When girls study, who does the housework? Evidence from time-use surveys and cash transfer programs

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Abstract

In developing economies, conditional cash transfer programs have increased children's school attendance. From a gender inequality perspective, girls' enrollment often rises more than boys' in poorer communities due to girls' higher likelihood of being kept out of school for domestic work or early marriage. However, this may worsen gender inequality at home if adult women take on more unpaid household work to accommodate girls' schooling. Using novel evidence from seven national time-use survey waves during 2019–2025 in India, Colombia, Mexico and Peru, we compare girls' homework with unpaid work among co-resident women and men. We find that each additional daily homework hour per girl is associated with an 11.67-minute wider unpaid-work gap, holding household unpaid work fixed. Within households, the association is larger for women than for men in all four settings. This unintended effect is mitigated in households with several adult women, and households using paid domestic help report less unpaid work. We further use a DiD design in two randomized cash-transfer rollouts in Nicaragua and Indonesia. We find that our main result continues to hold. This evidence has implications for policy-makers and researchers evaluating how to best support girls' education without worsening gender inequality at home.

Keywords: girls' education, unpaid work, gender inequality, household division of labor, social norms
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1. Introduction

There is a large literature on gender inequality measured by numerous outcomes, including earnings gaps, labor force participation, and domestic violence (Goldin et al., 2006; Hook, 2006; UNESCO, 2026). In this paper, we focus on two intertwined domestic dimensions of gender inequality, namely (1) unpaid work at home and (2) who gets to stay in school. Throughout history, women have done a disproportionate share of housework, which is often unpaid (Bianchi et al., 2000; Fuwa, 2004; Cortés and Pan, 2023; Gethin and Saez, 2026), and girls have had fewer opportunities than boys to enroll in and complete school (Evans et al., 2024). It is only in recent decades that the gap in unpaid work has narrowed in several high-income countries as men have taken on more unpaid work and women have spent less time on it (Pailhé et al., 2021). Encouragingly, the education gap has even reversed in developed countries such as the United States, where women earn more bachelor's degrees than men (England et al., 2020; Goldin, 2024). However, this progress has been uneven. In many developing economies, women still do most unpaid work, and in many low-income countries girls remain less likely than boys to complete secondary school (Ferrant et al., 2014; UNESCO, 2026).

The two intertwined outcomes are connected by how families allocate time (Becker, 1965; Lloyd et al., 2008; Reis, 2020). When girls gain time for school and study, who takes on the unpaid housework at home? In this paper, we use the setting of cash transfer programs to examine this issue. To increase childhood educational participation, several developing countries have implemented conditional cash-transfer programs that provide financial support to families conditional on children's school attendance or health checkups. These programs aim to reduce the opportunity cost of schooling and encourage families to invest in their children's education. Notably, such programs have also been studied from a gender inequality perspective. Unintendedly yet encouragingly, these programs often have larger effects on schooling for girls than for boys. This has been attributed to the fact that girls are often more likely to be kept out of school for domestic work or early marriage, and that families have often prioritized boys' education over girls', which causes cash transfer programs to benefit females more (Schultz, 2004; Attanasio et al., 2010).

However, while the effects on children's schooling are well-documented, perhaps also unintentionally, such programs may have worsened gender inequality outcomes at home. Prior literature has found that conditional cash transfers can increase girls' school attendance and reduce child labor, but the effects on adult household members' unpaid work vary. Some studies find that mothers take on more housework or childcare when girls are in school, while others find that mothers spend less time on housework after receiving a transfer (Hasan, 2010; Dubois and Rubio-Codina, 2012; Marcillo-Yepez et al., 2026; Flores, 2022). Unpaid work at home becomes a source of gender inequality when women and girls are expected to do more of it because of their gender. Cook-

ing, cleaning, and caring for family members are valuable work. When those responsibilities fall disproportionately on women and girls, they have less time to study, earn income, or rest.

We extend the literature by asking whether girls' homework is systematically associated with the division of unpaid work between women and men in the same household. Using seven national time-use survey waves from India, Colombia, Mexico, and Peru in 2019–2025, we compare daily unpaid work per adult woman and per adult man in households with both groups. Holding total household unpaid work fixed lets us focus on how the work is divided among co-residents. At a given household total, the estimated gap is wider where girls spend more time on homework in all four settings. We also estimate the association without holding total unpaid work fixed and examine unpaid work for each group separately.

For robustness, we examine whether alternative explanations, such as differences in household care needs, girls' ages, household resources, or adult education, could account for the association between girls' homework and adult women's unpaid work. We account for these differences in both the main regression and the baseline comparison.

Having shown that progress toward gender equality in schooling can coincide with a more unequal division of unpaid work at home, we next examine whether household composition and access to domestic substitutes can ease the added burden on adult women. Gender norms shape who is expected to cook, clean, and provide care when girls have less time for these tasks (Akerlof and Kranton, 2000; Hook, 2006). In households with several adult women, the work may be shared across women and generations, reducing the burden on each woman even if women as a group still do most of it (Chen, 2013; Craig and Powell, 2018; Schulz, 2021; Aguilar-Gomez et al., 2026). Paid domestic help gives households another way to cover some of these tasks (Cortés and Tessada, 2011). We therefore ask whether the relationship between girls' study time and adult women's unpaid work is weaker in households with several adult women, and whether women in households that use paid help report less unpaid work. Comparing unpaid work per woman with the total across adult women helps distinguish whether the work is spread across more women or whether women collectively do less of it. This in turn alleviates the burden on any one woman, which could give policy makers an insight into how to support girls' schooling without worsening gender inequality at home.

We find that the association between girls' homework and adult women's unpaid work varies across households. In two of the settings where we examine household composition, the association is stronger in households with one adult woman than in households with several adult women. This suggests that when there are more adult women in the household, they may share the unpaid work more evenly, reducing the burden on any one individual. In contrast, in households with only one adult woman, she may bear a larger share of the unpaid work when girls are in school.

Finally, we examine whether paid domestic help and other household resources can ease adult women's unpaid workload when girls spend more time studying. Families that can afford to hire help can pay someone to do some of the cooking, cleaning, or care that household members would otherwise do themselves. This raises an equity question for conditional cash transfer programs. When girls spend more time on schoolwork, do families with fewer resources have fewer ways to cover domestic tasks without adding to adult women's workload?

We find that higher expenditure and access to labor-saving aids accompany a smaller homework association where we measure those resources in detail. Women in households that hire domestic help report less unpaid work overall. This finding highlights the importance of considering household composition and resources when evaluating the effects of conditional cash transfers on gender inequality outcomes.

We also study randomized conditional cash-transfer rollouts in Nicaragua and Indonesia using first differences and baseline-adjusted regressions. During the pilots, 21 of 42 rural communities in Nicaragua and 180 of 360 subdistricts in the Indonesian evaluation sample were randomly assigned to early access. We examine girls' schooling and whether adult women report housework as their main activity. Early access to the full program in Nicaragua increased both outcomes at the first follow-up. In Indonesia, the baseline-adjusted estimate shows a smaller increase in schooling and little evidence of a change in women's main activity.

