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Participation in Women's Household Work

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Experimental Effects of Updating Husbands' Beliefs on Participation in Women's Household Work*

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Abstract

Women perform more household tasks than men. This pattern is especially pronounced in developing countries, in large part due to strong social norms. These norms about what tasks are acceptable for a man to participate may not align with personal attitudes, resulting in men not doing tasks they would personally accept doing out of misplaced fear their peers may find it socially unacceptable. In this paper we implement an intervention to correct men's misperceptions about social norms regarding housework. We find that men do underestimate their peers' acceptance of participating in firewood collection and childcare, but not laundry. The information intervention increases men's participation in firewood collection, especially among those who underestimated their peers' acceptance of this task prior to the intervention.

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1 Introduction

Women do much more household work and childcare activities than men (Matulevich & Viollaz, 2019), especially in developing countries (Jayachandran & Pande, 2015; Duflo, 2012). This results in excessive time burden and dis-empowerment for women (Jayachandran, 2021), as well as economic inefficiency from the mis-allocation of human resources (Hsieh et al., 2019). In developing countries the time burden is especially strong because there are few opportunities to use technology or markets to complete household tasks (Dinkelman & Ngai, 2021; Jayachandran, 2021).

While norms that limit women’s role in society date back centuries (Alesina et al., 2013; Hansen et al., 2015) and are passed on from generation to generation (Dhar et al., 2019), they are mutable. Family composition (Washington, 2008; Healy & Malhotra, 2013; Oswald & Powdthavee, 2010); teachers (Carlana, 2019); exposure to working women in the family, workplace, or media (Jensen & Oster, 2009; Ferrara et al., 2012; Fernández et al., 2004; Dahl et al., 2021); and technological and medical innovation (Greenwood et al., 2005; Albanesi & Olivetti, 2016; Doepke et al., 2016) have all brought upon changes in gender norms over time. In some cases, private attitudes about the role of women are more progressive than societal norms would suggest. In Saudi Arabia, Bursztyn et al. (2020) finds that men are generally supportive of their wives working outside the home, but believe their peers are not. They test an intervention that corrects these mis-perceptions, and find that when men are informed of what their peers actually privately believe, they become more likely to allow their wives to enter the labor force.

In this study we use an intervention similar to Bursztyn et al. (2020) to change gender norms among rural, Ethiopian men about doing chores generally thought of as women’s work: gathering firewood, washing clothes, and childcare. Our experiment is designed to answer the following questions. Do men correctly perceive the gender attitudes of their peers? If not, can correcting this mis-perception lead them to increase their participation in household labor? We find...

Our paper contributes to the literature on interventions that specifically target gender norms and behavior related to gender norms. Pulerwitz et al. (2015) find that community and small group education sessions held over six and four months, respectively, led to more progressive gender norms and less reported inter-partner violence among young, married Ethiopian men. Mckelway et al. (2019) find that showing family members videos about an employment opportunity decreased

opposition to women working outside the home in India, whereas Dean & Jayachandran (2019) find that having conversations with family members about women working outside the home had no effect. Field et al. (2021) find that giving women access to savings accounts increased their labor supply and changed gender norms regarding women working outside the home. Especially relevant to this paper is the work of Dhar et al. (2018), who find that classroom discussions with adolescent boys and girls in India over the course of two years caused lasting progressive changes in gender attitudes among both boys and girls. The intervention also changed boys’ *perceptions* of other boys’ gender norms and increased their likelihood of doing household chores and encouraging their sisters to pursue college.

There is an expansive literature on using information on others’ *actions* to encourage behavior change. This includes information on peers’ voting participation (Gerber & Rogers, 2009), water and energy use (Allcott, 2011; Ferraro & Price, 2013; Brent et al., 2015; Byrne et al., 2018), saving (Beshears et al., 2015), and charitable giving (Frey & Meier (2004)). This paper contributes to a related and more recent literature that examines the impacts of providing information on others’ *perceptions* of what is socially acceptable or desirable behavior. D’Adda et al. (2020) finds that Italian students participating in a dictator game are very responsive to what others believe to be “socially acceptable” gift. Delfino (2021) attempts to alter perceptions about the share of men working in social work in the United Kingdom to encourage them to apply for positions in this field.¹ She found that showing potential applicants a photo of a male social worker increased perceptions of how prevalent male social workers are, but did not lead to an increase in male applicants. Allen et al. (2021) provides information about public preferences for high rates of social distancing in Mozambique during the COVID-19 pandemic. They find that this information decreases social distancing where cases are low and increases it where cases are high.

