these intergenerational links in behavior as gendered social learning (Bussey and Bandura, 1984; Bussey and Bandura, 1999).

Although literature has extensively discussed the role of resources in explaining gender differences in political participation (Schlozman et al., 1994, 1999; Burns et al., 2001), the role of gendered social learning has received much less rigorous empirical testing (Fox and Lawless, 2011). This is probably due to the data and methodological demands of linking childhood experience to political behavior in adulthood. Often, studies on childhood experience and political behavior rely on retrospective, self-reported data about past life stages (Gidengil et al., 2010; Fox and Lawless, 2014). In contrast, this study is based on prospective data on childhood conditions from the Panel Study of Income Dynamics, and data on early adulthood behaviors from its Transition to Adulthood supplement.

A challenge for this analysis is that full-time employed mothers are not randomly assigned to individuals, and their families are different from those with part-time or stay-at-home mothers in ways that could also explain daughters' political participation, such as mothers' education, ideology, or income. In order to estimate an unbiased effect, it is necessary to find adequate counterfactuals that are equivalent to daughters with full-time employed mothers in everything but mother's paid work. I tackle these challenges by using two techniques: propensity score weighting and a matching technique based on covariates. These analytical strategies allow me to find more adequate counterfactuals for daughters of full-time employed mothers, and estimate more reliable treatment effect estimates. To my knowledge, no other study of childhood experience and women's political participation has relied on longitudinal data that covers both childhood and early adulthood, while at the same time using causal inference techniques.

To foreshadow, results suggest that exposure to a full-time employed mother makes daughters of low socioeconomic status (SES) more likely to participate in political organizations. In contrast, I found no effect of exposure to a full-time employed mother on the political participation of high-SES daughters or sons of any SES background. These findings imply gendered effects that are highly dependent on an intersection of gender and socioeconomic status. Evidence suggests some of the mechanisms behind the effects for low-SES daughters may be delayed childbearing and higher likelihood of employment. This is consistent with daughters from a low-SES background being motivated to pursue less traditional feminine behaviors through exposure to their full-time employed mothers. This notion is supported by ethnographic evidence showing that particularly for low-SES daughters, employed mothers represent a model of feminine strength and resilience, which boosts their ambition in terms of life goals (Freie, 2010). I also find evidence that access to increased social capital due to maternal employment may be an additional mechanism at work.

2. Literature review

Despite having higher voting turnout rates than men, from the mid-70s through the mid-90s American women had consistently lower participation than men in organizational involvement, such as donating money or time to a campaign, or belonging to a political organization (Verba et al., 1997: Coffé and Bolzendahl, 2010). Women also had lower political knowledge and interest (Marcelo et al., 2007; Rapoport, 1981; Dow, 2009), lower political ambition (Constantini, 1990), and less confidence in their political skills than men (Rapoport, 1981; Atkeson and Rae, 2003).

By 2006, young Millennial men were still more engaged than women in political activities such as donating money to a campaign, and trying to convince others to vote for a candidate (Marcelo et al., 2007). Nonetheless, some gender gaps seem to be closing for this young generation. In 2006, Millennial women showed higher participation than their male counterparts in certain types of political activities, such as being involved in political organizations,[2] protesting, and private activism (Kawashima-Ginsberg and Thomas, 2013; Kawashima-Ginsberg, 2011). But Millennial women are still less engaged in political conversations and debates than men, and lag behind them in terms of political information, ambition, and confidence (Lawless and Fox, 2013; Dow, 2009; Marcelo et al., 2007).

The gender gap among Millennials seems to be disappearing or even reversing in certain political activities, such as participation in political organizations. However, in cases where there is a female advantage, it seems to be mainly driven by

[1] I recognize that many unpaid activities performed out of the labor market are forms of work. In this paper "employment" is used to refer to paid work, while "housework" is used to refer to the unpaid labor performed at home.

[2] While 17% of women belonged to a group that took a stance in politics, 15% of men did so (Marcelo et al., 2007).

the participation of college-educated, mostly white, high-SES young women (Kawashima-Ginsberg, 2011; Zaff et al., 2009). Since early participation in political organizations fosters individuals' continued political engagement later in life (McFarland and Thomas, 2006, Lawless and Fox, 2013; Fisher, 2012; Hanks, 1981; Rosenthal et al., 1998), understanding the determinants of early participation in political organizations among young Millennial women, specially those of low-SES backgrounds, is essential to erode current gender and SES differences in political representation.

2.1. How does the personal become political? Empirical evidence

Available resources, such as income, education and free time are strong predictors of political participation, and women have been found to have less of these resources (Burns et al., 2001). Women are traditionally responsible for childrearing and homemaking, and single women are more prone to poverty than single men. Therefore, in the last decades, a proportion of gender differences in political participation were explained by the resulting disparity in the available resources of time, work experience, and money (Schlozman et al., 1999; Schlozman et al., 1994; Burns, 2007). Many skills, attitudes, resources, and social networks that prompt political activity are acquired and cultivated in the workplace, and part of the gender gap in political participation and representation is explained by gender differences in labor force participation (Schlozman et al., 1999; Brady et al., 1995). As women's employment levels grow in the US, their political representation in government has increased as well.

Aside from gaps in resources and acquired skills and networks, gendered social learning at home is another important determinant of gender differences in political participation (Atkeson and Rae, 2003; Fox and Lawless, 2011; Lawless and Fox, 2013; Gordon, 2008). Childhood is a critical period when gender stereotypes regarding activities, occupations, and attitudes are shaped (Serbin et al., 1993; Chodorow, 1995). Studies focused on gender differences in adolescents' political views and behavior support the notion that political socialization is set in motion early on in child development, with gender gaps in political attitudes and interest already found in adolescence or earlier in life (Fridkin and Kenney, 2007; Cicognani et al., 2010; Fox and Lawless, 2011; 2014; Hooghe and Stolle, 2004; Gordon, 2008).

Consistent with the notion of gendered social learning, past research has found mothers' employment predicts less traditional gender attitudes among daughters (Ex and Janssens, 1998; Moen, Erickson and Dempster-McClain, 1997; Kiecolt and Acock, 1988; Cunningham, 2001a,b). Daughters of employed mothers are more likely to defy traditional gender scripts: they are more likely to be employed, to have authority positions if employed, to work longer hours and to have higher wages than daughters of stay-at-home mothers (McGinn et al., 2015). Daughters of employed mothers are also more confident about their overall competence and their probabilities of future success (Buchanan and Selmon, 2008). Consistently, exposure to an employed mother is associated with more positive opinions of women's suitability for political activity (Kiecolt and Acock, 1988). Since employed women are also more likely to be engaged in politics themselves (Schlozman et al., 1999), they may serve as more politically oriented role models and mentors for their daughters. This is relevant for daughters' political participation because politically active feminine role models are key to encourage women's political engagement (Atkeson and Rapoport, 2003; Gidengil, O'Neill and Young, 2010).

2.2. Gendered social learning, SES, and women's political participation

Daughters tend to be strongly influenced by the behavior they observe in their mothers (Cunningham, 2001a,b; Riggio and Desrochers, 2006). In particular, the household division of labor can have strong gender socialization effects (Kotsadam and Finseraas, 2013), because parents transmit gendered ideas about the feasibility and desirability of behaviors, life choices, and identities through the enactment of gendered scripts (McGinn et al., 2015). According to models of intergenerational cultural transmission from the economics literature, when mothers are employed and have a preference to work for pay, daughters are more likely to have a preference for employment themselves, and to have better expectations about the consequences of working for pay (Fernández, 2013; Escriche et al., 2004; Fernandez et al., 2004). Witnessing their mothers step into nontraditional roles, such as full-time employment, contributes to daughters' sense of self-efficacy on what they can be and achieve in the future (Buchanan and Selmon, 2008). In so doing, mothers transmit gender-specific skills and aspirations that can shape daughters' opportunities in life. Thus, the gendered behaviors adopted by a mother figure could be an important determinant of daughters' orientation to political activity (Stockard, 1999; Gidengil, O'Neill and Young, 2010).

However, the meaning and reasons behind being an employed mother could be sharply different across socioeconomic backgrounds, and we would expect its impact to vary accordingly (Hagelskamp et al., 2011). The income contributions of an employed low-SES mother may not come as a choice or an expression of individual liberation. However, due to the fundamental importance of her economic contributions to her family, being employed may significantly elevate her status and bargaining power over other household members (Ferree, 1984). For a daughter of low-SES background, having a mother that is employed full-time could provide a very salient feminine model of hard work, self-reliance and determination, due to the struggles of combining paid work and domestic chores in the face of economic hardship, and sometimes unstable romantic partnerships (Freie, 2010; Hagelskamp et al., 2011). Although being a full-time employed mother can project a model of feminine empowerment to daughters, it may not necessarily have ideological implications for low-SES daughters (Ex and Janssens, 1998). In other words, exposure to a full-time employed mother in a disadvantaged context often conveys the concept of womanhood as being “necessarily self-sufficient,” but does not automatically raise a feminist ideology on either mothers or daughters (Freie, 2010; Willets-Bloom and Nock, 1994; Ex and Janssens, 1998).

