Mothers, Friends and Gender Identity[*]

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Abstract

We study the formation of gender identity by looking at the labor market decisions of young women. Specifically, we investigate whether and how a woman's work behavior depends on the work behavior of her mother and that of her friends' mothers. Using a representative sample of U.S. teenagers and their friends followed over time, we find that both intergenerational channels positively affect a woman's work hours in adulthood. The friends' mother channel operates independently from the presence of friends' influence. Our evidence is consistent with the presence of behavioral effects of social norms about mothers.

Key words: Intergenerational transmission, role models, labor force participation, peer effects.

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1 Introduction

An extensive literature focuses on the importance of cultural norms for economic decisions and for the persistence of beliefs, norms, and socio-economic status across generations (Alesina and Giuliano, 2010, 2013; Bisin and Verdier, 2011). When it comes to women, a number of studies have established that gender norms can explain some of the differences in women's labor market outcomes over time, across countries and ethnicities, and across generations (see the paper by Alesina et al., 2013, and the surveys by Bertrand, 2010, and Fernández, 2011). Some of these studies are grounded in Akerlof and Kranton (2000, 2010)'s identity economics framework. In the case of gender identity, the social categories are man and woman, and a key (exogenously given) behavioral prescription is "men work in the labor market and women work at home". If deviations from this prescription were costly, then gender identity would lead to lower labor force participation and investments in human capital.

Bertrand et al. (2015) explore the behavioral prescription of "a man should earn more than his wife". The authors establish that gender identity, interpreted as both the husband and wife have an aversion to the wife earning more, is an important determinant of marriage formation and satisfaction, as well as a married woman's labor force participation and income conditional on working.

But how are these behavioral prescriptions or social norms acquired? This paper is the first to explore the importance of early socialization for shaping gender identity and subsequent work choices of a recent cohort of women. Our analysis starts from the premise that gender norms are shaped during women's adolescence by observing the behavior of a specific reference group: their *mothers*. This includes both the same-sex parent and friends' mothers, a set of female adults she is likely to have been frequently exposed to. Although social psychology has emphasized both mechanisms as fundamental factors in gender identity formation, work in economics has so far only focused on the first mechanism (Fernández, 2013; Fernández et al., 2004; Fogli and Veldkamp, 2011).[1]

In the same vein as the intergenerational transmission model of Bisin and Verdier (2000, 2001, 2011), our behavioral mechanism emphasizes both the direct role played by having

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[1]In the psychology literature, gender role socialization is thought to occur through three main channels: reinforcement by parents of gender appropriate behavior, children modeling their behavior on same sex parents, and children learning the rules of appropriate behavior from observing adults in a society (e.g., Hyde and Rosenberg, 1980; Williams, 1977). The importance of the quality and quantity of contact for gender stereotyping has been emphasized both in the social psychology and in the economic literature. See for example, Asgari et al. (2010) and Carrell et al. (2010).

a working mother (*direct vertical socialization*) and the role played by the work behavior of the daughter's friends' mothers (*oblique socialization*). The large and growing literature documenting the importance of gender norms for female outcomes has overlooked the second mechanism.[2] Our findings reveal that the oblique channel is important and that it operated independently from the possible presence of peer effects (*horizontal socialization*).

Our empirical strategy follows recent research examining the relationship between the characteristics of classmates and individual outcomes by exploiting variation in student composition across cohorts within schools (Angrist and Lang, 2004; Friesen and Krauth, 2008; Hanushek et al., 2002; Hoxby, 2000; Lavy and Schlosser, 2011; Lavy, Paserman and Schlosser, 2012; Bifulco, Fletcher and Ross, 2011).

We use data from the National Longitudinal Survey of Adolescent Health (AddHealth) to extend this line of research to the analysis of gender roles and their impact on adult women's work choices. The structure of the AddHealth allows us to estimate these effects using comparisons across cohorts within schools for a representative sample of U.S. teenagers. In fact, most of the papers cited above are based on state and local administrative data sets and focus on a small set of outcomes, usually student test scores. The most closely related paper in this literature is Bifulco, Fletcher and Ross (2011), who also use the AddHealth data and focus on the effect of school composition - percent minority and the percent of students with a college educated mother - on high school drop out and college attendance decisions, as well as risky behavior in the late teens and early twenties. A novelty of our analysis lies in the use of the longitudinal component of the AddHealth. This unique (and underutilized) feature of the data together with its extensive information on each individual's friends make it possible to study how behavioral prescriptions formed during adolescence shape adult women's work choices and to distinguish between the vertical channel (own mother) from the oblique channel (classmates' mothers). Specifically, we measure work outcomes, educational attainment, marital status and presence of children as of 2007-08 (wave IV), when women in our sample are aged 24 to 30. Information on mothers' work hours and education, as well

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[2]Farré and Vella (2013) find a strong association between a mother's attitudes towards gender roles and work experience and daughter's (and daughter-in-law's) labor force participation decision. Fernández (2007) and Fernández and Fogli (2006, 2009) identify the effect of cultural differences on women's work and fertility choices by using the lagged values of this variable in a woman's country of ancestry and a cross-section of second-generation immigrants. Fortin (2005) shows the existence of a negative correlation between conservativeness of gender roles attitudes and female labor force participation. Alesina et al. (2013) uncover the empirical relationship between the use of plough agriculture and gender role attitudes using its variation across ethnic groups to identify the effect of cultural differences on women's participation in the labor force and in the political arena.

as other background characteristics are instead drawn from wave I (1995-96), corresponding to age 15 to 18.

Not surprisingly, we find a positive relationship between the labor supply of mothers and daughters: the more mothers work, the more they represent a "role model" for their daughters (i.e. the more their daughters work). However, imitation is also at work when considering the mothers of the friends. Indeed, the effect of peers' mothers is positive and is not mediated by imitation of the peers (peer effects). Interestingly, the quantitative importance of these effects is stronger in the presence of children. That is, the long lasting effects of mothers' work behavior is strongest when daughters become mothers themselves, with the mother's role model effect being strongest for college educated women.

This paper is also related to the literature that uses a neighborhood approach to identify the importance of early socialization for economic outcomes (Katz et al., 2001; Kling et al., 2001; Oreopolous, 2003; Patacchini and Zenou, 2011; Fryer and Katz, 2013; Ludwig et al., 2013; Damn, 2014; Damn and Dustmann, 2014; Gibbons et al., 2014; Katz, 2015). The innovation relative to this literature is that the target variable is the behavior of the peers' mothers in adolescence rather than peers' behavior in adulthood. Although there is a large and growing literature on social interactions in economics (Jackson, 2008; Ioannides, 2012) and the AddHealth data have been used extensively to study peer effects, this paper is the first, to our knowledge, to investigate the role of early socialization for the formation of gender norms and to distinguish the intergenerational channel from the oblique channel stemming from children learning the rules of appropriate gendered behavior from observing a reference group of adults.