A strength of our study is that the time-use surveys link girls' homework to the unpaid work of women and men living in the same household. Census and labor-force data have been used to document gender gaps in employment across countries (Kleven et al., 2025). Time-use surveys complement this work by recording minutes spent on specific activities, including work that broad survey questions can miss (Lamote de Grignon Pérez et al., 2026). We can therefore compare how much time adult women and men spend cooking, cleaning, and caring for family members in the same households where we observe girls' homework. A second strength is that the time-use surveys were conducted separately from the cash-transfer evaluations. This lets us examine how families divide unpaid work in everyday life using national survey samples from four countries.

The surveys also let us ask whether households do more unpaid work overall or divide it differently. Previous studies have used time-use records to examine how children living together divide their time between schooling and work and how co-resident relatives share care after a birth (Hedges et al., 2019; Aguilar-Gomez et al., 2026). We build on this work by comparing girls' unpaid work, unpaid work per adult woman and man, and the total across household members. A household can report about the same total amount of unpaid work even when girls do less and adult women do more. Comparing unpaid work per woman with the total across adult women also shows whether a smaller workload per woman accompanies a smaller workload for women as a group.

The study contributes to several strands of research. First, we extend work on the household effects of cash transfers by examining schooling and adult domestic specialization together. Evaluations have documented changes in enrollment, children's work and adult market work, alongside effects on domestic time in several settings (Schultz, 2004; Parker and Skoufias, 2000; Hasan, 2010; Alzúa et al., 2013; Marcillo-Yepez et al., 2026). In programs such as RPS and PKH, families could receive cash for meeting education and health requirements, which could affect household time through several routes (Gitter and Barham, 2008; Cahyadi et al., 2020). Effects can also reach other household members: in a Bogotá experiment, siblings of girls offered school transfers attended less and were more likely to leave school (Barrera-Osorio et al., 2011). For instance, Cahyadi et al. (2020) examine whether older girls and young women help with a family business or housework in addition to their primary child outcomes. We link girls' schooling to main-housework status among adult women who were already living with school-age girls before assignment and use the same cohort definitions in Nicaragua and Indonesia.

Our main contribution is to examine how girls' educational time relates to the division of unpaid work among their adult co-residents. We use the difference between daily unpaid minutes per adult woman and per adult man in the same household to compare who does the work at a given household total. Earlier studies have documented cases in which mothers took over childcare from teenage daughters or spent more time on housework under programs that supported children's schooling (Dubois and Rubio-Codina, 2012; Hasan, 2010; Marcillo-Yepez et al., 2026). We add comparable evidence on girls' daily study time and adult women's and men's unpaid work in the same households, alongside estimates for girls and for the household as a whole.

We also contribute to research on how household composition shapes the division of unpaid work. In Becker's household production framework, families can combine different members' time with purchased goods and services, and mothers' and daughters' time can substitute for one another in domestic work (Becker, 1965; Heckman, 2015; Reis, 2020). Earlier evidence shows that extended family members take on some of the additional work that follows childbirth (Aguilar-Gomez et al., 2026). We find that the homework association is smaller per woman in households with several adult women in two of the four settings. Sharing a fixed amount of additional work reduces the amount each woman does. In those same settings, the association is also smaller for women's combined unpaid work, suggesting that households may differ in how much domestic work they do or how they obtain those services.

Families can also draw on services outside the home. Previous studies find that access to daycare can cushion the employment consequences of losing family care and that a greater supply of domestic services is associated with less housework among high-wage women (Talamas Marcos, 2023; Cortés and Tessada, 2011). Where we have detailed resource measures, higher expenditure and access to labor-saving aids accompany a smaller homework association (Greenwood et al.,

2005). Across all three settings where we can measure paid help, women in households that hire help report less unpaid work overall. More broadly, the stronger association among women than among men is consistent with specialization, differences in the value of alternative uses of time, bargaining power, and gender norms (Becker, 1985; Chiappori and Lewbel, 2015; Akerlof and Kranton, 2000; Emerson, 1962; Acemoglu and Jackson, 2017). Examining educational opportunity at the household level brings the time of the adults who support girls' schooling into view alongside girls' educational gains.

2. Data and Institutional Background

2.1. Conditional Cash Transfers and Gender Equality

Historically, cash transfers were first used to supplement low wages. One early documented example comes from Speenhamland, England, where in 1795 magistrates adopted a scale that linked payments to the price of bread and the number of children in a family (Berkshire Record Office, 2011). Over time, governments used cash transfers to provide direct support to targeted groups. Two well-studied examples are Brazil's school attendance programs, introduced in 1995, and Mexico's Progresa, launched in 1997. In Brazil, the governments of the Federal District (Brasília) and the municipality of Campinas made payments to low-income families conditional on children's school attendance (Lindert et al., 2007; Fenwick, 2009). Mexico's Progresa combined education grants with health and nutrition support (Skoufias, 2005; Parker and Todd, 2017).

These programs became known in the literature as conditional cash transfers and emerged as a prominent antipoverty policy in Latin America. Depending on the program, payments were conditional on enrolling children in school, maintaining a minimum attendance rate, or taking children to regular health checkups. The programs sought to reduce poverty in the short run by raising household income and over the longer run by encouraging investments in children's education and health (Fiszbein and Schady, 2009).

Early evaluations helped establish the case for these programs. An evaluation of Mexico's rollout showed that Progresa increased school enrollment, with gains often larger for girls than for boys (Schultz, 2004). The approach spread to other settings, including Nicaragua's Red de Protección Social in 2000 and Indonesia's Program Keluarga Harapan in 2007, the two programs whose randomized evaluations we study (Maluccio and Flores, 2005; Cahyadi et al., 2020).

Incidentally, these cash transfers have also been shown to benefit girls more than boys, which has ushered in new research on how these programs can ameliorate gender inequality in developing economies. Conditional cash transfers can support girls' education through two channels. The payment helps households cover schooling costs, while attendance requirements give households a financial incentive to keep children in school (Janvry et al., 2006; Baird et al., 2011). Both channels can change how families allocate time (Parker and Skoufias, 2000; Reis, 2020). When

girls spend more time in school or studying and less time cooking, cleaning, or providing care, other household members can take over those tasks, households can pay for help, or some tasks can be done less often. In the Progresa evaluation, mothers took on some of the care their teenage daughters had provided for younger siblings (Dubois and Rubio-Codina, 2012). The implications for gender equality therefore depend on who takes on the work girls previously did. Hence, focusing on schooling gains alone can obscure this other dimension of gender equality. If girls spend more time in school and less time on chores, who takes on the work they used to do?

Relatedly, a family can also support a girl's schooling and still rely on adult women to do most of the work at home (Kabeer, 1999; Molyneux, 2006). When girls have less time for chores, who takes on those tasks may depend on who is available and who is expected to cook, clean, or care for family members (Emerson, 1962; Bittman et al., 2003; Acemoglu and Jackson, 2017). Therefore, the net effect on the intertwined outcomes of (1) unpaid work at home and (2) who gets to stay in school is unclear. We therefore examine whether girls' homework is more closely associated with the unpaid work of adult women or men living in the same household. Following Aguilar-Gomez et al. (2026), we also examine how much unpaid work the household does in total. Households can do about the same amount of unpaid work even when different people do it.

Hypothesis 1. Greater educational activity among girls is associated with a wider gap in unpaid work between adult women and men in the same household, holding total household unpaid work fixed.

