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Abstract

This paper studies the role of job search frictions and gender norms in shaping intrahousehold labor market outcomes in developing countries. We conduct a field experiment in Delhi, India where we randomly offer access to a hyper-local digital job search and matching platform either to married couples only (non-network treatment), or together with the wife's peer network (network treatment), or not at all. Approximately one year later, we find that couples in the non-network treatment group exhibit a degree of substitution in labor supply – wives reduce their intensive margin of work, driven by withdrawal from casual labor, while husbands increase theirs. In contrast, husbands in the network treatment group increase their labor supply on both extensive and intensive margins but with no impact on their wives' labor supply on either margin. Instead, wives' occupational structure shifts towards self-employment in the network treatment group. Our findings can be explained by a simple conceptual framework that incorporates gender-differentiated job search frictions, conservative social norms against (married) women's market work and home-production constraints.

JEL classification: J16, J21, J24, O33
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1 Introduction

High search costs may impede efficient allocation of workers to jobs in the labor market (see Caria *et al.* (2024) for a review). Digital job platforms that provide easier access to job information and online matching of workers with employers have generated optimism about reducing these costs. However, recent research on these platforms presents a mixed picture on labor market impacts.[1] One possible explanation for these contrasting findings is that existing studies focus on individual workers. However, labor supply decisions are frequently made at the household level, especially for women. Therefore, the impact of new labor market technologies or opportunities may be mediated by intrahousehold dynamics, benefiting some household members over others, in ways that may be missed when considering individual workers alone.

This paper presents the first evidence on the impact of a hyperlocal digital job search and matching platform on household labor supply and earnings, as well as on individual household members, using a cluster randomized field experiment conducted in Delhi, India. In the first treatment arm, the platform service was offered free of charge to a randomly selected group of married couples (non-network treatment) to lower job search costs. However, recent research has shown that interventions delivered simultaneously to spouses may undermine female labor supply if husbands have veto power in the presence of strong norms against women's paid work (Lowe & McKelway, 2024). To counter this, in the second treatment arm, the service was offered to married couples *and* the wife's peer network (network treatment), free of charge, to leverage peer effects in employment and potentially shift norms about married women's market work. Neither couples nor their network were offered the service in the control group. Interest in the service was quite high in our sample – nearly 65% of wives and 70% of husbands who were offered the service reported being interested. Conditional on interest, nearly 35% of wives and 38% of husbands registered for the service.

We report two key experimental findings. First, access to the job matching platform had insignificant impact on household labor supply in the non-network treatment group, largely because of the substitutability of labor supply within couples. Wives reduced their intensive margin of work, both in terms of days and hours of work (between 25-35% of baseline sample mean), primarily through reduction in their engagement in casual labour, while their husbands increased their intensive margin of work (by nearly 7% of baseline mean), leading to increase in own as well as household monthly earnings. This reflects the reality that in our setting, jobs typically held by men are better paid compared to those typically held by

[1] For instance, Kelley *et al.* (2022); Dhia *et al.* (2022); Jones & Sen (2024) find minimal or negative effects on labor market outcomes, whereas Wheeler *et al.* (2022) finds large positive effects.

women. Such substitutability might provide a plausible explanation to reconcile the divergent findings in previous studies on the labor market impacts of digital job technologies.

Second, we find that in contrast to the non-network group, access to the platform had a positive and significant impact on household labor supply and earnings in the network treatment group. This is because, unlike in the non-network group, couples in the network group did not experience any substitutability – husbands significantly increased their labor supply, both at the extensive and intensive margins (by approx. 5% and 8% respectively of the corresponding baseline means), without triggering a fall in that of their wives' labor supply. However, the overall null effect on wives' employment in the network treatment group masks a compositional shift in occupational structure – while some network treatment wives withdrew from casual work following exposure to our intervention (similar to their non-network treatment counterparts), some others who were previously not working now engaged in self-employment. Monthly household earnings improved for network treatment couples on average, primarily driven by a more than doubling of husbands' earnings.