Our findings speak to the so-called "opt-out revolution" in which women in their early twenties and early thirties are said to be inclined to withdraw from the labor market.[3] For the cohort of women born around 1959, Goldin (2006) documents a "revolution" that transformed women's economic role and that, as she argues, was associated with increasing women's attachment to the workplace and greater identity with a career. Fortin (2009) shows that, since the mid-1990s, newer cohorts of women have instead started to develop more conservative gender role attitudes than their predecessors, the so-called "backlash" effect. According to this view, the imprinting of a working mother could be offset by the presence of non-economic factors, such as a change in social norms.[4] The young women in our analysis,

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[3]In 2003, the New York Times published a lengthy article by Lisa Belkin about women who were choosing to leave the workforce to be stay-at-home moms: the so-called "Opt-Out Generation". Some of the conclusions of the article seem to have been premature. See Judith Warner's "The Opt-Out Generation Wants Back In" published in the New York Times in August 2013.

[4]Taking and international perspective, Blau and Kahn (2013) show that another important factor under-

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born between 1978 and 1983, are in their late twenties or early thirties in 2007-08. That is, they belong to cohorts of women whose behavior has been under scrutiny. Our findings show little evidence of a counter-revolution, that is in support of an intergenerational backlash effect. On the contrary, our results indicate that mothers' work behavior had a positive influence on daughters' gender role attitudes and work choices.

The paper is organized as follows. Section 2 describes the data. Section 3 discusses our empirical strategy while Section 4 presents the results of the analysis. Section 5 investigates the mechanisms underlying our analysis. Finally, Section 6 concludes.

2   Data description

Our analysis is based on data from the National Longitudinal Survey of Adolescent Health (AddHealth).[5] The AddHealth has been designed to study the impact of the social environment (i.e. friends, family, neighborhood and school) on adolescents' behavior in the United States by collecting data on students in grades 7-12 from a nationally representative sample of roughly 130 private and public schools in years 1994-95 (wave I). While cross sectional analysis of these data are widespread both in the sociological and economics literatures, the longitudinal information has not been exploited much. Indeed, a subset of adolescents selected from the rosters of the sampled schools, about 20,000 individuals, is interviewed again in 1995-96 (wave II), in 2001-2 (wave III), and again in 2007-2008 (wave IV). This longitudinal structure of the survey is key for our analysis as it provides information on the characteristics of the wave I adolescents when they become adults, including their employment outcomes.

We measure the mother's influence and the influence of the friends' mothers during the teenage years using information on weekly hours worked by mothers from wave I, whereas the work decision in adulthood is measured using the individual data on weekly hours worked from wave IV. In particular, wave IV asks detailed information about the current/most

recent job that involves at least ten hours per week, including total number of hours worked in a typical week. Individuals are between 24 and 30 years old in wave IV. Virtually all of them are either currently working or have impediments to work (e.g. military service, jail, disabilities, etc...).[6] As a result, we extract information on hours worked in the current/most recent job and we focus our analysis on the intensive margin.[7] The information on mothers' hours worked in Wave I is more problematic. Unfortunately, in wave I, it was the children who answered a question about their resident mothers that asked: "Approximately how many hours a week does she work for pay?" This could potentially introduce a measurement bias. For instance, one could imagine that perceptions of work that a girl has may affect her (mis)measurement of hours worked by her mother and her adult decisions at the same time, leading us to find spurious results about the impact of a girl's mother and that of the mothers of her friends. To assess the quality of this information and the potential extent of this bias, we compare the distribution of hours worked by mothers in our sample to the one observed for a comparable sample of women from the 5% extract of the 1990 decennial Census (Ruggles et al, 2010). As shown in Figure 1, the two distributions are remarkably similar. A formal comparison of the two distributions does not reject the null hypothesis that the two samples are two random drawings from the same population (Wilcoxon signed-rank test p-value=0.3562; paired samples t-test for equality in means p-value equal to 0.8254). This finding mitigates our concerns about the importance of this measurement bias in (potentially) driving our findings.

Our final sample of wave I students that are followed over time and with non-missing information on our target variable and basic demographic characteristics both in wave I and in wave IV consists of 3,426 female students in 75 schools and 3,035 male students in 76 schools (that is, there is one single (male) sex school in the sample).[8]

Table 1 provides some descriptive statistics by gender. Female students make up 50%

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[6]Less than 1% have never been employed.

[7]To the extent that gender norms affect the extensive margin of labor force participation (see, for example, Fortin, 2009), we might be under-estimating the overall importance of mothers on adult women's work choices.

[8]Because we are interested primarily in post-high school outcomes, we follow Bifulco et al. (2011) and drop the 6,000 students who were not in grades 9-12 (grades 10-12 for three year high schools) during wave I and approximately 80 additional students who report still being in high school during Wave III. The students thus selected are aged 20 to 24 at the time of Wave III survey. In addition, we drop approximately 4,500 individuals who were not followed through Wave III. Since our identification strategy depends upon having multiple cohorts within schools, we drop 500 students who are in schools that do not have a 10th, 11th, and 12th grade. Finally, we drop approximately 150 students who did not identify themselves as either white, black, Hispanic, or Asian and 60 students in grades with fewer than 10 sample students.
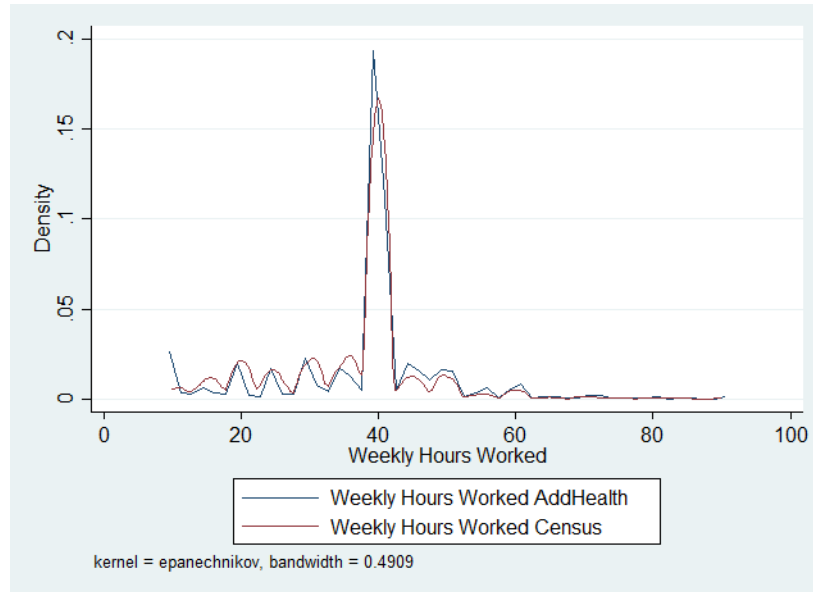
Notes. Kernel density estimates of the distribution of hours worked by mothers in AddHealth (based on information reported by students in wave I) and in the Census (based on self-reported information). The "census" sample is drawn to be comparable (in terms of size and composition) to the set of students' mothers in wave I of Add Health. A Wilcoxon signed-rank test does not reject the null hypothesis that the two samples are two random drawings from the same population (p-value=0.3562). A paired samples t-test does not reject the null hypothesis that the means of the two samples are equal (p-value equal to 0.8254). Data Sources: IPUMS 5% extract of 1990 Census (Ruggles et al. 2010) and AddHealth (Harris et al, 2009).