2.2. Factors That Can Reduce Women's Unpaid Work

Becker's theory of time allocation treats household members' time as an input into the production of meals, clean clothes and care, alongside goods and services purchased in the market (Becker, 1965; Heckman, 2015). The cost of an hour spent on housework is the value of what that hour could otherwise be used for, including paid work, study or rest. Becker's later work explains how specialization can reinforce an existing division of labor when experience makes household members more productive at the tasks they usually perform (Becker, 1985). Later models allow household members to have different preferences and bargaining power over how their time is used (Chiappori and Lewbel, 2015). Applied to girls' schooling, these models direct attention to who is available to take over domestic tasks and who is expected to do so.

From a policy-making perspective, it is important to understand whether the additional work that follows girls' schooling is concentrated on one woman or shared across several women. We thus consider how household composition and access to domestic substitutes can reduce the additional work that falls on any one woman. Extant literature has documented that household composition can affect the division of labor within households, particularly in intergenerational households where co-resident relatives can take on care responsibilities (Craig and Powell, 2018; Schulz, 2021;

Aguilar-Gomez et al., 2026). However, ex ante, in developing economies, it is unclear whether the total amount of unpaid work done by women in the household will change when there are more adult women present. It is possible that the total amount of unpaid work remains the same, but it is divided among more women, reducing the burden on any one individual. Alternatively, it is also possible that the presence of more adult women leads to an increase in the total amount of unpaid work done by women in the household.

Household composition affects how much additional work falls on any one woman. When several adult women live together, they can divide tasks that would otherwise fall to one person. Research on intergenerational households shows that co-resident relatives can take on care that would otherwise fall to parents (Chen et al., 2011; Aguilar-Gomez et al., 2026). Sharing tasks can reduce the additional work per woman while leaving the total amount done by women unchanged. We therefore consider both unpaid work per adult woman and unpaid work across adult women in the household.

Hypothesis 2. The association between girls' educational activity and unpaid work per adult woman is stronger in households with one adult woman than in households with several adult women.

Household resources can also reduce the need for unpaid labor. Paid services can shift work outside the household (Ruijter et al., 2005), and hiring help may reduce women's usual workload (Cortés and Tessada, 2011). It may also weaken the link between girls' study time and adult women's unpaid work if households use those services to cover tasks girls would otherwise do.

When several adult women live together, they can share tasks that might otherwise fall to one woman (Cortés and Pan, 2013). Research on intergenerational households shows that co-resident relatives can take on care that would otherwise fall to parents (Chen et al., 2011). In Mexico, for example, grandmothers and sisters take on additional care after a birth (Aguilar-Gomez et al., 2026). When girls devote more time to education, we expect the additional work per adult woman to be smaller in households with several adult women. The total amount of work done by adult women can stay the same if they divide a fixed set of tasks, or increase if having more adults available allows the household to do more. We therefore examine both unpaid work per adult woman and the total across adult women.

Hypothesis 3. Greater access to household resources and domestic substitutes weakens the positive association between girls' educational activity and adult women's unpaid work.

2.3. Primary Data

The main analysis draws on seven national time-use survey waves collected between 2019 and 2025 in India, Colombia, Mexico, and Peru. Time-use surveys record which activities people perform and how long they spend on them, making it possible to measure unpaid work such as

cooking, cleaning, and caring for family members alongside schooling and paid work. Previous studies have used these surveys to track changes in how people allocate their time and to compare men's and women's unpaid work across countries (Aguiar and Hurst, 2007; Hook, 2006; Aguilar-Gomez et al., 2026). We use household rosters to link girls ages 13–18 to the adults they live with. This lets us compare girls' daily homework time with their own unpaid work and with the unpaid work of adult women and men in the same household.

Each survey setting has a history of cash transfers that support schooling. India's 2019 and 2024 Time Use Surveys cover West Bengal, where Kanyashree Prakalpa began in 2013 and offers scholarships to eligible unmarried girls who continue their education (National Statistics Office, 2020; National Statistics Office, 2025; Government of West Bengal, n.d.). Colombia's 2020–21 and 2024–25 Encuesta Nacional de Uso del Tiempo (ENUT) waves follow the introduction of Familias en Acción, which began operating in rural areas in 2002 and linked transfers to children's schooling and health requirements (Departamento Administrativo Nacional de Estadistica, 2022; Departamento Administrativo Nacional de Estadistica, 2026; Attanasio et al., 2010). Mexico's 2019 and 2024 ENUT waves come from the setting of the historical Progresa program, launched in 1997, which supported both boys and girls and offered larger grants to girls in secondary school (Instituto Nacional de Estadistica y Geografia, 2025; Instituto Nacional de Estadistica y Geografia, n.d.; Skoufias, 2005; Schultz, 2004). Peru's 2024 ENUT was conducted two decades after the 2005 introduction of Juntos, a program that ties transfers to children's school attendance and applicable maternal and child health visits (Instituto Nacional de Estadística e Informática, 2024; Ministerio de Desarrollo e Inclusión Social, 2024). These cash transfer programs provide the institutional context for the survey comparisons, which examine how girls' homework and adult unpaid work vary together across households. The surveys are done independently of the programs, so respondents are not aware that their time use is being evaluated in relation to a cash transfer program.

We also use randomized evaluations from the pilot phases of two conditional cash transfer programs in Nicaragua and Indonesia. Each government introduced the program in a limited set of areas and randomly selected which areas would receive it first. Eligible households were offered cash tied to schooling requirements for boys and girls and to health requirements.

In Nicaragua, 21 of 42 rural communities were randomly assigned to early access to Red de Protección Social. The evaluation surveyed households before the program began in 2000 and again in 2001 and 2002 (Maluccio and Flores, 2005). In Indonesia, 180 of 360 subdistricts were randomly assigned to early access to Program Keluarga Harapan. We use the 2007 baseline and the first follow-up in 2009 (Alatas, 2011; Cahyadi et al., 2020; Hanna et al., 2020). In each setting, we compare areas assigned to early access with areas assigned to the original comparison group, accounting for baseline outcomes. We examine whether early access increased girls' schooling and changed the share of adult women who reported housework as their main activity. Table 1A

Table 1A
Survey settings, samples, and research designs

Country	Data and period	Analysis sample	Program details
Panel A. National time-use surveys			
India	TUS, 2019 and 2024	38,313 household observations	Kanyashree Prakalpa (started in 2013) provides an annual scholarship and a grant at age 18 to eligible unmarried girls who continue their education.
Colombia	ENUT, 2020–21 and 2024–25	13,502 household observations	Familias en Acción (started in 2000) provided transfers to low-income households. Payments were tied to school attendance for boys and girls and preventive health visits for young children.
Mexico	ENUT, 2019 and 2024	7,930 household observations	Progresa/Oportunidades (started in 1997) provided transfers to low-income households tied to school attendance and preventive health care. School grants covered boys and girls, with larger grants for girls in secondary school.
Peru	ENUT, 2024	732 household observations	Juntos (started in 2005) provides transfers to low-income households. Payments are tied to school attendance for boys and girls and applicable maternal and child health visits.
Panel B. Randomized cash-transfer evaluations			
Nicaragua	RPS, baseline 2000. Follow-ups 2001 and 2002.	865/811 girls and 765/700 women	Red de Protección Social (started in 2000) provided transfers to low-income rural households. School payments required enrollment and attendance for eligible boys and girls ages 7–13. Health requirements also applied.
Indonesia	PKH, baseline 2007. Follow-up 2009.	5,468 girls and 5,708 women	Program Keluarga Harapan (started in 2007) provided transfers to very poor households. School payments required enrollment and attendance for boys and girls in primary or junior secondary school. Maternal and child health requirements also applied.