We then develop a simple conceptual framework using a collective model of intrahousehold decision-making (Chiappori, 1992) that models the frictions faced by (married) women and men in undertaking market work. On the one hand, higher job search costs faced by wives relative to husbands (job search constraint) reduces the set of work opportunities "available" to wives. On the other hand, social norms against wives' market work (norm constraint) that impose a sanction cost for deviation from the norm, together with a home-production constraint, leads to higher reservation wages for wives compared to husbands, limiting the set of "acceptable" jobs for wives. These two frictions reinforce each other – fewer desirable jobs induce fewer wives to take up employment, further strengthening a low norm of wives' market work in equilibrium.

Our conceptual framework yields three key insights that then clarify the pathways through which our intervention potentially impacted couples' labor supply, and help interpret our experimental findings. First, even when job search constraints are reduced, wives' market work may remain unchanged or even decline, due to a binding home production constraint, if husbands' labor market opportunities improve simultaneously. This is consistent with our observed treatment effect on couples in our non-network treatment group. Husbands increasing their work intensity following access to the job platform led to a tightening of the home production constraint, thereby imposing a negative externality on market work of their wives.

Second, simultaneously providing access to the platform to wives and their peer network may help relax the low norm about wives' market work, thereby boosting their labor supply even as their husbands' employment increased. This aligns with our observed treatment effect

on (some) couples in our network treatment group. Previously unacceptable market work opportunities for wives (e.g. home-based self-employment) now become acceptable to (some) households due to a shift in the norm. This is evidenced by an improvement in the husbands' attitudes towards women's market work in these network treatment couples, matched by similar improvement among the wives' treated peers.[2] This provides suggestive evidence that the peer network is the potential mediator of such norm shifts, at least for the compliers. However, continued reluctance on part of husbands to share domestic chores when the wife works implies that the home-production function still binds to an extent, such that only home-based self-employment work (e.g. running a tailoring business from home) with low demand for hours of market work and greater flexibility is possible for these wives (Ho *et al.*, 2024).

Third, the structure of wives' peer network may continue to reinforce, through the social cost of deviation, the low norm of wives' market work (at least, beyond home-based self-employment) and male breadwinner norm, thereby restricting wives' market work and further promoting their husbands' employment instead. This is consistent with the significantly larger treatment effect on employment observed for husbands in the network treatment group, not just at the intensive but also extensive margin, compared to their non-network counterparts. Specifically, family-based peer networks of wives may share relevant job information from the platform with the network treatment husbands through common relatives in both spouses' social networks. We provide suggestive evidence in favour of this explanation by documenting that the extent of (family) overlap between spouses' social networks strongly predicts the positive employment effects enjoyed by husbands, but only in the network treatment group. However, we acknowledge that these findings may also be explained by social comparison or competition between husbands and their wives' male peers in socially connected households, within the broader scope of peer effects. We rule out a number of other alternative explanations for our findings, including gender differences in use of new digital technology, insufficient demand for women's labor, differential recovery from pandemic-induced job losses by gender, income effects etc.

In summary, while the job search platform weakly improved labor market outcomes at the household level, employment impacts are stronger when networks are activated. Second, our findings indicate that addressing a market failure (job search frictions) in the presence of gender bias (norms constraints) may not necessarily reduce gender disparities in the labor market, as men may benefit more from such interventions.[3] Efforts to harness married

[2]Some of these wives' treated peers are male relatives-in-law, indicating possible channels of communication between husbands and the wives' treated peers that may have facilitated this shift in norms.

[3]Evidence of similar persistence of gender disparities stemming from deep-rooted gender bias despite targeted effort is emerging in other contexts too. For example, Dupas & Jain (2023) show that the widening

women's peer networks to shift norms and improve their participation in market work may be tempered by the home-bound, family-based structure of wives' networks that may benefit their husbands instead. Interventions focused on broadening of women's social networks beyond family boundaries, such as through improved physical mobility of women, could offer promising avenues to effectively narrow gender gaps.