Figure 1: Distribution of mothers' work hours in AddHealth and Census data

of our sample and 57% of them are white. As for their mothers, 55% have a high school diploma, while 41% have at least a college degree. Approximately 80% of the mothers are U.S. born. Mothers worked on average about 38 hours a week in wave I (when their daughters were in grade 9 to 12). This is also true if we compute average hours worked by the mothers of male classmates. By age 24 to 30 (wave IV), 46% of our wave I schoolgirls are married, 57% of them have children. Only 4% of them are high-school drop outs, while 41% have a college degree or a higher level of educational attainment. They work on average 39 hours per week. We also report work hours by presence of children. As expected, women with children work on average fewer hours and the variation in hours worked is larger than that observed among childless women.

The two samples (male and female) exhibit gender differentials of the expected sign and

significance. For example, males work on average 5 more hours per week than females. Opposite to what we observe for women, men with children work on average more hours than men without children, and the coefficient of variation in work hours is slightly larger for the latter group. Men aged 24-30 are also less likely to be married and have children than women in the same age group, which is consistent with what we observe for the overall population. Consistent with patterns documented for this cohort (see Goldin and Katz, 2008), girls in our wave I sample are more likely than boys to have obtained a college degree by wave IV. Interestingly, in our data, high school girls have a higher average GPA than boys. There is also a small gender difference in the racial composition of the boys and girls sample: 60% of boys are white, 3 percentage points more than for girls. The characteristics of the female and male sample are otherwise the same.

[Insert Table 1 here]

3   Empirical model and Identification Strategy

A large number of studies using AddHealth data measure the social context using the friendship nomination file. Indeed, pupils were asked to identify their best friends from a school roster. As a result, one can reconstruct the whole structure of the friendship networks, as well as derive information on the nominated friends. While this information is certainly important, the use of nominated friends as the relevant social community poses empirical challenges in the identification of the impact of the social context on individual behavior that are difficult to overcome.[9] Most notably, since friends are self-reported, it is difficult to tease out unobserved factors driving both friendship choices and individual behavior. For example, in the context of our exercise, an adult woman's work hours could be related to her friends' mothers' hours decision via a selection mechanism whereby friendships are formed based on shared preferences or expectations (among girls or their parents). The daughter of a working mother could choose friends whose mothers also work. Mothers could themselves choose friends who are working, and girls could be more likely to become friends with their mother's friends' daughters. In addition, some connections may be misspecified (i.e. some schoolmates who are actually interacting with a given student may not be reported as friends by the student) and some others may be missing (i.e. friends outside the school).

In order to avoid these concerns, we will not use the self-reported friends each student nominates but instead exploit the variation in *student composition across cohorts within*

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[9]As a robustness check, we report the results of our analysis using the nominated friends in Section 4.2.

schools to identify endogenous effects in post-graduate outcomes. The structure of the AddHealth data makes this data ideal for this approach. Indeed, the AddHealth data includes students from multiple cohorts in a nationally representative set of schools, which allows us to use comparisons across cohorts within schools to estimate the effect of schoolmate characteristics (i.e. the work behavior of their mothers) on women working decisions 10-12 years later. Our empirical model can then be written as:

$$h_{igs,t+1} = \alpha_g + \beta_s + \gamma h_{igs,t}^m + \phi A h_{gs,t}^m + \sum_{k=1}^{K} \theta^k x_{igs,t,t+1}^k + \varepsilon_{igs,t+1} \qquad (1)$$

where i denotes students, g denotes grades or cohorts, s denotes schools, and t denotes time. Thus, $h_{igs,t+1}$ is the number of hours worked as adult (i.e. at time $t+1$) by a woman i who was in school s and cohort g at time t, α_g is a cohort or grade specific effect, β_s is a school fixed effect, $h_{igs,t}^m$ is the number of hours worked by i's mother at time t (i.e. when student i was in school), $A h_{gs,t}^m$ denotes the average number of hours worked by the mothers of the students in school s and cohort g, $x_{igs,t,t+1}^k$ is a set of individual characteristics at time t and $t+1$; $\varepsilon_{igs,t+1}$'s are i.i.d. innovations with zero mean and variance σ^2 for all i. Because students from different cohorts are in different grades in the AddHealth data, *grade fixed effects* control for initial differences across cohorts. Moreover, *school fixed effects* control for unobserved differences in average student characteristics across schools as well as for aspects of school quality that are constant across cohorts within a school. The use of these two fixed effects provide a powerful control for selection across schools. The idea is to treat the composition of students by grade and gender within a school as quasi-random and to use this quasi-random variation as opposed to variation that can be traced to the parents' choice of which school to send their child or the parents' choice of where to live. Indeed, when parents choose the school for their children, they are unlikely to be aware of how the hours worked by mothers vary by grade within a particular school.

3.1 Evidence on the identification strategy

Before describing the main results of our analysis, following Lavy and Schlosser (2011), we investigate the validity of our identification strategy by performing two exercises.

In Table 2, we examine the extent of variation in cohort composition that is left after removing cohort and school fixed effects. This is an important check since the precision of our estimates rests on the assumption that there is sufficient residual variation in our target variable. As we would expect, removing fixed effects reduces the standard deviation in mothers' average hours worked for both the female and male sample, but only by approximately

46% percent.

In Table 3, we produce an array of "balancing tests" for our target variable. To the extent that the variation in the mothers' work hours is unrelated to the variation in a number of pre-determined student characteristics, net of school and cohort fixed effects, this analysis can be used to rule out systematic differences due to sorting along observable students' characteristics. As shown in the table, none of the estimated correlations appear to be significantly different from zero. Altonji et al. (2005) suggest that the degree of selection on observables can provide a good indicator of the degree of selection on unobservables. In light of this argument, the evidence of no correlation from Table 3 supports the assumption that our model specification identifies a source of variation, which is unrelated to unobservable characteristics, and which might have an impact on student post-graduation outcomes.

Taken together, the results in Tables 2 and 3 lend support to our identification strategy. It appears that there is sufficient variation to obtain precise estimates and that unobserved factors that influence within school variation in both cohort composition and student outcomes are unlikely to be confounding our estimates.

4   Empirical Results

Table 4 reports the estimation results of model (1). All specifications include grade and school fixed effects. Identification in our model comes from the variation in student composition across cohorts within a school. As shown in columns (1) and (2), we find that there is a positive and significant relationship both between daughter's hours and mother's hours (the *vertical* channel) and between daughter's hours and friends' mothers' hours (the *oblique* channel).