This table reports the samples, survey periods, and cash-transfer programs in the six settings. Panel A covers 60,477 household observations with girls ages 13–18 across 7 survey waves. Panel B gives the number of girls ages 7–13 and co-resident women ages 18–60 at baseline who contribute to each follow-up comparison. We use 3 survey waves in Nicaragua (baseline and 2 follow-ups) and 2 in Indonesia (baseline and the first follow-up).

summarizes the samples, survey periods, and program rules. Table 1B describes the households used in our main regression.

India. The time-use survey records classroom attendance separately from homework and tuition. This distinction lets us test whether the association with unpaid work extends from homework to a broader measure of learning time. The survey also records household expenditure, adult educational qualifications, caste, and religion, which we use to examine how the association varies across households (National Statistics Office, 2020; National Statistics Office, 2025).

Colombia. The time-use survey records time spent on homework, domestic work, and active care during the preceding day. It also records household assets and purchases of domestic services,

Table 1B
Descriptive statistics and correlations

	Mean	25th percentile	Median	75th percentile	SD
Panel A. India (33,454 household observations)					
Daily homework per girl (hours)	1.76	0.00	1.50	2.75	1.79
Unpaid minutes per adult woman	337.65	232.50	330.00	445.00	145.46
Unpaid minutes per adult man	34.51	0.00	0.00	60.00	60.39
Women-minus-men gap (minutes)	303.14	200.00	300.00	405.00	150.49
Daily household unpaid work (hours)	10.02	7.00	9.08	12.00	4.67
Panel B. Colombia (9,395 household observations)					
Daily homework per girl (hours)	1.42	0.00	1.00	2.00	1.84
Unpaid minutes per adult woman	294.70	160.00	260.00	390.00	196.50
Unpaid minutes per adult man	68.25	0.00	30.00	100.00	102.78
Women-minus-men gap (minutes)	226.45	100.00	210.00	335.00	218.03
Daily household unpaid work (hours)	9.67	5.77	8.50	12.33	5.55
Panel C. Mexico (6,183 household observations)					
Daily homework per girl (hours)	0.99	0.10	0.71	1.43	1.05
Unpaid minutes per adult woman	367.99	239.29	337.77	464.14	185.57
Unpaid minutes per adult man	118.70	43.57	90.34	158.57	110.61
Women-minus-men gap (minutes)	249.28	127.86	240.71	359.71	204.73
Daily household unpaid work (hours)	13.84	9.17	12.52	16.92	6.67
Panel D. Peru (533 household observations)					
Daily homework per girl (hours)	1.40	0.62	1.26	1.89	1.13
Unpaid minutes per adult woman	280.80	179.10	250.89	368.73	146.70
Unpaid minutes per adult man	71.99	21.43	45.42	100.71	75.00
Women-minus-men gap (minutes)	208.82	111.38	196.21	312.14	166.81
Daily household unpaid work (hours)	9.21	6.46	8.71	11.48	4.09
Panel E. Pooled (49,565 household observations)					
Daily homework per girl (hours)	1.40	0.00	1.00	2.00	1.53
Unpaid minutes per adult woman	321.97	200.07	300.00	422.86	172.75
Unpaid minutes per adult man	72.47	0.00	40.00	105.95	94.03
Women-minus-men gap (minutes)	249.51	134.13	240.00	360.00	189.35
Daily household unpaid work (hours)	10.71	7.00	9.50	13.25	5.64

Pooled survey-weighted correlations

	Homework hours	Gender gap	Household unpaid work
Daily homework per girl (hours)	1.000	0.101	-0.060
Women-minus-men gap (minutes)	0.101	1.000	0.294
Daily household unpaid work (hours)	-0.060	0.294	1.000

This table reports descriptive statistics and correlations for the households in Table 2. Each panel gives survey-weighted means, percentiles, and standard deviations (SD). Household counts are unweighted. All time measures are daily. Homework is averaged across girls ages 13–18, including zero hours. Adults are ages 19 and older. The gender gap subtracts unpaid minutes per adult man from unpaid minutes per adult woman. Household unpaid hours sum domestic work and active care among members ages 12 and older. Panel E also gives pooled survey-weighted Pearson correlations.

which we use to examine how the association varies with household resources and paid domestic help. We estimate the association separately for each wave to assess whether it is similar across the pandemic-era wave and the later wave, which added coverage in Amazonia and Orinoquia (Departamento Administrativo Nacional de Estadistica, 2022; Departamento Administrativo Nacional de Estadistica, 2026).

Mexico. The time-use survey records time spent on homework, domestic work, and active care during the preceding week. We divide weekly minutes by seven to obtain daily averages and use activities measured consistently across both waves. The survey also records household assets and purchases of domestic services, which we use to examine how the association varies with household resources and paid domestic help (Instituto Nacional de Estadistica y Geografia, 2025; Instituto Nacional de Estadistica y Geografia, n.d.).

Peru. The survey records time spent on activities in ten-minute intervals for a weekday, a Saturday, and a Sunday. We divide each interval equally among activities reported at the same time and calculate a daily average by weighting the three reference days five, one, and one. We require complete diaries for usual residents ages 12 and older. Separate codes for homework, classroom attendance, domestic work, and active care let us test whether the association depends on how we measure learning time and unpaid work (Instituto Nacional de Estadística e Informática, 2024).

Nicaragua. The cash-transfer program evaluation records current school enrollment and each person's main activity in the preceding week. We use the baseline household roster to identify girls ages 7–13 and women ages 18–60 who lived with a girl in that age range. We follow both groups across survey rounds using person identifiers and identify women who report housework as their main activity (International Food Policy Research Institute, 2005).

Indonesia. The cash-transfer program evaluation records current school attendance and each person's main activity. We classify girls as in school if they report current attendance or school as their main activity. We identify women whose main activity is unpaid household management. We use the same baseline age and household criteria and follow both groups from 2007 to 2009. The child questionnaire asks how many hours and minutes girls spent helping with household chores such as sweeping or mopping in the previous week (Hanna et al., 2020; Cahyadi et al., 2020).

We harmonize seven survey waves covering 60,477 household observations by expressing homework and unpaid work as daily averages. For girls ages 13–18, we measure mean daily hours of homework per girl, including girls who report zero hours. India records homework and tuition, Colombia records homework outside school on the preceding day, Mexico records schoolwork over the preceding week, and Peru records homework in weekday and weekend diaries. We divide Mexico's weekly totals by seven and assign weights of five, one, and one to Peru's weekday, Sat-

urday, and Sunday diaries, respectively. We define unpaid work as time spent on domestic services and active care, excluding passive supervision. We calculate average daily unpaid minutes per girl, adult woman, and adult man, defining adults as household members ages 19 and older. We also sum unpaid minutes across members of each group and calculate household totals for members ages 12 and older.

Our primary pooled regression combines all seven survey waves. We estimate

$$\underbrace{Y_{hc}}_{\text{Unpaid-work gap}} = \alpha_c + \beta_c \underbrace{H_{hc}}_{\text{Homework hours per girl}} + \underbrace{\boldsymbol{\xi}'_{hc}\boldsymbol{\gamma}_c}_{\text{Controls}} + \varepsilon_{hc}. \tag{1}$$

The dependent variable, Y_{hc}, is the difference between average daily unpaid minutes per adult woman and average daily unpaid minutes per adult man in the same household. The index h denotes households and c denotes countries. Adults are ages 19 and older. We estimate the regression for households with at least one adult woman and one adult man. Table 1B reports weighted descriptive statistics and correlations for this sample.