Our paper makes three main contributions. First, we highlight the impacts of a new job search technology on household labor supply and the channels through which it can improve employment outcomes. Existing literature has typically focused on individuals rather than households to study this question (Kelley *et al.*, 2022; Jones & Sen, 2022; Dhia *et al.*, 2022; Wheeler *et al.*, 2022). However, the implications for household well-being are also likely of paramount importance, especially in low-income settings, and our unique experimental design choice to introduce the new technology to both the wife and husband enables us to shed novel light on this aspect.

Second, our paper relates to the growing literature on labor market frictions that differentially impede women's labor force participation. Restrictions on women's mobility and outside interactions, especially in developing countries,[4] may lower their information about economic opportunities compared to men (Field *et al.*, 2010; Lindenlaub & Prummer, 2021), leading to fewer weak ties (Calvo-Armengol & Jackson, 2004; Mortensen & Vishwanath, 1994), higher job search costs and hence lower employment. While emerging research on the influence of digital platforms (Kelley *et al.*, 2022; Jones & Sen, 2022; Dhia *et al.*, 2022; Wheeler *et al.*, 2022) has revealed a mixed picture, there is little scientific evidence on their effectiveness in closing the gender disparity in labor markets, and the potential reasons thereof. Our paper fills this gap, by highlighting that the impact of such new job search technologies may not be gender-neutral, particularly in settings where female labor supply decisions are shaped by intrahousehold dynamics embedded within societal norms against women's market work and the primacy of the male breadwinner. Moreover, as the world's most populous nation, India's puzzlingly low female labor force participation rates, despite its rising economic prosperity, makes it the ideal setting to study this question.

Third, we contribute to the rich literature on the role of peer effects in driving economic outcomes, particularly for women.[5] While peer effects have been shown to increase women's

of public health insurance coverage in India failed to diminish gender disparities in health expenditures, primarily because the marginal beneficiary is a man. Similarly, Bernhardt *et al.* (2019) find that capital targeted at female entrepreneurs had no impact on women's enterprise profits but instead benefited men's enterprises within the household, indicating that interventions targeting women may not succeed due to men's role in the household.

[4]Existing literature has identified several factors limiting women's physical and social mobility, including those rooted in social norms (MacDonald, 1999), safety concerns (Dean & Jayachandran, 2019; Chakraborty *et al.*, 2018; Eswaran *et al.*, 2013), disproportionate burden of home production (Afridi *et al.*, 2022), etc.

[5]Existing studies have shown positive peer effects in agricultural technology adoption (Beaman *et al.*,

employment in developed countries via social learning (Nicoletti *et al.*, 2018; Maurin & Moschion, 2009; Mota *et al.*, 2016) and conformism (Cavapozzi *et al.*, 2021), there is little empirical evidence on whether this extends to low-income settings, and specifically in the context of market work to increase women's agency (Anderson & Eswaran, 2009). Our paper advances this literature by highlighting how the structure of women's networks itself may mediate peer effects in labor markets differently in developing countries compared to advanced societies. Specifically, the distinction between home-bound, family-based peer networks and friends-based networks[6] may be particularly relevant for urban women in low-income settings, many of whom migrate to cities post-marriage, and face greater mobility restrictions.[7] Hence, our paper also extends our understanding of women's peer effects in urban, blue-collar contexts, beyond the primarily rural, agricultural settings explored in existing studies.

The paper is organized as follows. Section 2 outlines the intervention, experimental design, and sample. Section 3 discusses the data, summary statistics and estimation methodology. The main results are presented in Section 4, while we discuss our conceptual framework and the mechanisms to explain our findings in Section 5. Section 6 concludes.

2 Intervention, Context and Design

2.1 Intervention: Job search platform

Our field experiment utilizes a hyperlocal digital job aggregator platform, HelpersNearMe (HNM). This nation-wide job-matching platform connects potential employers directly with nearby blue-collar workers for permanent or temporary hiring, much like Uber for taxi services. Since workers may connect with many potential nearby employers without physically looking for work or through any intermediaries or job contractors, this aggregation platform potentially reduces job search costs significantly (for both ends of the market). Workers register on the platform, where they provide information on previous work experiences and their job preferences (including preferred distance to work and expected wages). This

2021; BenYishay & Mobarak, 2019), microfinance (Banerjee *et al.*, 2013), migration (Munshi, 2020) etc. and specifically for women, in entrepreneurial activity (Field *et al.*, 2016), family planning and contraception (Anukriti *et al.*, 2022), and autonomy (Kandpal & Baylis, 2019).