This finding is confirmed in all the subsequent specifications as we increase the set of controls (moving to the right of the table). Specifically, column (3) controls for daughters' demographic characteristics, such as race, marital status, presence of children and average GPA in high school. Column (4) also includes family background variables such as (own) mother's immigration status and education. Observe that, to the extent that more educated mothers work more, our estimate of the mother-daughter relationship may simply be the

result of the transmission of human capital. The inclusion of mother education rules out this possibility. We will return to this point in Section 5. Finally, column (5) adds a variable that measures the quality of mother-daughter interactions during adolescence[10] to capture difficult-to-measure features of the mother-daughter relationship. We also include an indicator of residential building quality to capture differences in family of origin's socio-economic status.[11]

The estimates of the control variables follow the pattern that is common in the literature on female labor supply. For instance, women work significantly fewer hours if they have children (see columns (3) to (5)).

The estimated coefficient on mother's weekly hours is relatively stable, around 0.08, across specifications. This estimate means that one standard deviation increase in hours worked by a girl's mother (corresponding to about 11 hours per week, see Table 1) would increase her weekly hours worked at age 24 to 30 by about 1/10th of a standard deviation, corresponding to one hour (54 minutes) of work. To put this in perspective, this is 2.3% of average weekly work hours by daughters in our sample.

The marginal effect of the social context is also important. The estimated coefficient on average hours worked by friends' mothers is about 0.28 across all specifications. This implies that one standard deviation increase in average hours worked by friends' mothers (that is, 2.4 hours) translates into an additional 40 minutes of work, corresponding to about 1/15th of a standard deviation in women's weekly hours worked.

The stability of our two main coefficients when we include a number of observable characteristics mitigate the concerns that our results might be capturing the influence of (omitted) background factors that determine adult labor market outcomes independent of gender.

[Insert Table 4 here]

To better understand our findings, we also study whether the quantitative importance of the horizontal and oblique channel differ by presence of children, marital status, mother's

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[10]High mother care is an indicator variable equals 1 if our index of quality of mother-daughter interactions is above average. This index is obtained by factor analysis using two AddHealth variables (from wave I). The first variable records the answer to the question "How much do you think she (mother) cares about you?". The answers were recorded on a 1 to 5 scale, with 1 = not at all and 5 = very much. For the second variable, the respondent had to indicate her level of approval to the following statement: "When you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong." The answers were recorded on a 1 to 5 scale, with 1 = strongly agree and 5 = strongly disagree.

[11]This indicator is based on the interviewer response to the question: "How well kept is the building in which the respondent lives", coded as 4= very poorly kept (needs major repairs), 3= poorly kept (needs minor repairs), 2= fairly well kept (needs cosmetic work), 1= very well kept.

education and own education.

Table 5 presents the result of regressions where our two target variables are interacted with presence of children (columns (2) and (3)), marital status (columns (4) and (5)), mother's education (columns (6) and (7)), and own education (columns (8) and (9)). All specifications include the same set of control as in Table 4, column (6). This analysis reveals interesting patterns.

First of all, the work behavior of mothers seems to affect the daughters' work choice *only when they have children* (columns (2) and (3)). The coefficients on the interaction terms with no children (column (2)) are positive but smaller and not statistically significant. The coefficients on the interaction terms for women with children are instead statistically significant and indicate that the effect is slightly larger than for the overall population. The estimated coefficient on mother's weekly hours implies that one standard deviation increase in hours worked by a woman's mother would increase her weekly hours worked by 1 hour and 20 minutes approximately. Given that women with children work on average about 38 hours per week, this corresponds to approximately 3% of average weekly work hours by women with children. For the average hours worked by friends' mothers, one standard deviation increase translates into an additional 56 minutes of work, corresponding to about 2.5% of average women's weekly hours worked. This result seems to suggest that, to the extent that the work-family balance observed during adolescence shapes gender identity, the long lasting effects of mothers' work behavior are stronger when the daughters themselves face the same family-work trade-off and make decisions.

An alternative interpretation of this result is that we are simply picking up the larger variation in work hours on the sample of women with children relative to those without children. However, as noted in our discussion of the summary statistics in Table 1, while it is of course true that, conditional on working, women with children work fewer hours per week than women without children and display a slightly higher degree of variation, the comparison of the coefficient of variations (0.26 and 0.23, respectively) does not seem large enough to be fully explaining our finding.

A possible concern, however, is that this evidence simply reflects the fact that women with working mothers might be delaying childbearing. Our data reveals that this does not seem to be the case. Indeed, we run a specification of our model where the dependent variable is a dummy variable indicating whether a woman has children (instead of hours worked). Neither of our target variables shows a significant effect. If anything, we find that having children for a woman is positively correlated with her own mother's working hours.[12]

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[12]Results available upon request.

In columns (4) and (5) in Table 5, we find that the impact of the oblique channel is strongest for *unmarried* women while the importance of a girl's mother as a role model (vertical channel) is strongest for *married* women. These results help rule out the possibility that the observed positive effect of high school friends' mothers on adult women's work behavior works through positive sorting in the marriage market. Indeed, to the extent that women whose mother worked are more likely to be in contact with boys whose mothers also worked, our estimate could simply be capturing this mechanism. Our results instead suggest that it is unlikely that the importance of male friends' mothers is driven by marriage consideration.[13] We return to this in the discussion of Table 7.

Finally, columns (6) and (7) show that the importance of the vertical and oblique channel is larger for daughters of *college-educated* mothers. As mentioned in the Introduction, since college-educated mothers are also more likely to work and more likely to have college-educated daughters, this finding seems to work against the existence of a backlash effect, whereby daughters are more conservative than their mothers in their attitude towards gender roles and work/family balance decisions, at least for this cohort of women. We also find that the effect of mothers' hours are strongest for women who do not hold a college degree. This is reasonable given that, for these women, high-school experiences remain most salient.

[*Insert Table 5 here*]

4.1 Horizontal vs oblique channel

Given that each woman in the survey works more if her mother works more, the challenge of our empirical analysis is to be able to disentangle the effect of friends' mothers from the effect of female friends on own work hours. Indeed, the evidence of cultural transmission from friends' mothers to daughters may simply be a mechanical effect coming from a standard peer effect mechanism. A direct test of one mechanism versus another is a very difficult exercise, given that it is virtually impossible to know precisely the map of each individual's social contacts.[14] However, the richness of our data allows us to tackle this issue in the following way. We exploit the fact that the schools in our sample are almost all mixed[15] and thus each

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[13]In line with this evidence, Fernández et al. (2004) show that, although men whose mothers worked are more likely to be married to a working woman, it does not appear to be true that they marry women whose mothers also worked.

[14]In the Addhealth data, no information is collected on the social contacts of the women in our sample during adulthood.