In contrast, more educated mothers are more likely to hold nontraditional attitudes than less educated mothers (Willets-Bloom and Nock, 1994), but their decision to enter the labor force is often not as crucial for the family's well-being as it would be in a low-SES household. In this context, a mother's labor force participation may be regarded as a personal decision, and may not translate into a significant increase of her status in the household (Ferree, 1984). Thus, full-time maternal employment may represent a stronger role model of independence, empowerment and agency for low-SES daughters than for their more advantaged counterparts. This does not mean, of course, that higher SES employed mothers cannot serve as a model of empowerment to their daughters. However, the mechanism through which they do so could include pathways other than the time intensity of their employment, such as the transmission of skills, attitudes, and civic engagement acquired at more complex occupations (Yetis-Bayraktar et al., 2013; Parcel et al., 1996).

Still, compared to daughters in more privileged backgrounds, low-SES daughters face limited opportunities of developing their political skills and gaining confidence in their ability to be political leaders. For instance, middle-class children are often exposed to numerous pedagogical activities oriented towards strengthening their public performance and developing their talents. In contrast, less advantaged children spend most of their time in activities that are not organized around a developmental goal, such as visiting family and playing with friends (Lareau, 2000). In addition, college education, which is key to advance language and civic skills that fuel political participation (Hillygus, 2005), is not easily available to low-SES youth (Belley and Lochner, 2007; Paulsen and St. John, 2002). In general, many of the early volunteering experiences that foster political engagement are accessed through institutions and social networks that are mostly populated by individuals from more affluent backgrounds, such as colleges and political parties (McFarland and Thomas, 2006; Zaff et al., 2009). Thus, a near feminine role model that crosses the boundaries of homemaking may be more instrumental for daughter's future political participation in a low-SES context.

In this paper, I use mother's education as an indicator of socioeconomic background. Education is a meaningful stratifying indicator because it is a proxy of both mother's probability of political engagement and socioeconomic status. Women with a college education and higher income are significantly more interested in politics, and more likely to participate in political activities other than voting. At the same time, mother's political engagement is strongly related to their daughter's political activity (Gidengil, O'Neill and Young, 2010). Due to the significance of college education for political participation, occupation, and earnings (McCall, 2000), I analyze daughters of mothers with at least some college separately from daughters of mothers with high school or less education, and I refer to them as high- and low-SES, respectively.

Although political participation can take multiple forms, I focus on the effect of exposure to a full-time employed mother on daughters' participation in organizations oriented to influence government's actions, in direct or indirect ways (Verba et al., 1997). Participation in a political organization allows individuals to develop relevant skills, cultivate long-term interest in politics, expand their civic engagement, and gain confidence about their capability of holding political positions in the future. When young adults get involved in political organizations, their probability of continuing political engagement in later stages of life significantly increases (McFarland and Thomas, 2006, Lawless and Fox, 2013; Fisher, 2012; Hanks, 1981; Rosenthal et al., 1998). Thus, understanding the determinants of early participation in political organizations is key to attaining gender and SES parity in terms of political empowerment. As will be shown below, in contrast to the literature reviewed in this section, one of the innovations of this study is a research design based on causal inference standards.

3. Data and methods

3.1. Data

The goal of this study is estimating the effect of childhood exposure to a full-time employed mother on women's probability of participating in political organizations as adults, by focusing on the Millennial generation. The rationale is that exposure to a nontraditional feminine role model, such as a full-time employed mother, would stimulate girls' engagement in nontraditional feminine activities to a higher extent than exposure to a stay-at-home or part-time employed mother. Thus, we would expect girls who were exposed to full-time employed mothers during childhood to have higher probabilities of participating in political organizations as young adults. To test this hypothesis, I focus on mothers' employment during respondents' childhood, from 6 to 15 years of age.

I use data from the Transition to Adulthood (TA) subsample in the Panel Study of Income Dynamics (PSID, 2013). The PSID is well suited for this study due to its detailed account of respondents' family conditions during childhood. The survey has followed a population sample and their descendants since 1968, thus capturing information on income, paid work, housework, family composition, and many other variables for several generations. The TA survey was designed as an extension of the PSID main questionnaire. In 1997, up to two children (0–12 years) per household in a subsample of PSID families were selected to participate in the first Child Development Survey (CDS). When a generation of CDS children becomes 18 years old, a subsample of them is selected to participate in the Transition to Adulthood section, which asks questions about civic and political engagement, among many other topics. Respondents are interviewed every two years until they turn 27.

The TA has interviewed 2,155 young adults since 2005, and there have been at least four subsequent biennial waves of this survey supplement (2005, 2007, 2009, 2011). These respondents were born between 1983 and 1993. Since older participants may re-appear more times in the TA data set, the analyzed outcomes summarize responses across waves to generate only one value for each respondent, as will be explained below. Information on economic and demographic conditions of the

household during respondents' childhoods were asked directly to the head of the family every year until 1997, and every two years afterwards.

I focus on a sample of women who were observed and lived with their mothers during both the treatment and pre-treatment periods, between 1 and 15 years of age. Additionally, this sample included only women who had no missing values in key variables such as race, mother's paid work hours, or mother's education. Among those who were observed between 1 and 15 years of age, only 66 women were excluded because of missing information. The working sample comprises 965 women born between 1983 and 1993.

Although 53% of the covariates of interest have at least one missing value, only 3 of them have more than 6% of missing values (mother's age at R's birth, urbanization level of head's place of origin, and the Civic Engagement Index) and none has more than 15%. The vast majority of the incomplete variables do not reach 2% of missing values. In order to preserve observations with missing values, I apply Multiple Imputation by Chained Equations (MICE). MICE iteratively regresses variables with missing values against all other variables in the model to impute values. This procedure assumes missing data are missing at random (MAR), which means their probability of being missing can be explained using only observed variables. I used a predictive mean matching imputation method to fill in missing values in five imputed data sets.

The outcome of interest, participation in political organizations, was reported along the period 2005–2011, when the respondents were between 18 and 27 years of age. It is measured with a binary variable that equals 1 if the young woman ever answered "Yes" to the question "During the last 12 months, were you involved in any political groups, solidarity or ethnic-support groups such as NAACP, or social-action groups?" and 0 otherwise. Other than voting, this is the only variable on political participation available in the dataset. Table 1 summarizes means and standard errors for participation in political organizations for daughters. As it has been documented for Millennials, there is a large SES gap in participation in political organizations within women; 9% of high-SES daughters have ever been involved, while only 5% of low-SES daughters have.

3.2. Methods

My goal is to estimate the effect of exposure to a full-time employed mother during daughters' childhood on their probability of engaging in political participation as young adults. This goal faces numerous challenges, because full-time employed mothers are not randomly assigned to children. Individuals with full-time employed mothers may be so different from respondents with part-time or stay-at-home mothers that these would make poor counterfactuals. Having a full-time employed mother is likely to be correlated with many other variables that may also impact the offspring's political behavior, such as income, education, gender attitudes, father's or male partner's employment characteristics, and household composition. We could include these confounders as controls in a regression model, but by itself, this strategy runs the risk of relying on model extrapolation more than on existing counterfactuals.

To cope with these challenges, I apply propensity score weighting (PSW) and a matching technique based on covariates called "genetic matching" (GM). The name "genetic matching" refers to the computational characteristics of this technique

Table 1
Summary statistics of outcomes and causal-mechanism indicators for daughters, by SES level and treatment status during childhood (6–15 years of age).