H_{hc} measures average daily homework hours per girl ages 13–18, including girls who report zero homework. The Country FE, α_c, allow the intercept to differ across countries. The homework coefficient, β_c, measures the difference in the gender gap in daily unpaid minutes associated with one additional hour of homework per girl in country c, holding total household unpaid work and the other controls fixed.

Following the cross-country time-use analysis of Pailhé et al. (2021), we account for household composition, age, education, and survey timing. The control vector, $\boldsymbol{\xi}_{hc}$, includes total daily household unpaid work in hours summed across members ages 12 and older, counts of household members by age and gender, girls' mean age centered at 15.5 and its square, adult educational qualifications, and a measure of household resources.

To control for household resources, we use the log of monthly expenditure per person recorded in the Indian time-use surveys. The Colombian, Mexican, and Peruvian time-use surveys measure asset ownership, which we use as an indicator to account for household resources in those countries. We normalize the survey weights to give each country one-quarter of the weight in the pooled survey data and each of its waves an equal share of its country weight. We report the four country-specific homework coefficients and their equal-country average.

2.4. Household composition, resources, and paid domestic help

We estimate separate country regressions to see whether girls' homework is more strongly associated with women's unpaid work in some households than in others. For each household char-

acteristic, we estimate

$$\underbrace{Y_{hc}^{w}}_{\text{Unpaid minutes}} = \alpha_c + \beta_c \underbrace{H_{hc}}_{\text{Homework}} + \boldsymbol{\delta}_c' \underbrace{\mathbf{M}_{hc}}_{\text{Group indicators}} + \boldsymbol{\theta}_c' \underbrace{(H_{hc}\mathbf{M}_{hc})}_{\text{Interaction}} + \underbrace{(\boldsymbol{\xi}_{hc}^{M})'\boldsymbol{\gamma}_c}_{\text{Controls}} + \varepsilon_{hc}. \tag{2}$$

The outcome Y_{hc}^{w} is daily unpaid minutes per adult woman. Homework H_{hc} is daily hours per girl. The group indicators $\mathbf{M}_{hc}$ distinguish households by one characteristic at a time. Each interaction coefficient in $\boldsymbol{\theta}_c$ gives the difference from the reference group in unpaid minutes per additional hour of homework. In the row marked *total*, the outcome sums unpaid minutes across all adult women in the household.

Following Ruijter et al. (2005), we also compare households with and without paid help. The two workload rows in Table 3 report the coefficient on paid help in models with a common homework slope ($\boldsymbol{\theta}_c = 0$). The Online Appendix describes the controls.

2.5. Broader learning and domestic tasks in the Indian diaries

In the case of India, the time diaries distinguish classroom attendance from homework and tuition and provide detailed activity codes for all household members ages six and older. This additional coverage lets us test whether the supplementary association for adult women extends from homework to broader learning, identify its domestic-service and care components, and compare geographical and social groups, including West Bengal. These extensions assess the substantive reach of the pooled result across educational measures and household allocations. For the state comparisons, we regress each unpaid-work outcome on daily learning hours per girl, using state-by-year fixed effects and household and diary controls. We estimate these regressions for all of India, for West Bengal, for the five states bordering West Bengal, and for India excluding those five states and West Bengal. IHDS I and II place adolescent educational time in the period before Kanyashree (Desai et al., 2018; Desai and Vanneman, 2018), while administrative snapshots describe the program's implementation.

2.6. Randomized program estimation in Nicaragua

The RPS schooling outcome is current-year enrollment among girls ages 7–13 at baseline. The focal adult outcome equals one when a woman ages 18–60 at baseline who lived with a girl in that age range reports "housewife" as her main activity in the preceding week. This measures domestic specialization as a main activity, whereas the time-use surveys measure minutes. Additional outcomes measure economic participation and weekly hours among focal women and main-housework status among all baseline adult women. Household composition and subgroup membership are defined at baseline. The focal schooling samples contain 865 and 811 girls in 2001 and 2002, and the corresponding adult samples contain 765 and 700 women.

Following Gitter and Barham (2008) and Alzúa et al. (2013), we use the original randomized assignment to compare program and comparison groups. For each pilot, outcome, and follow-up, we estimate

$$\underbrace{Y_{it}}_{\text{Follow-up outcome}} = \alpha_t + \tau_t \underbrace{Z_{c(i)}}_{\text{Early assignment}} + \rho_t \underbrace{Y_{i0}}_{\text{Baseline outcome}} + \underbrace{\lambda_{s(i),t}}_{\text{Block FE}} + \underbrace{\boldsymbol{\xi}_{i0}'\boldsymbol{\gamma}_t}_{\text{Baseline controls}} + \varepsilon_{it}. \tag{4}$$

The dependent variable Y_{it} is the outcome for individual i at follow-up t, and Y_{i0} is the same outcome at baseline. The indicator $Z_{c(i)}$ equals one when individual i's baseline community or subdistrict was assigned early access. The terms $\lambda_{s(i),t}$ allow outcomes to differ across assignment blocks, and $\boldsymbol{\xi}_{i0}$ contains baseline covariates in specifications that include them. For difference-in-differences, we set $\rho_t = 1$, so the outcome on the left becomes $Y_{it} - Y_{i0}$. For ANCOVA, we estimate ρ_t. The coefficient τ_t measures the effect of assigned early access. We multiply it by 100 for binary outcomes to report effects in percentage points.

In Nicaragua, we use the 2000 baseline and estimate effects for the 2001 and 2002 follow-ups separately. The ANCOVA adjusts for the baseline outcome. The weighted DiD uses the survey's baseline sampling weights. All specifications account for the seven randomization strata and cluster standard errors across 42 comarcas.

2.7. Randomized program estimation in Indonesia

PKH provides a second evaluation of the same pair of household outcomes. Schooling equals one when a girl reports school as her main activity or otherwise reports that she is currently in school. Adult domestic specialization equals one when unpaid household management is a woman's main activity. We follow the approach of Cahyadi et al. (2020) in accounting for district assignment blocks, clustering by subdistrict and examining baseline household covariates. We extend their evaluation by linking schooling and domestic specialization in a fixed cohort of girls and co-resident adult women defined before assignment.

We use the 2007 baseline and 2009 follow-up to compare short-run responses across the two pilots. After comparing alternative sets of baseline controls, we report the baseline-adjusted estimates from Equation 4 for current schooling, girls' weekly chore minutes, and women's main housework status. We also use the same equation to estimate DiD on the same sample for each outcome. Both the ANCOVA and the DiD with baseline controls adjust for individual age, log household size, log expenditure per person, household-head education and work sector, and housing and amenities. All specifications account for the 44 province-by-district assignment blocks and cluster standard errors across the 360 randomized subdistricts.