[15]There appears to be only one all-male-school in our sample.

individual's friendship network is composed of both males and females. The gender variation in cohort/school composition is substantial, ranging from a minimum of 31% male to 100% male (for one school). We proceed as follows. First, we show that the working behavior of mothers does not have an effect on male labor force participation. Second, for each girl, we use the mothers of the boys only as a role model and show that they still have an impact of the daughter's working hours. If the oblique socialization mechanisms is still at work, then this is evidence that it is not mediated by pure peer effects, given that, in this case, there is no transmission from mothers to sons.

Column (1) in Table 6 reports the results of our analysis on the male sample only. It reveals *no significant impact* of mothers' work hours on the work behavior of men. In other words, the number of working hours of men is not influenced by the number of working hours of their mothers during their adolescence. The coefficient on friends' mothers hours is negative (and not significant), while the coefficient on own mother's hours is positive but not statistically significant and much smaller than that for women (one standard deviation increase in own mother's work hours translates into 1/50th of a standard deviation increase in men's hours). Note that the fact that men do not respond to mother's or friends' mothers labor supply is not driven by lower variation in men's work hours. If anything, as shown in the summary statistics (Table 1), male's working hours are slightly more volatile than women's hours (standard deviations are 11 and 9, respectively, and the coefficient of variation hovers around 0.25 for both genders).

Columns (2) to (4) in Table 6 show the results for our sample of women when only *the mothers of the boys* are used to measure the oblique channel of transmission, with an increasing set of controls. Compared to the estimates in Table 4, it appears that, although it slightly drops in size and significance, the estimated effect of male friends' mothers on daughter's work hours is still quantitatively significant. In this case, a one standard deviation increase in hours worked by the mothers of *male* friends (that is, 3.23 hours) translates into an additional 33 minutes of work, corresponding to about 1/18th of a standard deviation in women's weekly hours worked (as compared to 1/15th of a standard deviation when we use the average across mothers of all friends). These results suggest that it is unlikely that all we are capturing is a standard (lagged) peer effect, whereby a woman's work hours are influenced by the work behavior of their former high school friends. Instead, our findings lend support to the notion that this oblique channel of socialization coming from high school friends' mothers is operative.

Observe that the mechanism through which the working decision of an adult woman may be linked to the male friends' mothers hours decision via marriage (Fernández et al., 2004)

has been already ruled out by our results in Table 5. This table, indeed, provided evidence that the effect of friends' mothers is strongest for unmarried women. In addition, note that we control for marital status in all specifications.

[*Insert Table 6 here*]

4.2 Robustness checks

We perform three robustness checks. In the first exercise, we investigate the validity of our identification strategy by running some placebo regressions in which, for each student, we replace the actual cohort composition with the composition of a randomly selected cohort from the same school. If our fixed-effect strategy controls for both unobserved school and student characteristics, then the composition of other cohorts in the same school should not show any effect on student outcomes in these placebo regressions. The results are presented in Table 7. There is no evidence of a significant impact of average hours worked by friends' mothers in this randomly selected cohort from the same school on an individual's work hours, while the remaining variables show the same pattern of sign and significance as in Table 4.

[*Insert Table 7 here*]

Next, we include in our regressions *school trends* as additional controls. As mentioned before, when parents choose the school for their children, they are unlikely to be aware of how the hours worked by mothers vary by grade within a particular school. There may be, however, some trends in peer characteristics that can be of particular concern if correlated with unobserved characteristics affecting student outcomes. This would be the case, for instance, if parents are able to discern if a given trait in a school (e.g. share of students with highly educated parents) is increasing over time, so that older students differ in a systematic and unobserved way from younger cohorts. Although this is unlikely to be the case, we check the robustness of our results when adding to our regression model school specific linear trends, $\alpha_g \beta_s$. As a result, our estimates are based on the correlation between deviations from the school specific trend in a cohort's student composition and deviations from school specific trends in student outcomes. Table 8 contains the results. It appears that they are remarkably similar to the ones presented in Table 4.

[*Insert Table 8 here*]

Finally, we perform our analysis using the AddHealth information on nominated friends, i.e. by replacing the number of hours worked by the mothers of the students in school s and grade g with the number of hours worked by the mothers of the actual friends' of student i in grade g in school s. As discussed at the beginning of Section 3, the use of this variable poses various econometric challenges that make causality more difficult to claim. Nevertheless, for completeness we show the results in Table 9. When dropping the students who do not nominate any friend[16] and those with missing values on the average hours worked by friends' mothers, the sample size is largely reduced. The results, however, remain similar to the ones presented in Table 4.

<div align="center">[Insert Table 9 here]</div>

5   Inspecting the mechanism

The evidence collected so far confirms the importance of own mother's behavior in shaping daughters' work decisions and identifies a novel channel of mothers-daughters transmission: the *oblique channel*.

In this section, we devote our attention to a closer investigation of the mechanisms behind our results. In order to show that we have indeed identified behavioral effects of social norms about mothers' work, we provide evidence that (*i*) rules out alternative mechanisms and (*ii*) is in line with a role model mechanism.

(*i*) **Preferences vs. human capital production function**

Several papers that investigate cultural transmission in female labor force participation (such as Fernández and Fogli, 2010) discuss the possibility that cultural transmission is driven by human capital transmission. The concern in these studies comes from the fact that they use Census data and are not able to control for the education level of the parents, as this variable is not available. This concern does not apply here, since the human capital of the mother is available (and included in our regressions). However, the conceptual distinction between maternal investment in market-specific human capital and maternal influences on daughter's preferences is extremely important and the richness of our data allows us to investigate this issue further. A human capital production story would imply that mothers who work more hours also transfer to their daughters a technology that makes them more productive in the labor market, holding constant mother's education. If this were the case, then we should observe that, everything else being equal, a daughter's hourly wages should be increasing in mother's working hours. On the other hand, the "preference" story highlighted

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[16]In the Addhealth, about 50% of the students do not nominate any friend.

in this paper should imply that daughters of mothers who work more hours are more likely to have more egalitarian gender role attitudes.

The literature provides evidence that intergenerational gender role attitudes are positively correlated. For example, based on NLSY data, Farré and Vella (2007) document a strong association between a mother's attitudes towards gender roles and daughter's gender roles attitudes. They also show that this cultural transmission influences female labor market decisions. Using General Social Survey (GSS) data, we find evidence of a general positive correlation between a mother's labor force participation when the daughter was 16 years old and the daughter's gender roles attitudes in adulthood. More interesting from the point of view of this paper, we find that this is also true for the cohort of women born between 1978 and 1984 (that is, the AddHealth cohort). For this cohort, we find that 51% of all women whose mother did not work when they were 16 years old agree with the statement: "It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family". However, among women whose mother worked, only 24% agree with the statement. There is a −2.6 difference in average hours worked between women who agree with the statement *vis a vis* those who disagree with the statement. This is a relatively large number, corresponding to 7% of average hours worked by the respondents in the GSS sample.