[6]While home-based network structures can provide social support (Wellman & Wortley, 1990), it may not be advantageous in improving labor market outcomes, for which weak ties are critical (Calvo-Armengol & Jackson, 2004; Mortensen & Vishwanath, 1994).

[7]Out-migration data from India's nationally-representative National Sample Survey (NSS) show that over 30% of the overall rural-to-urban migration in India is accounted for by marriage alone, and women constitute about 44% of such migrants. Similarly, 61% of women who migrate from rural to urban areas report marriage as the reason. Furthermore, women's safety concerns may be higher in cities relative to villages. As per the National Crime Records Bureau (NCRB) 2009 data: 383 crimes (per million women) against women were reported in Delhi's districts while the national average was 202 per million women.

information (the set of acceptable jobs) then allows the platform to match registered workers with potential employers who are looking for candidates for specific job profiles based on their search preferences (e.g. location, type of work, tenure i.e. short-term gigs or long-term contracts, expected wages) – equivalent to increasing the set of available jobs for workers. The employer can then call the matched worker on their registered phone number with the job offer. Thus, registered workers are mostly passive on the platform - they cannot reach out to potential employers via the platform, but wait to receive job offers from employers over phone. Any conversation between potential employer and employee is off the platform, but workers can potentially call back an employer who has made an offer, refer or share employer/job details with peers. Workers accept a job offer as per their preferences, including location and wage.

Employers pay an upfront service charge to the platform. No payments are required of the worker for a successful match. There is a minimal expense of 100 INR per person (equivalent to 20-30% of average daily earnings in our sample) for platform registration to meet the cost of verification of worker identity. For our treated participants, this registration fee was paid for by the research project. Note that the platform is unique in catering to the potential constraints of blue-collar workers, particularly women. First, the platform does not require smartphone ownership by these low-income individuals (unlike most other job-matching portals). A feature phone is sufficient to receive calls from matched potential employers. This lowers barriers to entry into blue-collar jobs, especially for women who are less likely to own smartphones in our context. Second, the platform matches workers to employers hyperlocally. Hence workers can find jobs closer to home, which we show later is preferred by women in our sample. Given these features, it is not surprising that as of 2019-20, women made up 60% of all workers registered on the platform. We provide more details to substantiate the balanced gender composition of registered individuals and the types of work offered on the platform in Appendix Table A.1.[8]

2.2 Context and Sample

Our experiment is set in low-income neighborhoods of the National Capital Region of Delhi, India. Delhi is an urban center with a relatively young population: over 52% are in the 18-45 age group (PLFS, 2018-19), a majority of whom are married (73% of women and 56% of men). Female labor force participation in urban India is dismally low, 16.73% vs. 93.85% for men, and even lower in Delhi than the national average (by 8.98%) despite higher years of

[8]Using data on workers registered on the HNM platform up to June 2021, we find that 12.3% of job seekers were called for job openings by potential employers. Of the calls made by potential employers, 83% were made to women job seekers on the platform.

formal education than the national average (PLFS, 2018-19).

Our sampling strategy is described in Appendix Section A. Our random sample of just over 1,600 households was drawn from 5 districts of Delhi and 11 sampled Assembly Constituencies (AC) therein. Within each AC, a stratified random sample of about 10 polling stations (PS) was drawn, and within each sampled PS, 15 households were randomly sampled for inclusion in our study. A household was considered eligible for the study if it had at least one married couple in the age group of 18-45 years.

Appendix Figure A.1 shows the geographical spread across Delhi of the sampled 108 polling stations, which form our primary sampling unit (cluster). The average distance (straight-line) between any pair of polling stations is 10.6 kms. To minimise the risk of contamination, the polling station was chosen as the unit of randomization in our cluster RCT design.