Outcomes in early adulthood (18–27 years)	All	Low SES	High SES	Low SES		High SES	
				Full-time emp. mother	Part-time & non-emp. mother	Full-time emp. mother	Part-time & non-emp. mother
Political participation							
Ever participated in a political organization	0.07	0.05	0.09	0.09	0.04	0.07	0.09
	[0.01]	[0.02]	[0.02]	[0.03]	[0.02	[0.02]	[0.02]
Ever voted	0.26	0.24	0.29	0.23	0.24	0.25	0.30
	[0.02]	[0.03]	[0.03]	[0.05]	[0.03]	[0.04]	[0.03]
Potential causal mechanisms							
Gendered social learning							
Has a job	0.67	0.63	0.72	0.74	0.59	0.67	0.74
	[0.02]	[0.03]	[0.03]	[0.05]	[0.04]	[0.05]	[0.03]
Ever attended college	0.78	0.66	0.89	0.69	0.65	0.88	0.90
	[0.02]	[0.03]	[0.02]	[0.06]	[0.03]	[0.03]	[0.02]
Ever had a child	0.26	0.36	0.15	0.21	0.42	0.16	0.14
	[0.02]	[0.03]	[0.020]	[0.04]	[0.04]	[0.03]	[0.03]
Social capital							
Ever engaged in community service	0.43	0.34	0.52	0.44	0.30	0.46	0.54
	[0.02]	[0.03]	[0.03]	[0.06]	[0.03]	[0.05]	[0.04]
Financial resources							
Yearly parental investment (thousands)[a]	1.34	0.73	1.95	1.28	0.54	1.46	2.18
	[0.13]	[0.20]	[0.17]	[0.70]	[0.11]	[0.22]	[0.22]
N	965	537	428	146	391	157	271

Note: Standard errors in brackets. All descriptive statistics were obtained from non-imputed data.
[a] Average, measured in constant 2015 dollars.

(Sekhon, 2011), and has nothing to do with individuals' genetic inheritance. The goal of both PSW and GM is to artificially approach a scenario in which full-time employed mothers are randomly assigned to individuals. Let us conceptualize having a full-time employed mother between ages 6 to 15 as the treatment in a natural experiment. The binary treatment indicator equals 1 if the mother's average hours of paid work between respondent's 6–15 years of age are 35 or more, and 0 if they are less than 35. The treatment would then be randomly assigned to a group of girls of age 5. We would expect to see that treated and control daughters are, on average, nearly indistinguishable in terms of characteristics measured before the treatment was assigned, such as race, income, mother's past work experience, father's presence, mother's gender attitudes, or household composition. In other words, we would expect treatment and control samples to be *balanced* in pre-treatment covariates.

I conceptualize the pre-treatment covariates as individual, mother's, father's or male partner's, and household characteristics measured at waves when the daughter was between 1 and 5 years of age. As shown in Table 2, covariates present great imbalance between treatment and control groups, which highlights a potential source of bias if unaddressed. In addition to achieving greater balance, PSW and GM have other advantages over linear regression. While the latter depends on linear parametric assumptions to estimate unbiased effects, PSW relies on this assumption only as a means to achieve balance between treated and controls. In other words, it is a semi-parametric approach. In turn, GM is a nonparametric matching method. To attain balance, it does not rely on any assumptions about the functional form of the relation between covariates. Finally, both PSW and GM either weight down or leave out of the analysis the control subjects that are the least similar to the treated individuals, and ensure inference is made on the basis of existing counterfactuals, and not on model extrapolation. A particular advantage of PSW over GM is that it permits using all of the available data. With a small sample, PSW allows a greater precision in the estimation because it retains all observations. But in contrast to GM, PSW heavily relies on the correct modeling of the propensity score.

Both PSW and GM aim to generate treatment and control samples that are balanced as if they were the product of a natural experiment. I am interested in the effect of exposure to a full-time employed mother on daughters who actually experienced it, or Average Treatment Effect on the Treated (ATT). In this case, PSW achieves balance by assigning larger weights to control individuals that resemble treated subjects the most, while GM maximizes balance by matching each treated individual to the most similar control subject in terms of covariates, to then construct a more adequate sample of counterfactuals. I use covariate-adjusted linear probability models (linear regressions) to estimate treatment effects, in order to control for any remaining imbalance in covariates that PSW and GM could not eliminate. Covariate adjustment is applied as a safeguard measure, not as the main strategy to reduce bias. I account for the PSID sampling design by multiplying the PSW and GM weights by survey weights, as recommended by DuGoff et al. (2014).

The steps for PSW analysis are as follows. First, a propensity score model that predicts treatment assignment as a binary outcome is estimated using a logistic regression that includes all covariates in Table 1. I obtain a single set of propensity scores by combining five multiply imputed data sets in a single propensity score regression. This is strategy to combine propensity scores with imputed data was proposed by Hill (2004). Based on this model, a propensity score $\widehat{\rho}$, or probability of receiving the treatment, is calculated for each observation, under the assumption that $\widehat{\rho}$ captures all confounders. The estimated propensity scores are then used to create weights that make the control group more similar to the treatment group.[3] When a satisfactory propensity score model is found—one that greatly improves balance on prioritized covariates, a weighted covariate-adjusted regression is used to estimate the ATT.

On the other hand, GM is an automatic matching procedure designed to maximize balance between treatment and control groups. In a series of iterations, GM matches controls to treated individuals using a multivariate distance metric, each time with a different set of covariate weights.[4] GM repeats the process until the p-values of paired t-tests for prioritized covariates are minimized (Sekhon, 2011). In addition to the theoretically prioritized covariates, I also included the propensity score[5] and the survey weights among the matched variables, as recommended in the literature (DuGoff et al., 2014; Diamond and Sekhon, 2013). Matching is done with replacement. I apply this process to each of the five imputed datasets, and then combine them to estimate the covariate-adjusted treatment effect. This procedure to combine multiple imputation and matching techniques is also described by Hill (2004). In this way, GM allows me to maximize the possible balance across treatment and control groups, and provides with a powerful robustness test of PSW estimates.

Although PSW and GM cover most of the causal inference challenges mentioned at the beginning of this section, both methods assume that there are no confounders other than those included in the models. Thus, estimates presented here are still vulnerable to omitted variable bias. To assess the vulnerability of estimates to unobserved bias, I conduct a Rosenbaum bounds sensitivity test for matched pairs (Rosenbaum, 2002) after GM. This test evaluates how large the effect of an unobserved covariate would need to be in order to render the effects estimations insignificant. The test provides with upper bounds of p-values for the treatment effect estimate at different levels of hidden bias, and makes it possible to assess at what level of unobserved bias it would become statistically insignificant. The Rosenbaum bounds test assumes the influence of such a hidden confounder is so strong that it almost completely predicts the outcome, and that this unobserved

[3] In this case, since we are estimating the Average Treatment Effect on the Treated (ATT), all of the subjects in the treatment group get weights of 1, while the subjects in the control group get weights of $[\widehat{\rho}/(1\text{-}\widehat{\rho})]$.

[4] Such multivariate distance measures are variations of the Mahalanobis distance that incorporate covariate weights.

[5] This propensity score is based on a logistic regression that includes all covariates in Table 1, without interactions or higher order terms.

Table 2
Descriptive statistics of covariates for daughters.