In many of the cases above, information is intended to make people behave in a way they personally do not want to, either through causing shame or a desirability to conform. For instance, someone may personally prefer to set their air conditioning very high, but decide to turn it down once learning that their neighbors use less electricity. While an individual using lots of electricity may be environmentally damaging, it is not necessarily Pareto inefficient. In other cases,

¹Delfino (2021) proposes that underestimating the number of men in the profession could deter men from applying because they fear social stigma, or because they may not enjoy working in an environment with so many women.

information can allow people to behave in a way personally want to, but do not think is socially acceptable. The collective mis-perception of social norms that leads people to act on incorrect perceptions rather than their own attitudes has been termed the “illusion of universality” (Allport, 1924), or “pluralistic ignorance” (Katz et al., 1931). The intervention created by Bursztyn et al. (2020) takes on pluralistic ignorance directly by gathering and distributing information about private attitudes in an effort to change behavior rooted in mis-perceived gender norms. The Saudi men in this study personally think that their wives should be able to work outside the home. Yet because they wrongly believe that other men do not agree with working outside the home, they do not allow their wives to do so. This results in a Pareto improvement; the Saudi women are happier being able to work outside the home (as evidenced by their decision to do so) and the Saudi men are at least as happy, if not happier, from having their wives work outside the home. The job seekers in Delfino (2021) may want to become social workers, but not do so because they wrongly believe others will not find this career socially acceptable for a man. The respondents in Allen et al. (2021) may want to engage in social distancing to avoid catching or spreading COVID-19, but not do so because they think others believe it is unnecessary (or the opposite).

This paper is rather unique among interventions intended to change men’s gender attitudes because it focuses on them taking action (doing household labor) rather than granting permission to their wives or other women in their lives. It is unclear how targeting men’s attitudes about their own actions, as opposed to about what women should be permitted to do, will affect women. Information that change’s men’s attitudes about what women can do could have a strong impact if women are eager to act, and are only being held back by their husbands’ regressive attitudes. For instance, many of the Saudi women in Bursztyn et al. (2020) were eager to look for a job and took action as soon as their husbands received information about social norms. However, in these cases the information and behavior change are de-coupled in that one person receives the information and the other changes their behavior. An intervention that targets men’s attitudes about their own actions may induce a stronger response because the action is taken by the same person who receives the information.

The rest of the paper proceeds as follows. In Section 2 we describe our study setting and sample. In Section 3 we describe our experimental intervention. In Section 4 we briefly describe our data. In Section 5 we present our empirical model. In Section 6 we present our results.

2 Study setting and sample

Our study takes place in rural Amhara, Ethiopia. The area is highly patriarchal, with deeply entrenched beliefs about gender roles. Study participants are from very poor households who benefit from Ethiopia’s Productive Safety Net Program (PSNP) as well as a graduation program implemented by either World Vision or CARE International. Like other graduation programs, they multifaceted support to chronically poor households, equipping them to “graduate” from extreme poverty and, eventually, government safety net programs. Both programs include gender training for both men and women, aimed at empowering women in their households and community.

The programs operate through village savings groups called VESAs, of which we randomly sampled 60 for our study. All participating married couples from these 60 VESAs are included in our study, resulting in a sample size of approximately 900 couples. Men and women in the study area were accustomed to attend VESA meetings on a variety of subjects, and the experiment was conducted as one of these meetings resulting in a high participation rate.

3 Intervention

Our experimental design follows [Bursztyn et al. \(2018\)](#), but instead of correcting mis-perceptions about peers’ acceptance of women working outside the home, we aim to correct mis-perceptions about the acceptability of men performing household work typically done by women.

In a group gathering with male VESA members, members privately record whether they believe it is acceptable for a man to perform the following tasks: collecting firewood, caring for children, and washing clothes. We alternate these questions with questions about other topics: whether eating eggs helps children in school, whether going to school will make children’s future better, and whether eating orange vegetables will make children’s future better.² Respondents secretly indicate whether or not they agree with a statement by placing a black or white chip in a bag. Respondents are also asked how many of the other men in the room they believe answered in the affirmative to the above six questions. They do this by circling the number of men in the group on a piece of paper that they believe answered each question affirmatively. Thus, for each respondent we record

²We do this to take the focus off of men doing typically female tasks in order to reduce social desirability bias in later responses.

their personal private belief and their perception of the strength of social norms.