For the chore-time analysis, we link the child questionnaire to the household roster in both waves and check the child's sex and roster number. We code reports of no chores in the preceding

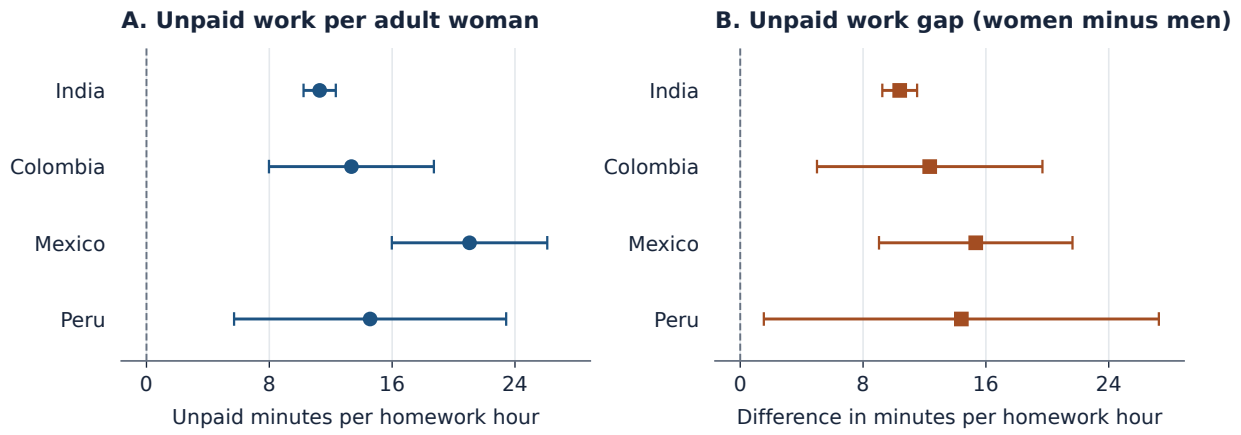

Figure 1. Baseline homework associations for adult women and the gender gap

This figure shows the baseline associations of girls' homework with adult unpaid work in the four survey countries. Panel A plots the homework slope for daily unpaid minutes per adult woman in households with an adult woman. Panel B plots the slope for the women-minus-men gap in households with both groups. Both panels allow total household unpaid work to vary across households. Estimates are per additional daily hour of homework per girl. Bars show 95% confidence intervals.

week as zero minutes. The sample includes 5,402 girls with usable chore minutes at baseline and follow-up. Following the original evaluation's coding, we exclude reports above 70 hours per week (Hanna et al., 2020).

3. Results

3.1. Girls' homework and the gender gap in adults' unpaid work

We first ask whether the gender gap in unpaid work is wider where girls spend more time on homework, holding total household unpaid work fixed. Across 49,565 households with both an adult woman and an adult man, one additional hour of daily homework per girl is associated with an 11.67-minute wider gap in daily unpaid work (95% CI $[7.90, 15.45]$), giving each country equal weight. Each country estimate is positive. This pattern supports Hypothesis 1. We show the results for each country and the pooled regression in Table 2.

Figure 1 shows how adult unpaid work varies with girls' homework. Panel A shows that adult women spend more time on unpaid work in households where girls spend more time on homework. Panel B shows that, among households with both adult women and men, the gap in unpaid minutes between them is wider where girls spend more time on homework. Both patterns appear in all four countries.

Table 2
Girls' homework and the within-household gender gap in unpaid work

	India	Colombia	Mexico	Peru	Pooled
Daily homework hours per girl ages 13–18	13.28***	10.30***	8.25**	14.86*	11.67***
	(0.53)	(3.11)	(3.03)	(6.33)	(1.92)
Total daily household unpaid work (hours)	13.65***	16.02***	10.16***	21.01***	15.21***
	(0.32)	(1.43)	(0.85)	(2.02)	(0.66)
Number of girls aged 13–18 in household	-27.11***	-12.55	-19.96**	-5.92	-16.39**
	(2.13)	(8.12)	(7.30)	(19.34)	(5.58)
Number of boys aged 13–18 in household	2.65	-9.48	-6.65	-13.81	-6.82
	(1.59)	(9.46)	(6.78)	(14.37)	(4.64)
Number of children aged 6–12 in household	7.27***	20.28***	16.61***	11.08	13.81***
	(1.41)	(5.97)	(4.39)	(8.13)	(2.77)
Number of children under age 6 in household	11.78***	12.68	32.17***	17.53	18.54***
	(1.53)	(7.65)	(7.09)	(11.77)	(3.95)
Number of adult women in household	-104.82***	-86.03***	-95.20***	-107.35***	-98.35***
	(1.69)	(5.93)	(5.45)	(12.97)	(3.84)
Number of adult men in household	6.73***	8.01	3.14	-21.65	-0.94
	(1.40)	(7.78)	(5.19)	(15.33)	(4.50)
Number of adults aged 60 and older in household	-20.74***	-6.82	-9.82	-38.46**	-18.96***
	(1.59)	(4.94)	(5.34)	(13.34)	(3.82)
Girls' mean age	-10.59***	-5.24	-7.39***	0.84	-5.59***
	(0.53)	(2.74)	(1.84)	(4.59)	(1.42)
Girls' mean age squared	-0.38	1.06	0.00	2.09	0.69
	(0.34)	(1.78)	(1.29)	(3.01)	(0.94)
Household wealth control	3.86**	-6.73	-5.14	1.61	—
	(1.48)	(4.17)	(3.82)	(8.11)	
Adult secondary qualification	11.65***	-7.58	-0.91	-2.45	0.18
	(1.96)	(10.87)	(10.54)	(14.37)	(5.24)
Household observations	33,454	9,395	6,183	533	49,565
Country FE	N/A	N/A	N/A	N/A	Yes
Region-by-wave FE and survey timing controls	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.321	0.251	0.197	0.296	0.293

This table reports the association between girls' homework and the unpaid-work gap among co-resident adults. The dependent variable is average daily unpaid minutes per adult woman minus average daily unpaid minutes per adult man. Adults are ages 19 and older. Homework is averaged across girls ages 13–18, including zero hours. The regression holds fixed the total daily unpaid work of household members ages 12 and older. For the age controls, we subtract 15.5 from the mean age of girls aged 13–18 in the household. The household wealth control is the base-2 log of monthly expenditure per household member in India. In Colombia, Mexico, and Peru, it counts how many of three assets the household owns (washing machine, refrigerator, and car). Adult secondary qualification equals one if at least one household member aged 19 or older meets the secondary-education threshold for that survey, and zero otherwise. The pooled column averages comparable country coefficients with equal weights. Standard errors are in parentheses. Stars mark two-sided tests. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