Covariates (1–5 years of age)	Treatment status in childhood (6–15 years of age)							
	Low SES				High SES			
	Full-time employed mother		Part-time & non-employed mother		Full-time employed mother		Part-time & non-employed mother	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Respondent's characteristics								
Race:								
White	0.66	0.06	0.71	0.03	0.82	0.04	0.89	0.02
Black	0.28	0.05	0.21	0.02	0.15	0.03	0.09	0.02
Other race	0.06	0.04	0.08	0.02	0.03	0.02	0.02	0.01
Cohort:								
1983–1988	0.49	0.06	0.57	0.03	0.49	0.05	0.54	0.04
1989–1993	0.51	0.06	0.43	0.03	0.51	0.05	0.46	0.04
Interviewed:								
2005	0.27	0.05	0.42	0.04	0.38	0.05	0.35	0.03
2007	0.47	0.06	0.54	0.04	0.53	0.05	0.56	0.04
2009	0.72	0.05	0.73	0.03	0.80	0.04	0.77	0.03
2011	0.86	0.05	0.91	0.02	0.92	0.03	0.87	0.02
Mother's characteristics								
Marital status:								
Married	0.65	0.06	0.71	0.03	0.79	0.04	0.92	0.02
Cohabiting	0.05	0.02	0.05	0.01	0.02	0.01	0.02	0.01
Single	0.30	0.05	0.24	0.03	0.19	0.04	0.06	0.01
Gender Traditionality Index	−0.09	0.14	0.23	0.07	−0.50	0.10	−0.14	0.07
Civic Engagement Index	−0.21	0.07	−0.17	0.04	0.13	0.09	0.07	0.04
Mother's age at R's birth	25.44	0.52	24.53	0.41	28.81	0.46	28.97	0.32
Years of education	11.61	0.16	11.14	0.11	14.7	0.14	15.03	0.10
Weekly paid work hours	27.28	1.49	15.6	0.86	30.91	1.06	15.26	0.91
Employment stability	0.76	0.03	0.44	0.03	0.84	0.02	0.54	0.03
Weekly housework hours	19.01	0.98	28.28	1.01	18.44	1.01	25.74	0.88
Is looking for job	0.07	0.01	0.05	0.01	0.02	0.01	0.03	0.01
Student	0.02	0.01	0.03	0.01	0.07	0.03	0.03	0.01
Parents' education	2.41	0.18	2.59	0.11	3.83	0.20	3.74	0.12
Occupation:								
Clerical or sales	0.30	0.05	0.14	0.02	0.26	0.04	0.16	0.02
Professional or managerial	0.09	0.02	0.04	0.01	0.40	0.04	0.34	0.03
Service	0.24	0.04	0.20	0.02	0.18	0.03	0.07	0.01
Blue collar	0.16	0.04	0.10	0.01	0.03	0.01	0.04	0.01
Whether unionized	0.27	0.06	0.08	0.02	0.25	0.05	0.14	0.02
Whether laid-off	0.39	0.06	0.35	0.03	0.23	0.04	0.23	0.03
Male partner's characteristics								
No male partner	0.19	0.06	0.14	0.02	0.08	0.03	0.03	0.01
Years of education	9.99	0.70	10.28	0.33	12.9	0.51	14.2	0.24
Weekly paid work hours	32.95	2.92	32.81	1.22	36.72	1.61	42.61	0.90
Weekly housework hours	6.20	0.83	6.35	0.42	8.88	0.60	8.10	0.39
Is looking for job	0.01	0.01	0.05	0.01	0.03	0.01	0.02	0.01
Student	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Parents' education	1.99	0.22	2.20	0.13	3.05	0.20	3.32	0.14
Occupation (proportion of period held):								
Clerical or sales	0.06	0.02	0.03	0.01	0.11	0.03	0.07	0.01
Professional or managerial	0.07	0.02	0.15	0.02	0.39	0.05	0.51	0.03
Service	0.05	0.02	0.04	0.01	0.07	0.02	0.03	0.01
Blue collar	0.55	0.06	0.54	0.03	0.30	0.04	0.32	0.03
Whether unionized	0.14	0.04	0.22	0.03	0.26	0.04	0.20	0.03
Whether laid-off	0.28	0.05	0.35	0.03	0.24	0.04	0.25	0.03
Household's characteristics								
Both parents living in HH	0.59	0.06	0.62	0.03	0.74	0.04	0.89	0.02
Family income (thousands)	56.84	4.73	48.01	1.78	94.81	5.46	113.80	7.69
Number of females >15 years	1.11	0.03	1.15	0.03	1.06	0.02	1.03	0.01
Proportion of members ≤ 5 years	0.36	0.01	0.38	0.01	0.38	0.01	0.37	0.01
Proportion of members ≤ 15 years	0.54	0.01	0.53	0.01	0.50	0.01	0.51	0.01
Number of members in HH	4.12	0.10	4.39	0.08	3.88	0.09	4.2	0.06
Housing status								
Owns/is buying house	0.53	0.06	0.52	0.03	0.67	0.04	0.74	0.03
Pays rent	0.41	0.05	0.43	0.03	0.30	0.04	0.22	0.02
Neither	0.05	0.01	0.05	0.01	0.03	0.01	0.04	0.01
Household owns a business	0.14	0.03	0.09	0.01	0.16	0.03	0.24	0.03
Religion:								

(*continued on next page*)

Table 2 (*continued*)

Covariates (1–5 years of age)	Treatment status in childhood (6–15 years of age)							
	Low SES				High SES			
	Full-time employed mother		Part-time & non-employed mother		Full-time employed mother		Part-time & non-employed mother	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Catholic	0.22	0.05	0.27	0.03	0.29	0.05	0.31	0.03
Protestant	0.64	0.06	0.55	0.04	0.53	0.05	0.49	0.04
Other	0.10	0.03	0.08	0.02	0.14	0.04	0.11	0.02
No religion reported	0.04	0.02	0.10	0.02	0.05	0.02	0.09	0.02
Where head grew up:								
Rural area	0.32	0.06	0.22	0.03	0.14	0.04	0.11	0.02
Small town	0.43	0.05	0.50	0.03	0.46	0.05	0.42	0.04
Big city	0.24	0.05	0.26	0.03	0.39	0.05	0.47	0.04
Different places	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01
N	146		391		157		271	

Note: All income variables are measured in constant 2015 dollars. All descriptive statistics were obtained from non-imputed data.

variable is uncorrelated with any of the covariates on which matching was done (Lee, 2010). Since many of the potential unobserved confounders are likely to be correlated with measured covariates, and are unlikely to perfectly predict the outcome, the Rosenbaum bounds test reflects a worst-case scenario (Torche and Costa-Ribeiro, 2012; DiPrete and Gangl, 2004).

3.3. Treatment and covariates

I use PSW and GM to assess the effect of having a full-time employed mother during a daughter's childhood, from 6 to 15, on their participation in political organizations in early adulthood, when they are 18–27 years of age. As explained above, covariates are measured in the pre-treatment period, between 1 and 5 years of age. Covariates refer to the characteristics of the female and male adult figures in the household where the respondent grew up, identified by the interviewer as head of household and her/his partner in the PSID questionnaire. Since the female head or female partner of a male head is the respondent's mother in over 90% of cases, I refer to them as "mothers" for simplicity. In the rare cases when this female figure is not the same person as the mother, information still refers to heads and partners of heads because the PSID collects more and better quality information for these individuals.[6]

To measure the predictor of interest, or treatment, mother's hours of employment were averaged across the PSID waves corresponding to each respondent's childhood. I identified treatment and control groups based on mother's average hours of paid work between respondent's 6–15 years of age. Treated individuals had mothers that worked for pay, on average, 35 or more hours during that period, while controls had mothers that worked, on average, less than 35 hours. This encompassed both part-time employed and stay-at-home mothers. Because treatment categories are based on averages over several years, respondents with mothers who worked for pay an average of 0 hours are relatively rare (only 8%), and too small of a group to represent a category on their own. Since mother's employment hours are measured as an average over childhood, they also reflect employment attachment over the period. If a mother was not employed in a particular year, her weekly work hours were coded as zero for that point in time, and lowered the average for the entire period. As a result, mothers coded as "full-time employed" were also employed during 96% of respondents' childhood, on average. In this sense, "full-time employment" as defined here encompasses both steady employment attachment and high time commitment to paid work.

As specified in Table A1, most covariates were averaged over the pre-treatment period, between 1 and 5 years of age. Four types of pre-treatment covariates are used in the analysis: characteristics of respondents, of their mothers, of mothers' male partners, and household-level indicators. Male partners can be biological fathers, stepfathers, or mothers' romantic partners. To account for absent male partners, I added a covariate that equals 1 if there was never a male partner living in the household during the pre-treatment period, and 0 otherwise. In addition, all male partner's characteristics are set to 0 if no such figure ever lived in the household. To capture whether the male partner was the respondent's father, I include the proportion of pre-treatment time that the respondent was living with both biological parents.

I prioritize balance on the following pre-treatment variables, measured when respondent was between 1 and 5 years of age: mothers' education, proportion of time employed (employment stability), weekly hours of paid work and housework, whether mother was single, married or cohabiting, her occupation (see Table A-1 for details on coding), her age at respondent's birth, her Civic Engagement Index, and her Gender Traditionality Index to measure conservative gender attitudes (see Table A-1 for details on indices construction). I also prioritize balance on household-level variables such as children younger than 5 as a proportion of family members, and the proportion of years that both biological (or adoptive) parents were

[6] With the exception of the Gender Traditionality Index and the Civil Engagement Index, which always refer to the mother because the questions they are based on were collected in the Child Development Surveys.

living with the respondent, as well as religion reported by the household head. In addition, I prioritize balance on respondent's race.

Other covariates include pre-treatment characteristics measured for mothers, such as whether she was attending school, whether she had been laid-off, whether she was looking for a job, and her own parents' education level. All of the individual characteristics included for mothers are also included for male partners or fathers, with the exception of age at respondent's birth. Finally, other household-level pre-treatment covariates comprise income, availability of other potential female caretakers in the household, total family members, whether the family owned or rented their housing, and the urbanization level of head's place of origin. Although I do not prioritize balance on the covariates mentioned in this paragraph, I include them in my propensity score model, and in the set of pre-treatment controls included in all regressions. Table 2 summarizes the descriptive statistics for all of the covariates used in the analysis, by gender and SES level. Table A-1 describes how each of these variables was coded.

The Gender Traditionality Index is based on questions on gender attitudes, answered by the mother in 1997 and 2001 (See Table A-1 for details). I average responses for each question over the periods 1997 and 2001, in order to minimize the occurrence of missing values. Since most daughters were over 5 years of age by those interview years, I assume maternal gender attitudes do not change over their childhood, and treat the index as a pre-treatment covariate. Including it as a covariate allows estimating the effect of exposure to maternal full-time employment net of mother's gender attitudes, which could be an important confounder, especially among high-SES families. The imperfect alignment between gender-traditional attitudes and full-time employment across SES levels can be seen in Table 2. Although full-time employed mothers are on average less traditional in their attitudes than part-time or stay-at-home mothers across SES levels, high SES mothers within any employment category are less traditional than their low-SES counterparts. Specifically, high-SES full-time employed mothers have significantly less gender-traditional attitudes than low-SES full-time employed mothers ($p < 0.01$, means test not shown).