After these responses are recorded, men will be split into a treatment and control group. In the treatment group, we reveal the group’s perceptions about the acceptability of men doing the three aforementioned tasks. In other words, the men in the treatment group receive information that either confirms or corrects their perception of their peers’ acceptance. We conclude the exercise by surveying treatment group participants on their intention to participate in tasks traditionally allocated to women (again, privately). In the control group, enumerators ask unrelated questions about the community to occupy them until the treatment group has been dismissed to return home. During the week following the intervention, we capture respondent’s participation in household tasks through interviews with their wives, either in-person or over the phone.

4 Data

Table 1 contains descriptive statistics on our sample, their participation in women’s household work, their stated acceptance of this work, and their perception of others’ acceptance. The men in our study are approximately 43 years old on average, considered themselves to be religiously observant,³ attended 1.1 VESA meetings in the past week on average, and saved an average of 19 Br at those meetings. Notably, at baseline participation in typically female tasks was very low. Less than one-quarter of one percent of respondents had collected firewood in the week preceding the baseline survey, only 12 percent had cared for a child, and essentially none had done laundry.

Despite not doing these tasks, men reported being very acceptable of men doing these tasks. Approximately 91% of men were accepting of men collecting firewood, 95% of men were accepting of men caring for children, and 89% were accepting of men doing laundry. On average men’s perceptions of others’ acceptance of these chores were slightly lower. They believed that 80% of their peers said that collecting firewood was acceptable, 87% stated that caring for children was acceptable, and 85% stated that doing laundry was acceptable. We calculate means separately for the treatment and control group, using a t-test to test for balance. Treatment was very balanced across all of these variables, with a maximum p-value of 0.155.

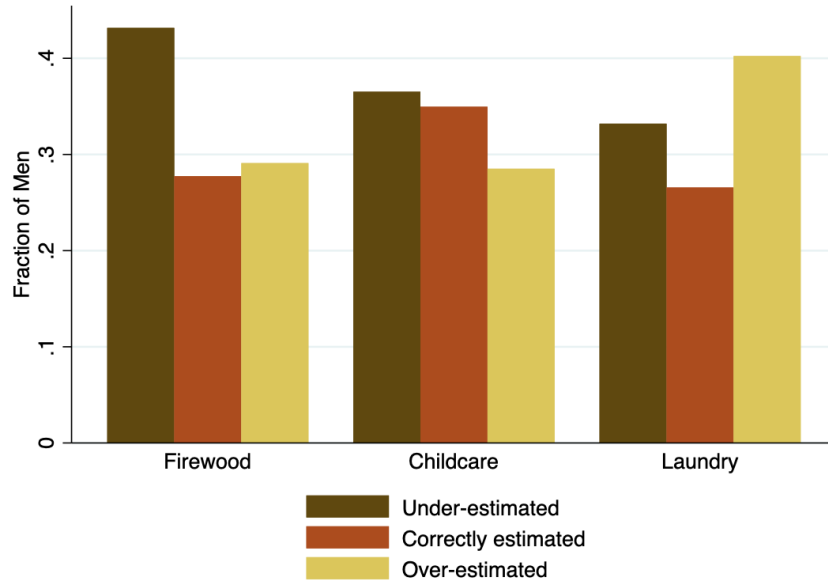
Men’s perceptions of others’ acceptance were generally quite accurate. For each task, at least

³Respondents were asked to rate their attendance at religious ceremonies, with 1 being highest attendance and 5 being the lowest).