2.3 Experimental design

Our experimental design involves cluster-based randomization into two treatments and one control group:

- **Non-network treatment arm (T1)**: In this group the job aggregator platform is introduced to and offered to the couple – wife and husband, individually. Conditional on registration, the platform is expected to reduce the costs of job search for both wives and husbands, but differentially benefit wives more as they face higher search costs to begin with, leading to an increase in the volume of job opportunities.

- **Network treatment arm (T2)**: We introduce and offer the job aggregator platform to the couple – wife and husband, individually – *plus* the peer network of the wife. Besides lowering search costs for a larger number of women, this is also equivalent to expanding the reach of the platform by a doubling of the number of individuals with greater access to job vacancy information (2 peers in addition to the couple), that can potentially lead the treated households to update their estimate of the job opportunities available for wives (or husbands) via information on opportunities that their peers have received - faster than in the non network treatment. In addition, the network arm directly also targets norms, using peer effects. Providing access to the job platform to peers as well as the couple may (or may not) lead to a higher probability of women taking up market work by reducing the cost of social sanctions due to norm deviation.

The sampled 108 polling stations were, thus, randomly assigned to one of three arms, with 36 clusters each: the non-network treatment arm (T1), the network treatment arm (T2), and

the control (C) group.

In both treatment arms we visited the sampled households to provide information about the job search platform to the woman and her husband, separately in the same visit. We provided detailed information on how the job matching platform works, the registration process, and its potential benefits in obtaining work for each respondent. This was followed by showing a testimonial video, tailored to the gender of the respondent, that we developed with beneficiaries of the platform. Thereafter, we offered to register the respondent (both the woman and her husband) on the job-matching platform at no cost.

There are three factors that influenced our bundling of the intervention to the couple. First, labor supply decisions are typically made jointly within the household and one of our objectives was to assess the role of gender norms (that are very strong in our context, as discussed later) on wives' take-up of market work. Therefore, we provided full information – the couple was aware of each other's platform registration offer and registration decision. Second, there exists extensive evidence documenting male backlash and incidence of domestic violence when employment opportunities for women (alone) rise (Eswaran & Malhotra, 2011; Heath, 2014; Paul, 2016; Guarnieri & Rainer, 2021; Tur-Prats, 2021). We wanted to ensure that women participating in our study were not harmed. Third, there is evidence showing that women have lower access to new age, digital technology in India, often due to patriarchal concerns around sexual purity of women.[9] By allowing the husbands to experience the job search platform for themselves, we wanted to dispel any suspicion on their behalf that could have resulted in a low take-up of the job platform by their wives.

In addition to the job platform offer to the couple, in the network treatment arm (T2) we asked the wife to nominate up to two peers from her (baseline) network to whom this service would also be offered following the same procedure outlined above. However, while the registration offers to all the couples were made in person, the peers selected by the wife in the network treatment group were offered the platform registration over phone. The information about who the selected peers were was common knowledge to both husbands and wives. If the wife suggested peers who were not in their baseline network list (described in detail in Section 3.1 below), these new peers were then also surveyed at this time, and offered platform registration. The platform registration cost for these treated peers in T2 was also covered by the research project. In the control group (C) we did not offer to register either the main respondents (husband and wife) or their network to the job-matching platform.

In both treatment groups, once an individual (including referred peer of wife) expressed

[9] As per the National Family Health Survey of India (2019-20), only 33% of women in the lowest wealth quintile have a mobile phone that they themselves own, and in most cases their access is mediated through their husbands' phones. Also, see Mobile Gender Gap Report, 2023.

interest in registering on the platform (in either treatment group) we passed on their ID and mobile phone number to the job-matching platform, which would then follow up with a phone call to verify details and formally register the job preferences of the individual within 24 hours (the process of 'on-boarding'). In the next section we provide summary statistics on intervention take-up and job offers, by gender and treatment group.