Finally, including a Civic Engagement Index for mothers allows me to account for any direct intergenerational transmission of participation (Gidengil, O'Neill and Young, 2010). The index captures mothers' involvement in community activities, such as the YMCA, the scouts movement, neighborhood meetings and neighborhood watch (See Table A-1 for details). If a question identical to that asked of the offspring sample had been asked of mothers, it would be a superior control, but this was not available. As in the case of the Gender Traditionality Index, these questions were averaged over the years 1997 and 2001, and I assume maternal civic engagement does not change across daughters' childhood. All of the mentioned covariates are considered to be confounders because they are likely to determine mother's employment hours, and they may also impact daughters' likelihood of political participation by rendering them more or less inclined to the public sphere.

All of the regressions incorporate survey weights, clustered standard errors to account for the presence of siblings in the sample, and standard errors robust to heteroskedasticity. All analyses balance on and control for binary indicators for years when respondents were interviewed. This is mostly a function of year of birth, with younger respondents being interviewed in later waves. However, since political engagement responds to time-varying contextual motivations, I control for this covariate as a potential confounder.

4. Results

As mentioned above, I conduct separate analyses for high- and low-SES daughters. A respondent is considered high-SES if her mother has at least some college, while she is classified as low-SES if her mother completed high school or less. I use covariate-adjusted linear probability models (linear regressions) after PSW and GM, and results can be interpreted as differences in probabilities (Hellevik, 2009). I also present results for simple linear probability models, without PSW or GM, for purposes of comparison.

Figs. 1 and 2 show the distribution of the estimated propensity scores for daughters with a full-time employed mother (treated) and those with a mother that did not work full time (controls) for high- and low-SES daughters. The graphs show that there is substantial overlap between treated and control groups, which makes it possible to find comparable individuals across treatment status; this is not always the case in observational studies. Fig. 3 shows the balance achieved after PSW and GM in prioritized covariates for daughters. Balance for each covariate is assessed with standardized bias (SB) percentages,[7] a measure of how different covariate means are for treated and control groups. The closer the crosses are from the zero line, the greater the balance was achieved. Both PSW and GM improve overall balance across key covariates. Inevitably, imbalance slightly increases for some covariates as it greatly decreases for others. Overall, the larger imbalances are greatly reduced, as the SB for the propensity scores summarize. Using covariate-adjustment when estimating the treatment effects serves as an additional safeguard against the smaller, remaining imbalances.

Table 3 shows covariate-adjusted estimates of the effect of having a full-time employed mother on participation in political organizations using linear regression, PSW, and GM. We see that exposure to a full-time employed mother during childhood has a positive, significant effect on the probability of participating in political organizations for low-SES daughters. The estimate is positive and significant across the three different estimation strategies, and it ranges between 8 and 11 percentage

[7] The standardized bias is defined as the difference of means in the treated and matched control groups, calculated as a percentage of the square root of the average of sample variances in both groups (Caliendo and Kopeining, 2008).

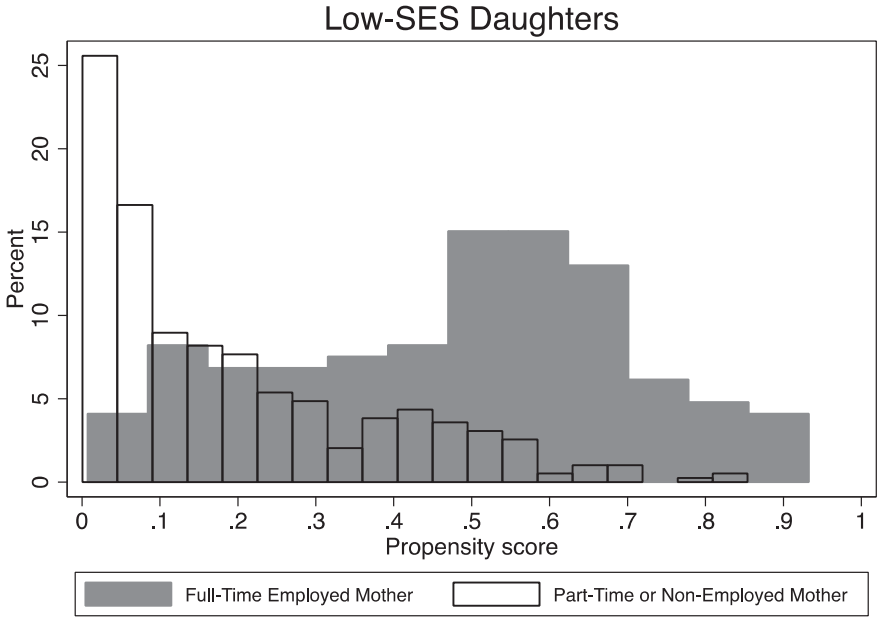


Fig. 1. Distribution of propensity scores indicating probability of having a mother employed full-time for low-SES daughters, by mother's employment status.

points. In sharp contrast, exposure to a full-time employed mother during childhood does not have a significant effect for high-SES daughters. As a placebo test, the second part of Table 3 presents estimates for sons, and shows that having a full-time employed mother does not significantly affect the likelihood of participation for sons of any SES level. This suggests that findings are the product of a gendered process, which is also dependent on SES level. Table A-2 substitutes the linear probability models in Table 3 for logistic regressions (without GM or PSW), and corroborates the positive and significant effect for low-SES girls, and non-significant effects for other groups.

Because all estimated treatment effects rely on observed variables, it is important to test their robustness to unobserved bias. I applied the Rosenbaum bounds sensitivity test to the GM estimate for low-SES daughters. The test reveals that the positive effect of having a full-time employed mother would be rendered statistically insignificant by an unobserved confounder that increases the odds ratio of receiving the treatment by 80% ($\Gamma = 1.8$) between matched pairs.[8] For low-SES daughters, this would be much greater than the effect of one more year of mother's education (OR = 1.5) or the effect of being Black instead of white (OR = 1.5) in the corresponding propensity score model (not shown). It is hard to imagine an unobserved variable that almost perfectly predicts daughters' participation in political organizations, that is unrelated to any of the covariates already accounted for, and that even so has a stronger effect on mothers' full-time employment than the aforementioned variables. This suggests the treatment effect estimates of exposure to a full-time employed mother for low-SES daughters are reasonably robust to hidden bias.

Voting, as opposed to involvement in political organizations, is a relatively low-cost form of political participation in which women have had a higher turnout than men since the early 1980s (CAWP, 2014a). Women's advantage in voting turnout has been present for at least three decades; so one would not necessarily expect exposure to a nontraditional feminine role model to impact daughter's probability of voting. Consistently, exposure to a full-time employed mother does not impact daughter's probability of voting in a presidential election in these data (results not shown, available upon request), and this is true across the three methods applied in this analysis. This lack of association can also be seen in descriptive Table 1, where the likelihood of voting is extremely similar across respondent groups.

4.1. Causal mechanisms and robustness checks

In this section, I explore the plausibility of certain causal mechanisms driving the findings in last section. I do not present a formal mediation analysis, which would require mechanisms to be uncorrelated with unobserved determinants of daughters' political participation, among other strong assumptions (Bullock and Ha, 2010; Kosuke et al., 2013). In contrast, I assess whether certain variables are positively impacted by exposure to maternal employment, which is a basic condition for them to be considered mechanisms.

I have suggested one of the mechanisms through which full-time employed mothers impact their daughters' participation in political organizations is through gendered social learning. The lack of significant effects on sons is consistent with this mechanism. I hypothesized that exposure to a full-time employed mother would stimulate girls to adopt nontraditional

[8] 1.8 is the average of the gamma levels resulting from applying the Rosenbaum bounds test to each of the five imputed data sets.