Table 1: Descriptive statistics and balance

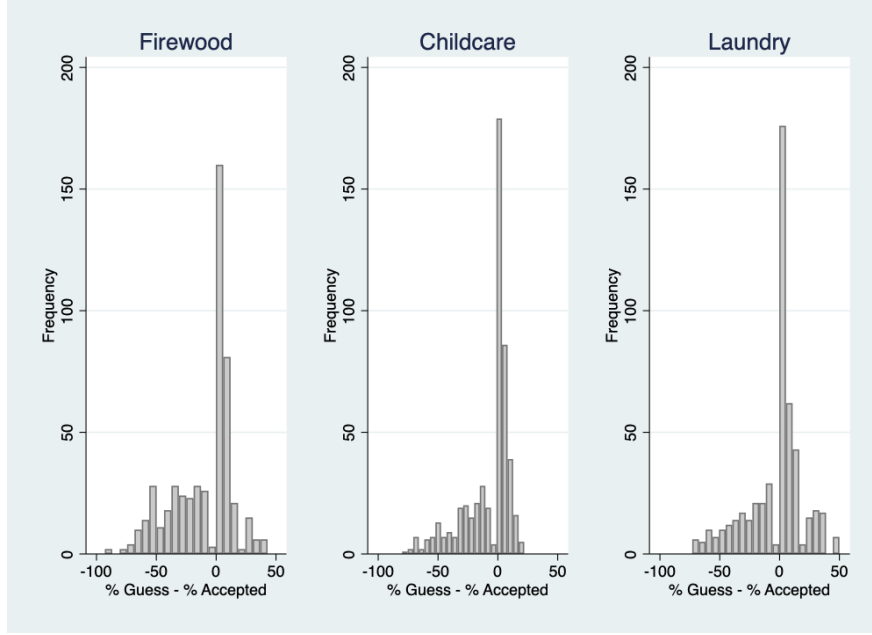
	Control	Treatment	p-value
Age	42.837 (11.832)	43.780 (12.404)	0.389
Religiosity	1.801 (0.759)	1.711 (0.757)	0.191
VESA saving last week (Br)	18.736 (10.609)	19.089 (8.741)	0.687
VESA meetings attended	1.130 (0.423)	1.138 (0.401)	0.827
Collected firewood	0.024 (0.155)	0.008 (0.090)	0.155
Cared for child	0.118 (0.323)	0.122 (0.328)	0.890
Washed clothing	0.004 (0.064)	0.000 (0.000)	0.318
Personally accept (firewood)	0.919 (0.274)	0.907 (0.292)	0.633
Personally accept (child care)	0.943 (0.232)	0.963 (0.188)	0.287
Personally accept (laundry)	0.886 (0.318)	0.886 (0.318)	1.000
Perceived acceptance (firewood)	0.810 (0.251)	0.796 (0.250)	0.546
Perceived acceptance (child care)	0.861 (0.205)	0.877 (0.195)	0.369
Perceived acceptance (laundry)	0.841 (0.229)	0.857 (0.213)	0.439
<i>N</i>	246	246	

Figure 1: Percent of men correctly perceiving and mis-perceiving peer acceptance



one-quarter of men were within 1%. For childcare and firewood collection, it was much more common for men to under-estimate acceptance than to over-estimate it. For laundry, the opposite was true (Figure 1). Some mis-perceptions, mostly under-perceptions, were quite extreme (Figure 2). In the analysis that follows we will test how the intervention interacts with *ex ante* mis-perceptions about social norms to affect behavior.

Figure 2: Percent of men correctly perceiving and mis-perceiving peer acceptance



5 Empirical approach

The outcomes of interest for this study are (1) stated intention to participate in a given task (firewood collection, childcare, and laundry) immediately following the intervention, and (2) whether or not the man actually participated in the task in the week following the intervention.

We first regress stated to perform or actual performance of a task on treatment status alone, controlling for age, VESA (stratification bin) fixed effects, task fixed effects, and baseline performance of the task. We cluster at the VESA level because we randomly selected our 60 sample VESAs from a larger VESA population. The empirical specification is:

$$Y_{ivt} = \alpha_1 T_{iv} + \alpha_2 Age_{iv} + \alpha_3 Y_{ivt}^0 + \sum_{v=1}^{60} \phi_v + \sum_{t=1}^3 \lambda_t + \varepsilon_{ivt} \quad (1)$$

In equation [1](#), i denotes the individual, v denotes the VESA, and t denotes the task. We also estimate equations [1](#) task by task.

Because we expect information to have a different impact if it corrects a mis-perception, we also interact treatment status with whether an individual under-estimated his peers' acceptance of a task. The empirical specification becomes:

Table 2: Treatment effects on stated intent to do a task

	All tasks	Firewood	Child care	Laundry
Treatment (α_1)	0.044 (0.041)	0.056 (0.097)	0.017 (0.496)	0.005 (0.923)
Treatment Under ($\beta_1 + \beta_3$)	0.077 (0.014)	0.107 (0.073)	0.043 (0.295)	0.059 (0.398)
N	1,494	498	498	498

α_1 is estimated from equation 1 and $\beta_1 + \beta_3$ is estimated from equation 2 P-values in parenthesis.

$$Y_{ivt} = \beta_1 T_{iv} + \beta_2 Under_{ivt} + \beta_3 T_{iv} \times Under_{ivt} + \beta_4 Age_{iv} + \beta_5 Y_{ivt}^0 \sum_{v=1}^{60} \phi_v + \sum_{v=2}^3 \lambda_t + \varepsilon_{ivt} \quad (2)$$

Here, the estimate of interest is $\beta_1 + \beta_3$, which is the treatment effect on those who underestimate their peers' acceptance of a task. Again, we also estimate equation 2 task by task.