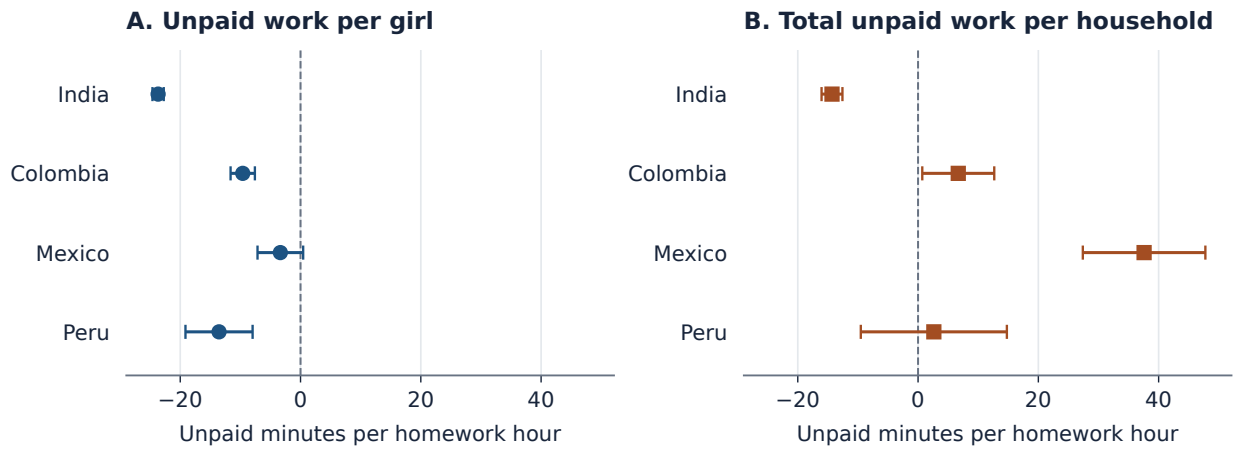

Figure 2. Girls' own unpaid work and total household unpaid work

This figure shows how girls' homework is associated with their own unpaid work and with the household total. Panel A plots the homework slope for daily unpaid minutes per girl. Panel B plots the slope for total daily unpaid minutes among household members ages 12 and older. Estimates are per additional daily hour of homework per girl. Bars show 95% confidence intervals.

3.2. Girls' unpaid work and the household total

The main regression asks whether the gap between adult women and men is wider where girls spend more time on homework. To see how that comparison fits into the household time budget, we also examine girls' own unpaid work and the sum of unpaid work across members. This follows the approach of Aguilar-Gomez et al. (2026), who compare the time of different household members alongside total work. Figure 2 shows that girls' unpaid minutes are lower where they spend more time on homework in three settings, with an imprecise estimate in Mexico. The household-total slopes vary in direction. In Peru, for example, a positive association for women and a negative association for girls accompany a household-total slope close to zero. The household total alone can therefore conceal substantial differences across members. This is also addressed in Table 2, where we control for total household unpaid work.

3.3. How household composition shapes women's workload

Having compared the gender gap and the household total, we next ask whether the unpaid work associated with girls' homework is more concentrated where only one adult woman is present. We compare homework slopes in homes with one versus several adult women, holding the observed household characteristics constant. Panel A of Table 3 shows a weaker association per woman in households with several adult women in India and Colombia.

A smaller association per woman could reflect the same workload spread across more women. We therefore examine the sum of adult women's unpaid minutes. In the two settings with clear per-

woman differences, the association with the total across women is also smaller. This pattern points to differences in how much unpaid work adult women do collectively as well as how that work is distributed among them. Table 3 reports the estimates from Equation 2. Section 2.4 explains how the outcome varies across rows.

3.4. Household resources and paid domestic help

Household composition captures who is available to share domestic tasks. Resources may give households other ways to cover those tasks. In the national Indian surveys, higher household expenditure, adult qualifications and labor-saving aids accompany weaker homework associations. The strongest evidence for resource differences is in this setting, where the survey measures these household characteristics in detail.

Panel C of Table 3 shows that women in households with paid help report 64 to 111 fewer unpaid minutes per day across the three settings, holding homework and other household characteristics fixed.

3.5. Supplementary analysis of learning time and domestic tasks in India

The pooled comparisons focus on homework, which the four national surveys can measure on a common scale. India's diaries also distinguish classroom time, homework and tuition. This supplementary analysis asks whether the association extends to broader learning time and whether it is concentrated in West Bengal, where Kanyashree operates. Using the state comparisons described in Section 2.5, we find that an additional hour of broader learning per girl is associated with 6.75 more daily unpaid minutes per adult woman nationwide, with little association for adult men (Table 4). The association for adult women appears in West Bengal and elsewhere in India.

The more detailed West Bengal estimates show that domestic services, including housework, account for the positive association among adult women, with little association for care. Girls' own unpaid work and total household unpaid work are lower where girls spend more time learning. This comparison extends the household accounting to a wider measure of education and helps identify the work that underlies the adult-woman result.

4. DiD Evidence from Randomized Cash-Transfer Pilots

While the time-use surveys provide associative evidence, we cannot causally infer the effects of girls' study time on adult women's unpaid work from these data. To address this issue, we use two randomized cash-transfer pilots that provide early access to programs with schooling and health requirements. These cash transfer pilots were trialed in Nicaragua and Indonesia, where communities and subdistricts, respectively, were randomly assigned to receive the programs first. We compare outcomes for girls and adult women in areas assigned early access with outcomes

Table 3
Household composition, resources, and purchased services

	(1) India	(2) Colombia	(3) Mexico
Panel A. Household composition			
Homework × several adult women	-12.97***	-14.16***	-5.36
	(0.81)	(3.92)	(4.61)
Homework × several adult women (total)	-7.95***	-13.21**	10.30
	(1.38)	(5.02)	(9.56)
Homework × child under six	0.33	-4.91	28.52***
	(1.30)	(4.85)	(7.71)
Panel B. Resources and substitutes			
Homework × high resources	-4.44***	-8.93	-2.43
	(1.17)	(4.70)	(7.15)
Homework × adult qualification	-7.70***	-0.94	3.57
	(0.96)	(5.52)	(8.60)
Homework × labor aid	-7.16***	-3.60	1.33
	(1.37)	(4.76)	(5.85)
Panel C. Paid domestic help			
Paid help (unpaid work)	-64.12***	-110.80***	-72.03***
	(7.40)	(14.68)	(15.13)
Paid help (domestic services)	-69.80***	-107.11***	-66.38***
	(7.00)	(12.15)	(12.53)
Household observations	36,682	12,666	6,067
Household observations with paid help	596	287	186
Region × wave FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

This table reports differences in unpaid work and its association with girls' homework across household groups. The dependent variable is daily unpaid minutes per adult woman, with totals across adult women in the row marked *total* and domestic-service minutes per woman in the row marked *domestic services*. Each homework interaction compares how unpaid minutes vary with one more daily hour of homework per girl. The first two rows of Panel A compare households with two or more adult women with households with one, using minutes per woman and total minutes, respectively. The third row compares households with a child under six with those without one. Panel B compares households with high and low resources, households with and without a qualifying adult, and households with and without a labor aid. The two rows of Panel C compare daily workloads in households with and without paid help, holding homework and controls fixed. The observation counts refer to Panel C. Peru's survey lacks a comparable measure of paid domestic help. Stars mark unadjusted two-sided tests. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 4
Girls' learning time and household unpaid work across Indian states

	(1)	(2)	(3)	(4)
	All India	West Bengal	Five bordering states	All India minus 5 bordering states and West Bengal
Adult women, per woman	6.75***	7.87***	7.50***	6.52***
	(0.25)	(1.04)	(0.59)	(0.29)
Adult men, per man	0.02	0.05	0.67	-0.11
	(0.12)	(0.47)	(0.36)	(0.13)
Adolescent girls, per girl	-17.83***	-18.79***	-22.99***	-16.51***
	(0.22)	(0.81)	(0.53)	(0.24)
Household total	-13.45***	-10.88***	-16.49***	-12.85***
	(0.46)	(2.36)	(1.04)	(0.51)
Household observations	38,313	2,596	6,697	29,020
State × year FE	Yes	Yes	Yes	Yes
Household and diary controls	Yes	Yes	Yes	Yes
Adjusted R^2 (adult women)	0.274	0.245	0.293	0.253

This table reports how unpaid work varies with learning time across Indian states. The outcomes are daily unpaid minutes per adult woman, per adult man, per girl, and for the household. Estimates are per additional daily learning hour per girl. All India covers the 36 state and union territory codes in each wave. The five states bordering West Bengal are Assam, Bihar, Jharkhand, Odisha, and Sikkim. Column (4) excludes the five bordering states and West Bengal. Household observations give the sample for the household-total outcome, which covers members ages six and older. Stars mark two-sided tests. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

for their counterparts in comparison areas. Both panels of Table 5 use Equation 4. Panel A compares baseline-adjusted estimates from both pilots, and Panel B compares difference-in-differences estimates.