3 Data, Summary Statistics and Estimation

3.1 Survey data

Our baseline survey was conducted in May-July 2019 at two levels: (a) household, and (b) individual. The household survey collected information on the demographic composition of the household and other socio-economic characteristics (e.g. assets, migration status, and other details from the household head). The information on household members was utilized to identify the currently married (and cohabitating) couples in the household for the individual survey. If there were multiple couples in the 18-45 age group, we selected the couple with the youngest wife, since they are likely to face tighter time constraints as well as higher labor market trade-offs with domestic and childcare work.

The individual survey was conducted separately (and in privacy) with the husband and the wife to obtain information on their education, work history, work preferences, gender norms, and attitudes toward women's labor force participation. In addition, we elicited information on the individual's social network through a name-generator process using contextual/situational references.[10]

Thereafter, the respondents were asked to rank the top four peers from their list of names in order of their self-perceived proximity/closeness with these individuals. We also collected data on the nature and the intensity of the relationship with the people in the network to understand how the link was formed and how frequently they interact with the people in their network, respectively.[11] Mobile numbers to contact these four peers were recorded. We

[10]The main respondents were asked to name non-co-resident individuals that they most often interacted with under the following situations - (1) Emergencies: "Borrowing from in case of emergency; for example, if you immediately need 400-500 rupees for a day and there is no one else at home you could borrow from?", "In case of medical emergency when you need to call someone immediately to rush to the doctor/hospital and there is no one else at home", "In your neighborhood if you have to immediately borrow food items like rice, tea, sugar, cooking fuel, etc, who would you go to?"; (2) Social activities: "Going for a walk/to the park and chatting with in free time", "Shopping or going to local market with, for example, to buy vegetables or ration?", "Attending social functions or festivals or going to religious places with; for example going to the temple/mosque or participating in group prayer in the colony or meeting during *Diwali* or *Chhat Puja* (festivals) celebrations etc?"; and (3) Workplace interactions: "Having lunch at work or spending your free time at work with; for example chatting or having tea while taking a break", "Travelling to work with".

[11]Respondents were asked about the typical frequency of interaction (e.g. daily, 4-6 times a week, or once

then conducted a phone survey of up to two of these four peers, moving down the list in rank order (conditional on mobile number availability). For up to two peers, therefore, we gathered detailed information on gender, age, own work history, as well as, gender norms and attitudes.

To measure the impact of the intervention on the respondents' and the treated peers' work status and related outcomes, we conducted two follow-up surveys. Endline 1 was conducted approximately 6 months after the intervention (Aug-Nov 2020) while Endline 2 was conducted about 14 months after the intervention (Apr-June 2021). At both endlines, we resurveyed the main respondents and their peers (including any new peers at intervention). We also obtained administrative data from the job-matching platform on the sample of registered respondents' (main respondents and peers) reported job preferences and other details recorded at the time of registration, as well as job offers and acceptances from the date of registration until June 2021. However, platform data on job offers only recorded whether a match took place or not, i.e. accepted offers. Hence we also collected detailed self-reported data on job offers (accepted or not) during both endline surveys. The timeline of the study is summarized in Appendix Table A.2.[12]

Our original sample consisted of 3,127 individuals (1,543 husbands and 1,584 wives) from 1,613 households across 108 polling stations, as shown in Appendix Table A.2. In the follow-up surveys, the attrition rate was below 5% of the baseline sample - 1.85% at Endline 1 and 4.67% at Endline 2. Throughout our analysis, we restrict the data to matched husband-wife pairs interviewed at baseline, i.e. 1,514 couples.[13] With the matching restriction, attrition remains below 5%: 98.28% of the couples from baseline were followed-up at Endline 1 and 95.48% at Endline 2.

As mentioned previously, up to two peers of the main respondents were also contacted by phone. At baseline, a total of 3,468 peers were surveyed (of 2,331 main respondents who were able to provide mobile number of their peers). Recall that at intervention women respondents were asked to suggest two peers who they would like to be offered registration on the job matching platform in the T2 arm. Some of these peers were not in the baseline network. In the follow-up survey rounds, we thus interviewed both baseline and any additional peers

a week) with their peers, both in person and over the phone.