6 Results

Our results can be found in 2 and 3 below. We find that the treatment increased stated intention to complete any task by 4.4 percentage points and the probability of actually completing a task by 3.5 percentage points. This effect comes nearly entirely from firewood collection. When we condition treatment effect on having under-estimated peers' acceptance of a task, we find an impact of 7.7 percentage points on the stated intention to do any task and an impact of 3.9 percentage points on the probability of actually completing a task. Again, these effects are driven entirely by firewood collection. Among those who underestimated peers' acceptance of men collecting firewood, the impact on stated intention to participate in, and actual participation in, firewood collection is nearly 11 percentage points.

Table 3: Treatment effects on actually doing a task

	All tasks	Firewood	Child care	Laundry
Treatment (α_1)	0.035 (0.042)	0.050 (0.082)	0.028 (0.487)	0.022 (0.171)
Treatment Under ($\beta_1 + \beta_3$)	0.039 (0.189)	0.109 (0.009)	-0.017 (0.845)	-0.010 (0.786)
N	1,492	498	496	498

α_1 is estimated from equation 1 and $\beta_1 + \beta_3$ is estimated from equation 2 P-values in parenthesis.

References

- Albanesi, S., & Olivetti, C. (2016). Gender Roles and Medical Progress. *Journal of Political Economy*, 124(31), 650–695.
- Alesina, A., Giuliano, P., & Nunn, N. (2013). On the Origins of Gender Roles: Women and the Plough. *The Quarterly Journal of Economics*, 128(2), 469–530.
- Allcott, H. (2011). Social norms and energy conservation. *Journal of Public Economics*, 95(9-10), 1082–1095.
- Allen, J., Mahumane, A., IV, J. R., Rosenblat, T., Yang, D., & Yu, H. (2021). Correcting perceived social distancing norms to combat covid-19.
- Allport, F. H. (1924). *Social Psychology*. Houghton-Mifflin.
- Beshears, J., Choi, J. J., Laibson, D., Madrian, B. C., & Milkman, K. L. (2015). The effect of providing peer information on retirement savings decisions. *The Journal of finance*, 70(3), 1161–1201.
- Brent, D. A., Cook, J. H., & Olsen, S. (2015). Social comparisons, household water use, and participation in utility conservation programs: Evidence from three randomized trials. *Journal of the Association of Environmental and Resource Economists*, 2(4), 597–627.
- Bursztyn, L., Gonzalez, A. L., & Yanagizawa-Drott, D. (2018). Misperceived Social Norms: Female Labor Force Participation in Saudi Arabia.

- Bursztyn, L., González, A. L., & Yanagizawa-Drott, D. (2020). Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia. *American Economic Review*, 110(10), 2997–3029.
- Byrne, D. P., Nauze, A. L., & Martin, L. A. (2018). Tell me something i donât already know: Informedness and the impact of information programs. *Review of Economics and Statistics*, 100(3), 510–527.
- Carlana, M. (2019). Implicit stereotypes: Evidence from teachersâ gender bias. *The Quarterly Journal of Economics*, 134, 1163–1224.
- D’Adda, G., Dufwenberg, M., Passarelli, F., & Tabellini, G. (2020). Social norms with private values: Theory and experiments. *Games and Economic Behavior*, 124(2020), 288–304.
URL <https://doi.org/10.1016/j.geb.2020.08.012>
- Dahl, G. B., Kotsadam, A., & Rooth, D.-O. (2021). Does integration change gender attitudes? the effect of randomly assigning women to traditionally male teams. *The Quarterly Journal of Economics*, 136, 987–1030.
- Dean, J. T., & Jayachandran, S. (2019). Changing family attitudes to promote female employment. vol. 109, (pp. 138–142).
- Delfino, A. (2021). Breaking Gender Barriers: Experimental Evidence on Men in Pink-Collar Jobs. *Ssrn*.
- Dhar, D., Jain, T., & Jayachandran, S. (2018). Reshaping Adolescents’ Gender Attitudes: Evidence from a School-Based Experiment in India. *SSRN Electronic Journal*.
- Dhar, D., Jain, T., & Jayachandran, S. (2019). Intergenerational Transmission of Gender Attitudes: Evidence from India. *Journal of Development Studies*, 55(12), 2572–2592.
- Dinkelman, T., & Ngai, L. R. (2021). Time Use and Gender in Africa in Times of Structural Transformation â.
- Doepke, M., Fernández, R., Hazan, M., Olivetti, C., Ríos-rull, V., Taylor, J., & Uhlig, H. (2016). Families in Macroeconomics.