While this evidence suggests that the preference channel is important, it does not shed light on the relative importance of the human capital versus the preference mechanism. As mentioned above, the AddHealth data allows for a more direct examination of the relevance of these two alternative hypotheses. First, we can use information on hours worked and earnings to obtain an hourly wage rate, and use it as a measure of productivity. Second, wave III (in 2001-2002) contains a key question that enables us to make some progress in understanding the relative importance of these two theories. Indeed, individuals (who are 18 to 24 years old at the time of the survey) were asked a question aimed to measure their attitudes towards gender roles. The respondent had to indicate her level of approval to the following statement (standard in the literature): "It is better for anyone involved if the man earns more money and the woman takes care of home and family". The answers were recorded on a 1 to 5 scale, with 1 = strongly agree and 5 = strongly disagree. Based on this information, we construct a binary indicator of *egalitarian gender role attitudes* that is equal to one if the respondent either disagreed or strongly disagreed with the statement and is equal to zero otherwise. Although information about gender roles attitudes is only available for a third of the individuals in our main sample, the variation is enough to identify the impact of own mother's work hours on daughter's gender attitudes. Specifically, using

a full set of controls for mother's characteristics, we first regress the gender role attitude indicator on mother's working hours and, then, we regress the daughter's hourly wages on mother's working hours. The results of this exercise are reported in Table 10. In columns (1) and (2), we see that a daughter's propensity of having egalitarian attitudes towards gender roles is positively correlated to the mother's work hours. The wage regressions (columns (3) and (4)) reveal that the daughter's productivity (as measured by log hourly wage) is *not* correlated with mother's work hours. It is instead the mother's education that seems to be a key factor in the transmission of human capital. The grade dummies (that proxy for age) show a concave life cycle effect. Taken together, these results suggest that our findings are likely to be driven by a *preference* story rather than a *human-capital production* mechanism.

[*Insert Table* 10 *here*]

(*ii*) **Role models and intensity of interactions**

The importance of the quality and quantity of contact for gender stereotypes has been emphasized both in the social psychology and in the economic literature. An important way to tease out a cultural transmission mechanism from other alternative stories is to study how the importance of a given role model varies with the intensity of social interactions. The higher the frequency of interactions, the more likely the girl uses their *mothers* as a role model. We measure the quality of mother-daughter relationship using our indicator of mother care. We measure the intensity of contacts with friends' mothers using a question that asks parents to assess the degree of knowledge of and contact with their adolescents' friends and the parents of these friends. Specifically, the question asked each child's parent to indicate how many parents of their child's friends they had talked to in the four weeks prior to the interview. We use this question to construct and indicator of *social distance.* We use a dummy variable (high social distance) that takes a value equal to 1 if the students' parents had below average interactions (relative to each student's school/grade) and 0 otherwise.[17] As shown in Table 11 (columns (2) and (3)), when we interact our target variable with an indicator of social distance, we find that the importance of friends' mothers is significant when the social distance of the adolescent to her network of friends' parents is low. That is, this happens when the frequency of interactions is high.

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[17]This variable has been used in sociology to measure "intergenerational closure". Indeed, Coleman (1988)'s theory of social capital predicts that students who have high levels of "intergenerational closure", that is, whose parents know more of their children's friends' parents, will have better educational outcomes than will students with low levels of intergenerational closure. See, in particular, Carbonaro (1998), Morgan and Sorensen (1999), and Harrington Cleveland and Crosnoe (2004).

Instead, when we use the quality of mother-daughter relationship as an interaction effect (columns (4) and (5)), we do not find strong evidence that girls use their own mothers as role models only when the quality of their relationship is high. However, the coefficient is more significant for daughters who had a higher than average quality of interaction with their own mother. Given that the answer to this qualitative question is somewhat noisy, it is hard to conclude against our mechanism. Also, whether the *quality of interactions* is high or not does not take away the fact that girls may tend to model their behavior after their mother on the basis of the *quantity of interactions*, which does not necessarily reflect their quality.

There are of course other alternative explanations for this result that have nothing to do with the channel of cultural transmission of gender norms. For example, an adult woman may derive positive utility directly via interactions with her own mother. The fact that the adult woman's hours are close to those that her mother worked can thus be a sign of a continued shared experience. This mechanism, however, could be at play in the mother-daughter relationship but it would not be plausible with her childhood friends' mothers.

[*Insert Table* 11 *here*]

6   Concluding remarks

In this paper, we study the quantitative importance of early socialization for shaping women's gender identity and subsequent work choices. We find that both the mother's working hours and the friends' mothers' working hours during adolescence are important determinants of labor supply decisions in adulthood. The influence of friends' mothers is not mediated by a traditional peer effects mechanism. Our analysis shows that we have identified behavioral effects of the transmission of *social norms* of the mothers' work hours.

As it is common in the literature, this paper uses work hours both as the outcome of interest and to measure socialization. However, weekly work hours are an imperfect indicator of women's choices regarding the career-family trade-off. An interesting avenue of research would be to exploit information on the women's field of study to examine the impact of early socialization on women's career choices. We leave this for future research.

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Table 1: Sample description

	Female Sample		Male Sample		Gender Differential	
	Average	Standard Deviation	Average	Standard Deviation	T-test statistic	p-value
Weekly hours worked	39,21	9,96	44,13	11,04	-19,06	0,00
Weekly hours worked conditional on:						
Children	37,71	9,93	45,20	10,14	-21,04	0,00
No children	41,18	9,65	43,51	11,48	-8,90	0,00
Mother work hours	38,18	11,20	38,19	11,18	-0,14	0,89
Average hrs wkd by friends' mothers	38,29	2,40	38,29	2,39	0,2	0,84
Average hrs wkd by *male* friends' mothers	38,47	3,23	38,42	3,03	0,67	0,51
Share white	0,57	0,50	0,60	0,49	-2,31	0,02
Share married	0,46	0,50	0,41	0,49	3,81	0,00
Share with children	0,57	0.50	0,37	0,48	16,57	0,00
Share with less than High School	0,04	0,18	0,06	0,24	-4,72	0,00
Share with High School	0,55	0,50	0,61	0,49	-5,02	0,00
Share with College+	0,41	0,49	0,33	0,47	7,2	0,00
Mothers' share with: Less than High Schoo	0,14	0,35	0,11	0,32	3,58	0,00
High School	0,54	0,50	0,55	0,50	-0,47	0,64
College+	0,32	0,46	0,34	0,47	-2,06	0,04
Share with US born mother	0,81	0,39	0,80	0,40	0,79	0,43
Average GPA	2,85	0,74	2,66	0,77	10,54	0,00
Average grade	10,44	1,08	10,43	1,07	0,1	0,92
Student share in: Grade 9	0,25	0,44	0,25	0,43	0,43	0,67
Grade 10	0,26	0,44	0,27	0,44	-0,46	0,65
Grade 11	0,27	0,44	0,28	0,45	-0,60	0,55
Grade 12	0,21	0,41	0,20	0,40	0,70	0,48
Number of observation	3 426		3 035			
Number of schools	75		76			

Notes: Sample includes students with non-missing information on mother's work hours and education (Wave I), and hours worked, marital status, presence of children (Wave IV). *Source:* National Longitudinal Survey of Adolescent Health (AddHealth), Harris et al. (2009).