[12]Our study coincided with the pandemic-induced stringent national lockdown in India which began on March 24 2020, and eased by August 2020. Our baseline survey of couples was conducted in person but due to onset of the pandemic, we switched to phone interviews thereafter. Our first endline in August-November 2020 was conducted entirely over the phone. The second endline survey began on April 2, 2021, with in-person interviews of almost 50% of our sample. However, given the devastating second wave of the pandemic in India, when cases surged from mid-April 2021, we switched to phone interviews from the end of April until the end of the survey round in June 2021.

[13]99 individuals out of the original sample of 3,127 were unmatched to their spouse and hence dropped.

treated at intervention - 3,583 of the 4,208 (=3,468 + 740) peers at Endline 1 and 3,522 at Endline 2. A loss of connection over the phone with peers was the primary reason for attrition of 14.85% at Endline 1 and 16.3% at Endline 2.

Throughout, we report results 14 months after intervention, i.e. at Endline 2. We find insignificant treatment effects 6 months after intervention (Endline 1), which is attributable to the economic shutdown during the pandemic. (Unemployment Rate in India, CMIE).[14] Economic activity picked up following the easing of nationwide lockdown in August 2020.

3.2 Summary statistics at baseline

Appendix Table A.3 defines and summarizes the key variables of interest for our matched husband-wife sample at baseline. Panel A shows the household characteristics. The average household has 5.3 members with 19% being multi-generational (joint) families, and about 57% having a child below the age of five years. A majority of households are Hindu (82%) and over 40% of the households belong to the socio-economically disadvantaged Scheduled Caste (SC) or Scheduled Tribe (ST) groups. Nearly two-thirds of these households are migrants from outside Delhi but have lived at the current location for over 28 years on average.

Panel B presents the individual characteristics of the main respondents, i.e. the couple, in our sample. They are relatively young (32.7 years), with some education (over 60% have above the primary level of education) and high usage (94%) of mobile phones. Overall, 60% of them are working (irrespective of gender), out of which 16% are engaged in casual labor, 21% are self-employed and 22% have salaried jobs in government and private institutions.[15] Unemployment rate is low at 3%, while 38% of the sample is not looking for work, i.e. not in the labor force. The average individual earnings was 6,028 (10,793) INR per month unconditional (conditional) on work status. Finally, Panel C summarizes the characteristics of two rank-ordered peers listed at baseline. These peers are comparable in age, education, and work status to the main respondents.

The treatment and control groups are balanced in terms of household characteristics (Appendix Table A.4) as well as individual characteristics for both husbands and wives (Appendix Table A.5), apart from marginal differences in unemployment rates. We include this and other baseline characteristics in our main specifications to account for potential

[14]The pandemic severely disrupted economic activity almost immediately following our intervention in 2020. India's GDP contracted by 23.9% during April-June and 7.5% in the second quarter (July-September) of the 2020-21 fiscal year as opposed to 4.2% GDP growth in 2019-20. Not surprisingly, unemployment peaked at 18.5% in the first quarter of 2020 but started to taper off from the second quarter onwards (7.5% in both July-September and October-December 2020), as demand recovered.

[15]These labor market participation rates are based on reported main activity over the previous year at baseline.

pre-existing differences between treatment groups.

3.3 Gender differences at baseline

In this section we document significant gender differences in key sets of baseline characteristics that are relevant to our study: labor market participation, social network structure and social norms and preferences.

Labor market participation: The gender differences in the overall labor force participation variables are shown in Panel A of Table 1. We find significant differences in the work characteristics of husbands and wives at baseline. Wives are 72 pp less likely to be working in the reference period than their husbands. While husbands are mostly engaged in salaried jobs, the highest proportion of wives who are working is engaged in self-employment. More strikingly, $3/4^{ths}$ of the wives are not in the labor force, i.e. they are neither working nor actively looking for work. Not surprisingly, husbands earn more than ten times the average earnings of wives (unconditional on work status). Conditional on working, the average earnings of husbands and their wives were about 12,300 INR and 4,500 INR, respectively.