- Duflo, E. (2012). Women Empowerment and Economic Development. *Journal of Economic Literature*, 50(4), 1051–1079.
- Fernández, R., Fogli, A., & Olivetti, C. (2004). Mothers and sons: Preference formation and female labor force dynamics. *Quarterly Journal of Economics*, 119(4), 1249–1299.
- Ferrara, E. L., Chong, A., & Duryea, S. (2012). Soap operas and fertility: Evidence from brazil. *American Economic Journal: Applied Economics*, 4, 1–31.
- Ferraro, P. J., & Price, M. K. (2013). Using nonpecuniary strategies to influence behavior: evidence from a large-scale field experiment. *Review of Economics and Statistics*, 95(1), 64–73.
- Field, E., Pande, R., Rigol, N., Schaner, S., & Troyer Moore, C. (2021). On her own account: How strengthening women’s financial control impacts labor supply and gender norms. *American Economic Review*, 111(7), 2342–75.
- Frey, B. S., & Meier, S. (2004). Social comparisons and pro-social behavior: Testing” conditional cooperation” in a field experiment. *American Economic Review*, 94(5), 1717–1722.
- Gerber, A. S., & Rogers, T. (2009). Descriptive social norms and motivation to vote: Everybody’s voting and so should you. *The Journal of Politics*, 71(1), 178–191.
- Greenwood, J., Seshadri, A., & Yorukoglu, M. (2005). Engines of liberation. *The Review of Economic Studies*, 72, 109–133.
- Hansen, C. W., Jensen, P. S., & Skovsgaard, C. V. (2015). Modern gender roles and agricultural history: the neolithic inheritance. *Journal of Economic Growth*, 20, 365–404.
- Healy, A., & Malhotra, N. (2013). Childhood socialization and political attitudes: Evidence from a natural experiment. *The Journal of Politics*, 75, 1023–1037.
- Hsieh, C., Hurst, E., Jones, C. I., & Klenow, P. J. (2019). The allocation of talent and us economic growth. *Econometrica*, 87, 1439–1474.
- Jayachandran, S. (2021). Social Norms as a Barrier to Women’s Employment in Developing Countries. *IMF Economic Review*, 69(3), 576–595.

- Jayachandran, S., & Pande, R. (2015). Why Are Indian Children So Short?
- Jensen, R., & Oster, E. (2009). The power of TV: Cable television and women's status in India. *Quarterly Journal of Economics*, 124(3), 1057–1094.
- Katz, D., Allport, F. H., & Jenness, M. (1931). *Students' Attitudes: A Report of the Syracuse University Reaction Study*. Craftsman Press.
- Matulevich, E. C. R., & Viollaz, M. (2019). Gender differences in time use: Allocating time between the market and the household. *World Bank Policy Research Working Paper*.
- Mckelway, M., Grela, E., Nath, P., Samaddar, B., Sharma, S., Srinivasan, K. P., & Srivastava, A. (2019). Vicious and Virtuous Cycles: Self-Efficacy and Employment of Women in India *.
- Oswald, A. J., & Powdthavee, N. (2010). Daughters and left-wing voting. *The Review of Economics and Statistics*, 92, 213–227.
- Pulerwitz, J., Hughes, L., Mehta, M., Kidanu, A., Verani, F., & Tewolde, S. (2015). Changing gender norms and reducing intimate partner violence: results from a quasi-experimental intervention study with young men in ethiopia. *American Journal of Public Health*, 105, 132–137.
- Washington, E. L. (2008). Female socialization: how daughters affect their legislator fathers. *American Economic Review*, 98, 311–332.