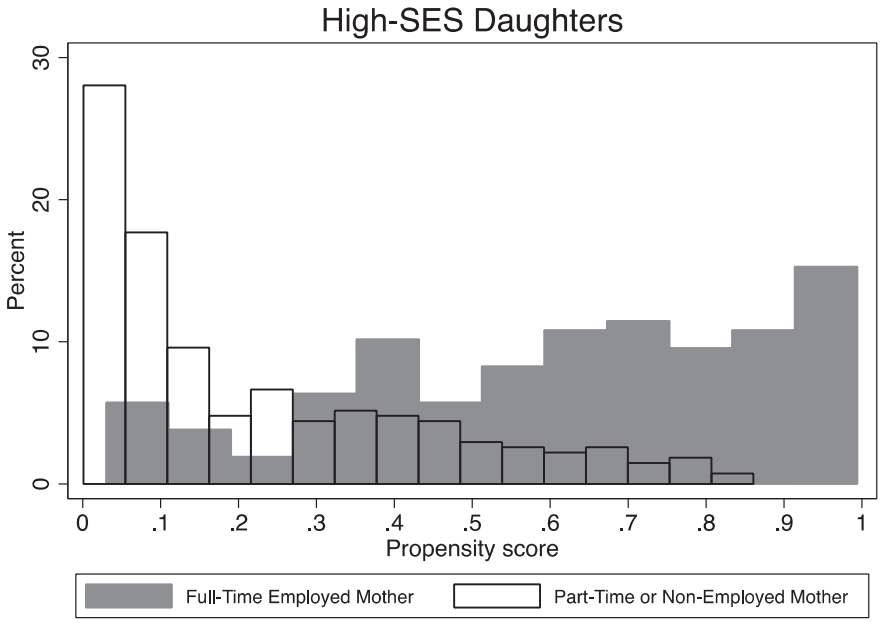
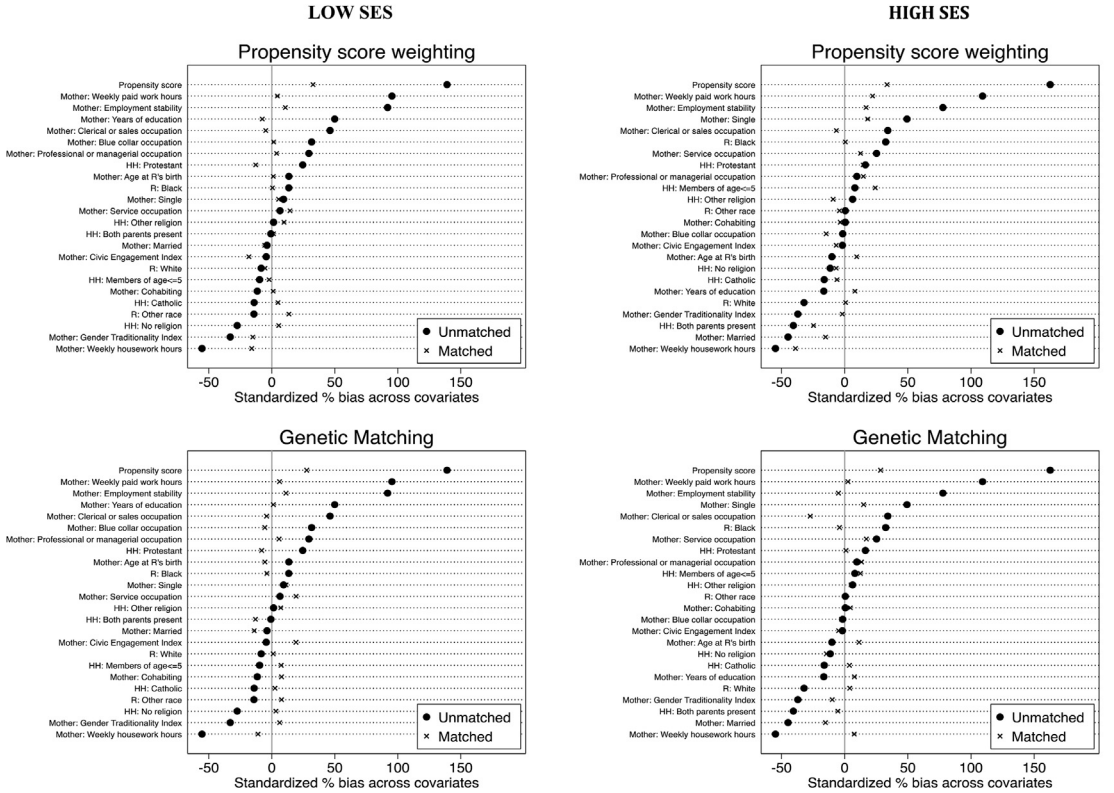


Fig. 2. Distribution of propensity scores indicating probability of having a mother employed full-time for high-SES daughters, by mother's employment status.

gender behaviors to a higher extent than those learned from a mother that is more specialized in housework and childcare. If full-time employed mothers were acting as a nontraditional role model for their daughters, we would expect these daughters to be more likely to be employed, more likely to delay childbearing, and perhaps more likely to pursue higher education. Table 4 presents treatment effect estimates of exposure to a full-time employed mother on low-SES daughters' employment



Note: "R", "Mother", and "HH" indicate respondent-level, mother-level and household-level covariates, correspondingly. The standardized bias is defined as the difference of means in the treated and matched control groups, calculated as a percentage of the square root of the average of sample variances in both groups.

Fig. 3. Standardized bias before and after PSW and GM for covariates of theoretical priority, low- and high-SES daughters.

Table 3
Linear regression, propensity score weighting and genetic matching treatment effect estimates of full-time employed mother on daughters' and sons' participation in political organizations.

	Daughters		Sons	
	Low SES	High SES	Low SES	High SES
Linear probability models				
Full-time employed mother	0.09*	0.01	0.03	0.01
	[0.04]	[0.03]	[0.03]	[0.03]
N	537	428	485	450
Propensity score weighting				
Full-time employed mother	0.08**	0.01	0.03	−0.01
	[0.03]	[0.03]	[0.02]	[0.03]
N	537	428	485	450
Genetic matching				
Full-time employed mother	0.11*	0.01	−0.04	−0.04
	[0.04]	[0.05]	[0.03]	[0.06]
N	232	238	196	222

*p < 0.05, **p < 0.01, ***p < 0.001. Regressions control for all of the covariates in Table 2. Year of birth is introduced as a series of single-year dummy variables.

status, whether she has ever had a child, and whether she has ever attended college (see Table A1 for details on variable construction). No significant effects are found on the likelihood of attending college.

However, having a full-time employed mother does have a negative and significant effect on the probability of transitioning to motherhood by interview time, and a positive and significant effect on the probability of having a job. These estimates are statistically significant in both PSW and linear regressions. This is consistent with the findings in McGuinn et al. (2015) and with the hypothesis that gendered social learning drives the relation between mothers' employment and low-SES daughters' participation. Note that these effects hold even after controlling for the Gender Traditionality Index, which means they are net of the mother's earlier gender ideology. Although significant in the PSW and linear regression model, these estimates are not statistically significant in the GM model, potentially because of the loss of statistical power in this substantially smaller matched sample. However, the overall analysis using PSW and linear regression suggests mothers' employment is motivating daughters to join the labor force and to delay childbearing, which are two key facilitators of political participation.

An additional causal mechanism through which mother's employment could impact daughters' participation in political organizations is the transmission of social capital. A full-time employed mother may have access to social capital and networks (La Due Lake and Huckfeldt, 2002; Gidengil, O'Neill and Young, 2010) that can be shared with her daughter, and that may expand her civic engagement. I measure daughters' social capital through their participation in community service. Table 4 shows that exposure to a full-time employed mother has a positive and significant effect on daughter's likelihood of engaging in community service, even after controlling for the mother's own engagement in community activities (captured by the Civic Engagement Index). Young women who participate in community service may acquire strategic skills, values and social networks that can later facilitate their participation in political organizations (McFarland and Thomas, 2006). Again, the effect on participation in community service is significant in both the PSW and linear regressions, but does not reach significance in the GM model, potentially because of the smaller size of the matched sample. These findings suggest that in addition to being a nontraditional model for their daughters, full-time employed mothers could also be helping them increase their social capital.

Table 4
Exploration of causal mechanisms linking exposure to a full-time employed mother and participation in political organizations for low-SES daughters (linear regression, propensity score weighting, and genetic matching estimates).

	Gendered Social Learning			Social capital	Financial resources
	Has a job	Ever attended college	Ever had a child	Ever engaged in community service	Yearly parental investment (Std.)[a]
Linear probability models					
Full-time employed mother	0.17**	0.01	−0.13*	0.14*	0.28
	[0.06]	[0.06]	[0.05]	[0.06]	[0.22]
N			537		
Propensity score weighting					
Full-time employed mother	0.12*	0.01	−0.11*	0.15*	0.31
	[0.06]	[0.06]	[0.05]	[0.06]	[0.21]
N			537		
Genetic matching					
Full-time employed mother	0.09	0.02	−0.01	0.11	0.16
	[0.08]	[0.09]	[0.10]	[0.08]	[0.14]
N			232		

*p < 0.05, **p < 0.01, ***p < 0.001. Regressions control for all of the covariates in Table 2. Year of birth is introduced as a series of single-year dummy variables.

[a] Average yearly parental investment was standardized based on the mean for both daughters and sons.