4.1. Nicaragua's Red de Protección Social

Assigned access raised girls' enrollment by 18.79 percentage points after one year and 17.54 points after two years, consistent with earlier findings on RPS (Gitter and Barham, 2008; Dammert, 2009). The share of co-resident adult women reporting housework as their main activity increased by 9.81 points in the first follow-up. Panel B of Table 5 reports these first-difference estimates.

With adjustment for the baseline outcome, the first-year estimates are 14.09 percentage points for girls' enrollment and 8.85 points for women's main housework status (Panel A). Panel B also reports estimates using Nicaragua's baseline sampling weights. The direction of the first-year adult response is consistent across these estimators, and its Holm-adjusted randomization p value is .0818. Estimates within households where both outcomes can be observed also point in the same direction. Nicaragua therefore provides the clearest policy evidence that enrollment gains and greater domestic specialization can occur under the same program.

4.2. Indonesia's Program Keluarga Harapan

Panel A of Table 5 reports the 2009 baseline-adjusted estimates from Equation 4. Early access increased girls' schooling by 1.43 percentage points in the baseline-adjusted model ($p = .043$). The first-difference estimates in Panel B are 1.08 points ($p = .212$) and 1.15 points with baseline controls ($p = .172$). Girls assigned early access also spent 28.37 fewer minutes per week helping with chores in the baseline-adjusted model ($p = .0097$). The first-difference estimates are similar at 28.17 and 29.40 fewer minutes with assignment blocks alone and with baseline controls, respectively. Weekly chore minutes directly capture girls' unpaid work, including chores they do alongside school.

For adults, the two pilots record each person's main activity in the previous week. We focus on women's main housework status to measure adult domestic specialization. Among 4,284 men with complete matched records in Indonesian households, only 20 reported housework as their main activity in 2009. The rarity of that response makes it difficult to detect changes in men's domestic work using the main-activity question. The estimate for women's main housework status in Indonesia is 0.57 percentage points under ANCOVA and 1.02 points under first differences.

About 93 percent of girls in the Indonesian comparison group were already in school at baseline in the first-follow-up sample, compared with 81 percent in Nicaragua. That difference leaves less room for an enrollment increase in the Indonesian cohort. Cahyadi et al. (2020) examine different age groups and estimate effects of receipt using assignment as an instrument. Our estimates describe the response to assigned access among the girls and women who lived together at baseline. The

Table 5
Schooling and household work in randomized cash-transfer pilots

Panel A. Baseline-adjusted estimates (ANCOVA)

	Nicaragua		Indonesia
	2001	2002	2009
Girls' schooling	14.09***	12.47***	1.43*
	(2.53)	(2.08)	(0.71)
Girls' weekly chore minutes	—	—	-28.37**
			(10.91)
Women's main housework status	8.85**	5.44	0.57
	(2.94)	(4.21)	(1.36)
Individual observations (schooling)	865	811	5,468
Individual observations (chores)	—	—	5,402
Individual observations (women)	765	700	5,708
Adjusted R^2 (women)	0.130	0.128	0.127
Randomization-block FE	Yes	Yes	Yes

Panel B. Difference-in-differences estimates

	Nicaragua		Indonesia	
	DiD	Baseline-weighted DiD	DiD	DiD with baseline controls
Girls' schooling				
First follow-up	18.79***	22.53***	1.08	1.15
	(4.60)	(4.99)	(0.86)	(0.84)
Second follow-up	17.54**	16.24**	—	—
	(5.23)	(5.00)		
Women's main housework status				
First follow-up	9.81*	9.91*	1.02	1.05
	(4.16)	(3.96)	(1.68)	(1.69)
Second follow-up	6.95	6.75	—	—
	(4.96)	(5.84)		
Girls' weekly chore minutes				
First follow-up	—	—	-28.17*	-29.40*
			(12.74)	(12.64)
Adjusted R^2 (women)	0.014	0.022	0.030	0.033
Randomization-block FE	Yes	Yes	Yes	Yes
Baseline sampling weights	No	Yes	No	No

This table reports the effects of early program assignment. The dependent variables are girls' schooling and women's main housework status (binary, with effects in percentage points) and girls' chore time (minutes per week). Panel A adjusts for the baseline outcome in both countries and includes baseline covariates in Indonesia. Panel B compares changes from baseline at the follow-ups listed in Panel A. The last column uses the same baseline covariates as Indonesia's ANCOVA. Both panels use the sample sizes shown in Panel A. Panel B reports adjusted R^2 for the first follow-up. Stars mark unadjusted two-sided tests. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

evidence is weaker in Indonesia, and the estimates point in the expected direction. In the ANCOVA, early access increased girls' schooling and reduced their weekly chore time. The small positive estimate for women's main housework status is consistent with some unpaid work shifting to adult women.

5. Conclusion

Conditional cash transfers are an important policy tool for improving children's schooling and advancing gender equality in developing economies. By reducing the cost of attending school, they can help girls stay enrolled where domestic responsibilities limit their schooling (Schultz, 2004; Attanasio et al., 2010). Our study asks what happens to unpaid work at home when girls spend more time studying. Across four countries, girls' homework is associated with a wider unpaid-work gap between adult women and men in the same household, even at a given amount of total household unpaid work. Girls generally do less unpaid work where they spend more time on homework. The randomized pilot in Nicaragua shows that early access to a cash transfer program can raise girls' enrollment while increasing the share of adult women reporting housework as their main activity in the first year. In Indonesia, early access modestly increased girls' schooling in the baseline-adjusted model and reduced girls' weekly chore time. The evidence for a change in women's main housework status is weaker.

The association between girls' study time and adult women's unpaid work varies with who lives in the household. In India and Colombia, the association between girls' homework and unpaid work per adult woman is weaker when several adult women live together. Households that hire domestic help also report lower unpaid workloads per woman. These findings show why policy evaluations should consider who gets to stay in school and who does the unpaid work at home. Evaluations of cash transfers can assess progress on both by measuring girls' schooling alongside the time spent on housework and care by the other people they live with.

Data Availability

Public-use survey and evaluation data are available from the providers and repositories identified in the references. These include India's National Statistics Office, ICPSR, Colombia's DANE, Mexico's INEGI, Peru's INEI, IFPRI's RPS archive on Harvard Dataverse, and the PKH replication archive on openICPSR. Access follows each provider's registration and data-use requirements. The Online Appendix describes variable construction and estimation details. The accompanying activity crosswalks document survey fields for Colombia, Mexico, and Peru. Replication code is available on request.

CRediT authorship contribution statement

Shou-Ming Chang: Conceptualization, Methodology, Writing – original draft. **Hunter Ng:** Investigation, Formal analysis, Writing – original draft.

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