Table 2: Raw and residual variation in average hours worked by friends' mothers

	Mean	Standard Deviation	Minimum	Maximum
<u>Female sample</u>				
Raw cohort variable	38,274	2,408	28,989	47,493
Residuals: net of fixed effects	0,000	1,653	-6,791	6,179
<u>Male sample</u>				
Raw cohort variable	38,252	2,384	28,731	47,879
Residuals: Net of fixed effects	0,000	1,653	-6,275	7,113

Table 3: Balancing tests for cohort composition measures

	Dependent variable: Average weekly hours worked by friends' mothers
PVT test score	-0,0385
	(0.0364)
Age (in years)	-0,0227
	(0.0526)
White	0,0459
	(0.0798)
Parent years since arrival in US	0,00498
	(0.00558)
Parent born in the US	-0,0461
	(0.0613)
Single parent family	0,108
	(0.0733)
Parental education	0,00794
	(0.0119)
Number of older siblings	0,032
	(0.0256)

Notes. Sample and sources are defined in the notes to Table 1. All specifications include school and grade effects. Robust standard errors in parentheses. PVT test score is the score on the student's Picture Vocabulary Test (PVT) that is administered at the beginning of wave I interview. Age is age of the student in Wave I. Parent years since arrival in US is the number of years the family has lived in the US as reported by the student in Wave I. Parent born in the US is a dummy variable equal to one if the parent reports being born in the US. Single parent family is a dummy variable equal to one if the student belongs to a single parent family as reported by the parents. Number of older siblings is the number of older siblings reported by the students. Significance levels are: * 10%,

Table 4: Main results

	Dependent variable: Weekly hours worked				
	(1)	(2)	(3)	(4)	(5)
Mother's hrswork	0.081***	0.083***	0.089***	0.079***	0.078***
	(0.022)	(0.023)	(0.022)	(0.022)	(0.022)
Avg hrswork by friends' mothe		0.268**	0.279**	0.285**	0.277**
		(0.130)	(0.131)	(0.131)	(0.134)
White			0.401	0.178	0.297
			(0.607)	(0.615)	(0.615)
Married			-0.619	-0.728	-0.766
			(0.519)	(0.526)	(0.529)
Children			-4.060***	-4.026***	-4.022***
			(0.504)	(0.517)	(0.517)
Average gpa			1.048***	0.989***	1.007***
			(0.337)	(0.344)	(0.352)
Mother born US				-0.164	-0.091
				(0.924)	(0.925)
Mother high school				1.865**	1.947***
				(0.736)	(0.755)
Mother college+				1.543*	1.748**
				(0.833)	(0.863)
High mother care					0.419
					(0.672)
Residential building quality					0.465
					(0.316)
Constant	35.964***	25.735***	24.606***	23.716***	22.702***
	(0.882)	(5.072)	(5.193)	(5.199)	(5.375)
Observations	3,701	3,591	3,562	3,470	3,426
R-squared	0.067	0.055	0.103	0.104	0.106

Notes: Sample and sources are defined in the notes to Table 1. All specifications include school and grade effects. Robust standard errors in parentheses. The omitted category for education (own and mother's) is less than high school. "High mother care" and "Residential building quality" are defined in footnotes 10 and 11 in the paper. Significance levels are: * 10%, ** 5%, *** 1%.

Table 5: Heterogeneous effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		By presence of children		By marital status		By mother's education		By own education	
	All	No children	Children	Unmarried	Married	Less than College	College+	Less than College	College+
Mother's hrswork	0.078***	0.0497	0.1017***	0,0472	0.1141***	0.0592**	0.1270**	0.0921***	0,0569
	(0.022)	(0.032)	(0.031)	(0.032)	(.030)	(0.025)	(0.046)	(0.027)	(0.039)
Avg hrswork	0.277**	0.153	0.3807**	0.3249**	0,2370	0.261*	0.370*	0.320**	0,164
by friends' mother	(0.134)	(0.141)	(.175)	(0.161)	(0.161)	(0.142)	(0.203)	(0.161)	(0.155)
Constant	22.702***	28.61***		22.14***		25.09***		21.01***	
	(5.375)	(5.622)		(6.466)		(5.607)		(6.329)	
Observations	3,426	3,426		3 426		3,426		3,426	
R-squared	0.106	0.108		0,107		0.104		0.113	

Notes: Sources are defined in the notes to Table 1. All regressions include school and grade effects as well as the same set of controls as in column 6 in Table 2. Entries in the table reports the results of regressions where mother's hours and average hours worked by friends' mothers are interacted with a dummy indicating presence of children (column 2 and 3), marital status (column 4 and 5), mother's education (column 6 and 7) and own education (column 8 and 9). Robust standard errors in parentheses. Significance levels are: * 10%, ** 5%, ***

Table 6: Horizontal vs. oblique channel

	Males	Only _male_ friends' mothers		
	(1)	(2)	(3)	(4)
		Dependent variable: Weekly hours worked		
Mother's hrswork	0.0200	0.0867***	0.0931***	0.0819***
	(0.0249)	(0.0230)	(0.0220)	(0.0224)
Avg hrswork	-0.0947	0.167*	0.165*	0.163*
by friends' mothers	(0.162)	(0.0961)	(0.0972)	(0.0986)
White	0.0592		0.432	0.309
	(0.696)		(0.607)	(0.617)
Married	1.559**		-0.583	-0.730
	(0.691)		(0.520)	(0.531)
Children	0.823		-4.083***	-4.038***
	(0.689)		(0.505)	(0.518)
Average gpa	0.578		1.027***	0.981***
	(0.391)		(0.337)	(0.352)
Mother born US	-0.934			-0.0373
	(0.984)			(0.917)
Mother high school	0.323			1.978***
	(0.897)			(0.758)
Mother college+	-0.670			1.802**
	(0.982)			(0.864)
High mother care	-0.481			0.455
	(0.769)			(0.672)
Neighborhood quality	-0.414			0.462
	(0.369)			(0.316)
Constant	46.79***	29.44***	28.81***	26.82***
	(6.564)	(3.876)	(4.084)	(4.240)
Observations	3,035	3,591	3,562	3,426
R-squared	0.083	0.055	0.102	0.105

Notes: Sample and sources are defined in the notes to Table 1. In column 1 the sample is restricted to male students, in column 2 to 4 the sample is restricted to female students but average hours worked by friends' mother is are computed based on the behavior of mothers of male 'friends'. All specifications include school and grade effects. Robust standard errors in parentheses. The omitted category for mother's education is less than high school. "High mother care" and "Residential building quality" are defined in footnotes 10 and 11 in the paper. Significance levels are: * 10%, **

Table 7: Results of placebo regression where the target variable is based on a random school/cohort.