Table 5
Robustness checks: linear regression, propensity score weighting and genetic matching treatment effect estimates of full-time employed mother on low-ses daughters' participation in political organizations.

	1	2	3	4
	Treatment period: 6–7 years	Treatment period: 4–15 years	Treatment period: 6–15 years	
	Treatment: mother's average paid work hours ≥35	Treatment: mother's average paid work hours ≥35	Treatment: mother's average paid work hours ≥25	Treatment: mother's average paid work hours ≥35, NO 2008 RESPONSES
Linear probability models				
Full-time employed mother	−0.02	0.04	0.07*	0.08*
	[0.03]	[0.03]	[0.03]	[0.04]
N	528	506	537	521
Propensity score weighting				
Full-time employed mother	−0.01	0.04*	0.08**	0.07**
	[0.02]	[0.02]	[0.02]	[0.03]
N	528	506	537	521
Genetic matching				
Full-time employed mother	0.01	0.08	0.05	0.07
	[0.03]	[0.05]	[0.03]	[0.04]
N	309	178	383	226

*p < 0.05, **p < 0.01, ***p < 0.001. Regressions control for all of the covariates in Table 2. Year of birth is introduced as a series of single-year dummy variables.

Exposure to a full-time employed mother does not affect the likelihood of any of these potential mechanisms—having a job, having had children, or having participated in community service—for high-SES daughters and sons of any socioeconomic status (results not shown, available upon request). Estimates are consistently non-significant regardless of the methodological approach: linear probability models, propensity score weighting or genetic matching. This is consistent with the notion that both gendered social learning and social capital are relevant causal mechanisms linking a full-time employed mother and daughters' participation in political organizations, since both mechanisms and outcome are significantly impacted only among low-SES daughters.

A potential alternative mechanism could be increased financial resources invested on daughters, caused by maternal employment in low-SES families. The last column in Table 4 shows estimates of the effect of having a full-time employed mother on the standardized average parental investment on the respondent between 2004 and 2010, including coverage of personal expenses, tuition, housing, and bills. If increased financial resources were a relevant mechanism, we would expect low-SES daughters of full-time employed mothers to have received a higher parental investment than the daughters of stay-at-home or part-time employed mothers. But as Table 4 shows, the impact of having a full-time employed mother on parental investment is non-significant across models. Similarly, if increased financial investment on daughters were an important mechanism, we would expect a positive impact on college-attendance, which is heavily influenced by economic constraints (Charles et al., 2007; Belley and Lochner, 2007). Nonetheless, as mentioned earlier, having a full-time employed mother does not significantly affect the probability of attending college for low-SES daughters.

The gendered social learning hypothesis assumes daughters are exposed to a full-time employed mother during an extended period of childhood, and are aware of their family context. These conditions are not met if exposure is limited to the period between 6 and 7 years. In order to test the gendered social learning hypothesis further, column 1 in Table 5 presents a placebo analysis that estimates the effect of having a full-time employed mother between 6 and 7 years of age. We would expect the estimates to be non-significant across models, as they indeed turn out to be. This robustness check is consistent with a mechanism that starts operating when children are conscious of their context, such as gendered social learning.

Column 2 in Table 5 presents a second robustness check. It changes pre-treatment to the period between birth and age 3, and expands the treatment period to cover even earlier ages, from years 4–15. The treatment effect from PSW is significant ($p < 0.05$), although it is not in GM and linear probability models. Because awareness of family context is key to the gendered social learning mechanism, and this is not necessarily present at ages 4 or 5, expanding the treatment period may contribute to attenuating treatment effects compared to those in Table 3. Similarly, column 3 in Table 5 uses a less strict definition of treatment: exposure to a mother that worked, on average, 25 hours or more during respondents' childhood (6–15 years of age). As expected, treatment effects are slightly smaller (ranging from 0.05 to 0.08) than in Table 3, where treatment definition is more restrictive. But they are still significant in both PSW and linear probability models. Again, treatment effects from GM models are non-significant, potentially because of the greatly reduced matched samples.

Finally, Booth-Tobin and Han (2010) suggest the Obama campaign gave young women the motivation and desire to exert a "real change" in politics in the late 2000s, and that it may be partially responsible for growing levels of certain types of political participation among young females. Since this study covers participation in political organizations from 2004 to 2010, an interaction effect between the Obama campaign and exposure to a full-time employed mother could be a potential confounder. I conduct some robustness checks in order to ensure the results in this paper are not driven by the appeal of the Obama campaign to low-SES daughters of full-time employed mothers. Column 4 in Table 5 repeats the analyses in Table 3 for low-SES daughters, using a measure of participation that excludes activity in 2008. The positive and significant effects on participation in political organizations are maintained in both PSW and linear probability models, although magnitudes are slightly smaller (7–8 percentage points). This suggests that effects in Table 3 are not simply driven by a 2008 period effect.

5. Discussion

Young women still lag behind young men in political ambition, political knowledge, and confidence in their own political skills (Lawless and Fox, 2013). Compared to more affluent females, low-SES young women in particular face systematically fewer opportunities to develop leadership skills, acquire civic education and information, and learn from politically active role models (Zaff et al., 2009). This paper offers evidence that exposure to a full-time employed mother may advance low-SES women's political empowerment. For these women, exposure to a full-time employed mother during childhood increases early participation in political organizations, an activity that is known to strengthen political skills, confidence, and interest, and promote political participation later in life.

For the purpose of this analysis, mother's full-time employment was operationalized as having been employed an average of 35 hours a week or more across her child's childhood. The estimated effect of mother's full-time employment on daughters' participation in political organizations is at least 7 percentage points. To put it in context, this effect is as large as the gender gap in electoral engagement among young Millennials (Marcelo et al., 2007), and as large as the gap in volunteering for political campaigns between high- and low-SES young American women (Kawashima-Ginsberg and Thomas, 2013). The magnitude of the effect is sizeable, and it was estimated using techniques that privilege finding appropriate counterfactuals for treated individuals. Estimations account for only observed confounders, but sensitivity tests show the findings are reasonably robust to potential omitted variable bias. Evidence suggests the mechanisms behind this effect could be gendered social learning—leading daughters of full-time employed mothers to delay child rearing and be employed—and transmission of social capital. These processes operate in a gendered fashion, highly dependent on SES level: no effects were found on sons or high-SES daughters.

The analysis shows that maternal full-time employment prompts low-SES daughters' participation in political organizations, employment, and delayed childbearing, net of mother's gender attitudes. So the effects shown are net of intergenerational transmission of gender ideology. Moreover, the fact that full-time maternal employment does not impact high-SES daughter's political participation also suggests the transmission of gender attitudes is not the main mechanism at work. As discussed in previous sections, maternal full-time employment in low-SES households often represents an example of feminine strength, autonomy and resilience for daughters, but is usually more rooted in economic need than in feminist ideals, which are more commonly held by high-SES women. Still, the positive effect on employment and the negative effect on the timing of childbearing are consistent with a gendered social learning hypothesis, in which daughters are inspired to be as self-sufficient as their mothers.

High-SES mothers, regardless of their employment status, are more likely to hold liberal gender attitudes than low-SES women. Mothers with at least some college (which defined high socioeconomic status in this analysis) are significantly more interested in politics, and more likely to participate in political activities other than voting, which are often strong predictors of their own daughter's political behavior. However, for more advantaged women these behavioral and ideological traits may be more related to their education level than to their employment status. Also, compared to their low-SES counterparts, high-SES daughters have access to a wider set of educational institutions and social networks that can motivate and facilitate their participation in political organizations. Combined, these factors could explain why maternal full-time employment increases the participation in political organizations only for less advantaged daughters.

Although it would be ideal to contrast the effects of maternal employment across different types of political participation, a limitation of this study is that the Transition to Adulthood supplement in the PSID does not collect information on political activities other than participating in these types of organizations and voting, which have been both assessed in this paper. A task for future research is expanding these research outcomes to other forms of political participation.

Another limitation of this study is that data belongs to a single cohort, the Millennials, who were still under 27 at the moment of the last interview. The political behavior of Millennials may change as they grow older and enter life stages such as marriage and childbearing. Moreover, care should be taken when generalizing these findings to other cohorts, since the meaning of having a full-time employed mother while growing up may change across generations. An additional limitation of this study is that information on the type of activities respondents performed in political organizations is unavailable in the PSID. It is necessary to conduct further research with richer data sources to explain the roles played by young women in political organizations. Finally, the inferences in this paper are valid for daughters who were successfully observed during childhood, so they may not be generalizable to extremely poor families, who tend to have high attrition rates in the PSID (Fitzgerald, Gottschalk and Moffit, 1998).