	Dependent variable: *Weekly hours worked*
Mother's hrswork	0.0689***
	(0.0237)
Avg hrswork by friends' mothers	-0,272
	(0.202)
White	0,287
	(0.666)
Married	-0,635
	(0.569)
Children	-4.153***
	(0.53)
Average gpa	0.874**
	(0.391)
Mother born US	-0,00714
	(1.013)
Mother high school	1.625**
	(0.816)
Mother college+	1.466*
	(0.888)
High mother care	0,591
	(0.672)
Residential building quality	0.597*
	(0.343)

Notes: Sample and sources are defined in the notes to Table 1. All specifications include school and grade effects. Robust standard errors in parentheses. The omitted category for education (own and mother's) is less than high school. "High mother care" and "Residential building quality" are defined in footnotes 10 and 11 in the paper. Significance levels are: *

Table 8: Results with school trends

	Dependent variable: Weekly hours worked		
	(1)	(2)	(3)
Mother's hrswork	0.095***	0.085***	0.084***
	(0.022)	(0.022)	(0.022)
Avg hrswork by friends' mothe	0.409**	0.438**	0.417**
	(0.177)	(0.176)	(0.179)
White	0.294	0.044	0.191
	(0.615)	(0.622)	(0.622)
Married	-0.606	-0.683	-0.700
	(0.524)	(0.531)	(0.534)
Children	-4.203***	-4.185***	-4.190***
	(0.501)	(0.510)	(0.513)
Average gpa	0.999***	0.913***	0.932***
	(0.337)	(0.344)	(0.352)
Mother born US		-0.011	0.080
		(0.904)	(0.903)
Mother high school		1.878**	1.926**
		(0.740)	(0.759)
Mother college+		1.623**	1.834**
		(0.826)	(0.852)
High mother care			0.507
			(0.675)
Neighborhood quality			0.527*
			(0.316)
Constant	24.592	24.436	22.019
	(33.456)	(33.281)	(32.823)
Observations	3,562	3,470	3,426
R-squared	0.138	0.141	0.144

Notes: Sample and sources are defined in the notes to Table 1. All specifications include school and grade effects as well a set of school/grade dummies. Robust standard errors in parentheses. The omitted category for education (own and mother's) is less than high school. "High mother care" and "Residential building quality" are defined in footnotes 10 and 11 in the paper. Significance levels are: *

Table 9: Results based on friendships network

	Dependent variable: Weekly hours worked		
	(1)	(2)	(3)
Mother's hrswork	0.0587*	0.0578*	0.0628**
	(0.0321)	(0.0320)	(0.0319)
Avg hrswork by friends' mother	0.0826**	0.0788*	0.0781*
	(0.0412)	(0.0428)	(0.0431)
White	-0.792	-0.936	-0.928
	(0.786)	(0.834)	(0.829)
Married	-1.255	-1.042	-1.088
	(0.842)	(0.821)	(0.813)
Children	-3.524***	-3.876***	-3.758***
	(0.813)	(0.787)	(0.768)
Average gpa	0.792	0.819	0.804
	(0.545)	(0.574)	(0.572)
Mother born US		1.455	1.585
		(1.014)	(1.012)
Mother high school		0.993	0.869
		(1.030)	(1.045)
Mother college+		0.884	0.813
		(1.226)	(1.236)
High mother care			1.502*
			(0.812)
Neighborhood quality			0.853*
			(0.493)
Constant	35.41***	32.88***	32.11***
	(4.671)	(5.164)	(5.156)
Observations	1,500	1,460	1,458
R-squared	0.060	0.064	0.071

Notes: Sample and sources are defined in the notes to Table 1. All specifications include grade effects. The average of hours worked by friends' mothers is computed over an individual's direct network of friendships. Robust standard errors in parentheses. The omitted category for education (own and mother's) is less than high school. "High mother care" and "Residential building quality" are defined in footnotes 10 and 11 in the paper. Significance levels are: * 10%, ** 5%, *** 1%.

Table 10: Preferences vs. human capital

	Index of egalitarian gender role attitudes		Log hourly wage	
	(1)	(2)	(3)	(4)
Mother's hrswork	0.00349*	0.00348*	-0.000519	-0.000346
	(0.00204)	(0.00204)	(0.00151)	(0.00153)
Avg hrswork by friends' mother		-0.00792		-0.00644
		(0.00771)		(0.00611)
Mother high school	0.224***	0.223***	0.156***	0.160***
	(0.0674)	(0.0683)	(0.0512)	(0.0512)
Mother college+	0.213***	0.209***	0.311***	0.313***
	(0.0727)	(0.0738)	(0.0564)	(0.0564)
High mother care	-0.0317	-0.0287	0.0635	0.0646
	(0.0524)	(0.0521)	(0.0428)	(0.0429)
Grade 9	-0.0262	-0.0387	-0.231***	-0.241***
	(0.0592)	(0.0599)	(0.0441)	(0.0447)
Grade 10	-0.0175	-0.0240	-0.142***	-0.146***
	(0.0556)	(0.0555)	(0.0470)	(0.0473)
Grade 11	-0.0397	-0.0445	-0.111**	-0.114**
	(0.0569)	(0.0570)	(0.0465)	(0.0464)
Constant	0.374***	0.683**	2.489***	2.729***
	(0.112)	(0.323)	(0.0841)	(0.240)
Observations	1,029	1,029	3,338	3,338
R-squared	0.028	0.030	0.038	0.038

Notes: Sample and sources are defined in the notes to Table 1. Robust standard errors in parentheses. All specifications include grade fixed effects. The omitted category for mother's education is less than high school. Significance levels are: * 10%, ** 5%, *** 1%.

Table 11: Role models and intensity of interaction

	(1)	(2)	(3)	(4)	(5)
		Avg hrswork by friends' mothers by social distance		Mother's hrswork by mother's care	
	All	Low	High	Below average	Above average
Mother's hrswork	0.078***	0.0858***		0.0882*	0.0757***
	(0.022)	(0.0250)		(0.0460)	(0.025)
Avg hrswork	0.277**	0.363**	0,1044	0.277**	
by friends' mothers	(0.134)	(0.181)	(0.196)	(0.134)	
Constant	22.702***	19.70***		22.32***	
	(5.375)	(7.224)		(5.556)	
Observations	3,426	2,921		3,426	
R-squared	0.106	0.115		0.106	

Notes: Sources are defined in the notes to Table 1. All regressions include school and grade effects as well as the same set of controls as in column 6 in Table 2. Entries in the table reports the results of regressions where mother's hours and average hours worked by friends' mothers are interacted with an indicator of social distance (column 2 and 3), and an indicator of mother care (column 4 and 5). Robust standard errors in parentheses. Significance levels are: * 10%, ** 5%, *** 1%.