In sum, this analysis suggests that further increases in low-SES mothers' full-time employment could alleviate the gender gap in political empowerment and representation, by encouraging strategic political activity among a vulnerable group of young women. Having a full-time employed mother could foster political activity among those who may need it the most, since they face both socioeconomic disadvantage and society's remaining notions that politics is a job better left to men.

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Appendix 1

Table A.1
Description of variables.

Variables	Description
Outcomes measured between 18 and 27 years of age	
Outcomes of interest	
Ever participated in political organizations	=1 if respondent ever answered "Yes" to the question "During the last 12 months, were you involved in any political groups, solidarity or ethnic-support groups such as NAACP, or social-action groups?", and = 0 otherwise. The question was asked in 2005, 2007, 2009 and 2011.
Ever voted	=1 if respondent ever voted in any of the 2004, 2006, 2008 or 2010 elections, and = 0 otherwise.
Causal mechanisms	
Ever attended college	=1 if respondent has ever attended college, and = 0 otherwise.
Ever had a child	=1 if respondent has ever had a child, and = 0 otherwise.
Has a job	=1 if respondent was employed at last interview, and = 0 otherwise.
Ever engaged in community service	=1 if respondent ever reported that during the last 12 months she participated in organizations for children and youth, volunteer groups in hospitals or nursing homes, service organizations such as Big Brothers-Big Sisters or Junior Shelters, soup kitchens, Habitat for Humanity, or other organizations helping families in need, and = 0 otherwise. The question was asked in 2005, 2007, 2009 and 2011.
Yearly parental investment	Average yearly income transfers received by respondent from parents or relatives between 2004 and 2010, intended to pay for personal expenses, tuition, housing, or bills.
Covariates measured between 1 and 5 years of age	
Respondent's characteristics	
Race:	
White	=1 if White, = 0 if otherwise.
Black	=1 if Black, = 0 if otherwise.
Other race	= 1 if Other race, = 0 if otherwise.
Cohort:	
1983–1988	= 1 if born between 1984 and 1988, = 0 if otherwise.
1989–1993	= 1 if born between 1989 and 1993, = 0 if otherwise.
Interviewed:	
2005	= 1 if interviewed 2005, = 0 if otherwise.
2007	= 1 if interviewed 2007, = 0 if otherwise.
2009	= 1 if interviewed 2009, = 0 if otherwise.
2011	= 1 if interviewed 2011, = 0 if otherwise.
Mother's characteristics	
Marital status of mother:	
Married	Proportion of R's childhood that mother was married.
Cohabiting	Proportion of R's childhood that mother was cohabiting.
Single	Proportion of R's childhood that no male partner was living with mother, regardless of marital status.
Mother's age at R's birth	Mother's age when R was born.
Years of education	Years of completed education (average over R's childhood).
Employment stability	Proportion of R's childhood that mother was employed, regardless of whether it was part- or full-time.
Weekly paid work hours	Weekly hours of paid work (average over R's childhood).
Weekly housework hours	Weekly hours of housework (average over R's childhood).
Is looking for job	Proportion of R's childhood that mother was looking for a job.
Student	Proportion of R's childhood that mother was a student.
Parents' education	Years of education for R's maternal grandparents, grouped in the following intervals: 0 = Could not read or write, 1 = 0–5 grades, 2 = 6–8 grades, 3 = 9–11 grades, 4 = 12 grades, 5 = 12 grades and other training, 6 = Some college, 7 = College, 8 = College plus other grade.
Occupation:	
Clerical or Sales	Proportion of R's childhood that mother was either a clerical or a sales worker, according to 1970 Census Occupation Codes (=0 if never worked during period).
Professional or Managerial	Proportion of R's childhood that mother was either a professional, technical, managerial or administrative worker, according to 1970 Census Occupation Codes (=0 if never worked during period).
Service	Proportion of R's childhood that mother was a service worker, including paid work at private households, according to 1970 Census Occupation Codes (=0 if never worked during period).
Blue collar	Proportion of R's childhood that mother worked in a low-skilled occupation, such as craftsman, operative, laborer, or farm worker, according to 1970 Census Occupation Codes (=0 if never worked during period).
Whether unionized	=1 if mother was ever unionized during period, = 0 if otherwise.
Whether laid-off	=1 if mother was ever laid-off during period, = 0 if otherwise.
Gender Traditionality Index	The Gender Traditionality Index was obtained from answers that mothers gave to a series of questions on the desirability of men and women's participation in employment, housework, and childcare in the Child Development Surveys of 1997 and 2001. In order to minimize missing values, I averaged answers for each question over the years 1997 and 2001, and then computed an index of gender traditionality through Principal Components Analysis (PCA). Negative values indicate stronger preference for gender traditional, specialized roles, while positive values reflect more egalitarian views. Mothers were asked to answer whether they strongly agreed, agreed, disagreed or strongly disagreed, to the following statements: "If a husband and a wife both work full-time, they should share household tasks equally," "Mothers should not work full time if their child is younger than 5 years old," "It is much better for

(*continued on next page*)

Table A.1 (*continued*)

Variables	Description
	everyone if the man earns the main living and the woman takes care of the home and family," "Women are much happier if they stay at home and take care of their children," "It is more important for a wife to help her husband's career than to have one herself," "Preschool children are likely to suffer if their mother is employed," "Parents should encourage just as much independence in their daughters as in their sons," "A father should be as heavily involved in the care of his child as the mother," "In general, fathers and mothers are equally good at meeting their children's needs," "If it keeps him from getting ahead in his job, a father is being too involved with his children," "A father should be as heavily involved in the care of his child as the mother," "It is essential for the child's well being that fathers spend time interacting and playing with their children," "Being a father and raising children is one of the most fulfilling experiences a man can have," and "Fathers are able to enjoy children more when the children are older."
Civic Engagement Index	The Civic Engagement Index was obtained from answers that mothers gave to a series of questions about their own civic participation in the Child Development Surveys of 1997 and 2001. Questions include whether she had volunteered in the Scout movement, the neighborhood watch, attended the YMCA, or attended a neighborhood meeting in the last month. In order to minimize missing values, I averaged answers for each question over the years 1997 and 2001, and then computed an index through Principal Components Analysis (PCA). Negative values indicate lower civic engagement, while positive values suggest higher participation.
Male partner's characteristics	
No male partner	=1 if there was never a male partner living in the HH during R's childhood, = 0 if otherwise.
Years of education	Defined in the same way as for mothers. See above.
Employment stability	
Weekly paid work hours	
Weekly housework hours	
Is looking for job	
Student	
Parents' education	
Occupation:	
Clerical or Sales	
Professional or Managerial	
Service	
Blue collar	
Whether unionized	
Whether laid-off	
Household's characteristics	
Both parents living in HH	Proportion of R's childhood that both biological/adoptive parents lived in the household.
Family income	Average family income during R's childhood, constant 2015 dollars.
Number of females >15 years	Average number of females over 15 years of age living in the household during R's childhood.
Proportion of members $\leq$ 5 years	Average proportion of household members 15 years or younger during R's childhood.
Proportion of members$\leq$ 15 years	Average proportion of household members 5 years or younger during R's childhood.
Number of members in HH	Average number of household members during R's childhood.
Housing status	
Owns/is buying house	Proportion of R's childhood that housing was owned or was being paid.
Pays rent	Proportion of R's childhood that housing was rented.
Neither	Proportion of R's childhood that housing was neither rented, owned, or paid.
Household owns a business	Proportion of R's childhood that household members owned a business.
Religion:	
Catholic	Proportion of R's childhood that household head self-defined as Catholic.
Protestant	Proportion of R's childhood that household head self-defined as Protestant.
Other	Proportion of R's childhood that household head self-defined as belonging to other religion.
No religion reported	Proportion of R's childhood that household head self-defined as not religious or reported no religion.
Where head grew up:	
Rural area	Proportion of R's childhood that household had a head that grew up in a farm.
Small town	Proportion of R's childhood that household had a head that grew up in a town.
Big city	Proportion of R's childhood that household had a head that grew up in a city.
Different places	Proportion of R's childhood that household had a head that grew up in places of different urban conditions.

Table A-2
Logistic regression estimates of the effect of exposure to a full-time employed mother on daughters' and sons' participation in political organizations (odds ratios).

	Daughters		Sons	
	Low SES	High SES	Low SES	High SES
Logistic regression				
Full-time employed mother	2.73***	−0.53	0.28	0.86
	[0.70]	[0.60]	[0.69]	[0.66]
N	537	428	485	450

*p < 0.05, **p < 0.01, ***p < 0.001. Note: Regressions control for all of the covariates in Table 2, except for mother's cohabiting status, labor union membership, and student status; and male partner's parental education, labor union membership, student status, and occupation. These controls were excluded to avoid convergence and perfect-prediction problems. Year of birth is introduced as a continuous variable.

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