We observe a greater mismatch between expected and actual earned wages of wives compared to their husbands among our sample that registered on the job aggregator platform. Wives who registered on the platform expected an average salary of around 10,300 INR (129% higher than the average baseline earnings of women who work), while husbands expected 13,400 INR or 9% higher than their average baseline earnings. This mismatch between expected and actual earnings persists even after accounting for differences in occupational preferences and baseline occupation types of men and women (see Appendix Table A.6).[16]

Social network structure: We also document sharp gender differences in the social network structures reported in Panel B of Table 1. First, wives' social networks are significantly more family-centric and home-bound compared to their husbands'. 96% of wives' peer networks are made up of non-coresident relatives and neighbors compared to just 56% for husbands. The narrowness of wives' networks is also reflected in a negligible proportion of them reporting any friends (defined as not a relative or neighbor) as their peers, in contrast to their husbands (4% versus 44%), and no co-workers, which is not surprising as only a quarter of wives report

[16]Data from registrations on the job matching platform show that women preferred service sector jobs (75% - e.g. beautician, telecaller), providing domestic help and care services (65% - cooking, babysitting, and other care jobs), and also working within a 3 km distance from their homes, on average. In contrast, men registered for a larger number of job profiles (service sector jobs (60% - delivery boy, office helper, and salesman), factory and manufacturing jobs (23% - machine operator and technicians), domestic help and services (27% - driver, peon), and construction work (10%)). They were willing to travel more than double the distance (6.6 km) preferred by women. These data suggest that married women have higher reservation wages.

to be working. Second, social networks are gender-homophilous. Nearly three-fourths of wives' peers are female, while more than 90% of their husbands' peers are male. Appendix Table A.7 provides further details on the composition of wives' and husbands' social networks. Panel B shows that, on average, only around 20% of the female peers of wives were currently working in the baseline, compared to 90% of their husbands' (overwhelmingly male) peers (Panel A). This structure of women's social network, which is likely to be less amenable to obtaining job information and referrals, intensified at intervention (Panel C). The peers suggested for treatment by wives in T2 were more likely to be female (80%), younger (by about 3 years), and 5 pp less likely to be working than peers reported at baseline. In addition, the home-bound structure continued to dominate - 85% of the treated peers were either non co-residing relatives (46%) or neighbors (39%).

Social norms and work preferences: Appendix table A.8, Panel A indicates a high prevalence of attitudes supporting traditional gender roles among both husbands and wives (asked in privacy). A vast majority of respondents support the view that women should be homemakers, although wives are slightly less than their husbands. Wives are also more likely to believe they should support their husband's career over their own, and prioritize relationships with children over market work.

In Panel B, we summarize responses to attitudes toward women's market work. While neither oppose female mobility, wives are 6 pp more likely than husbands to support women working and 27 pp more likely to agree that married women should earn even if the husband provides support. However, only 33% of husbands approve of a married woman earning if she has a husband capable of supporting her, suggesting a strong male breadwinner norm. These norms and attitudes align with job preferences that women reported for themselves and what husbands approved of for their wives as shown in Panel C. Home-based jobs are considered the most suitable for women by both husbands (78%) and wives (81%), followed by salaried government or private sector work. Hence there is a preference for work that is flexible, requires limited mobility, yet is 'high status' for married women.

Using data on women working at baseline, we find that engagement in self-employment activities (e.g. family-run retail shops, tailoring) and casual labor is relatively less time intensive – 4.5 hours per day, compared to 6.5 hours in a salaried job. Further, self-employment is typically undertaken within household premises or residential locality, while casual labor and salaried work entail travel to work. But while monthly earnings of self-employed women averaged 2,695 INR, those engaged in salaried and casual labor were earning 7,686 INR and 3,333 INR, respectively. Thus, higher flexibility of home-based work costs women almost three times the average monthly earnings they could earn in relatively less flexible salaried

work[17]. Furthermore, relatives and neighbors, who overwhelmingly comprised wives' peers in her social network, were more likely to hold regressive gender attitudes (see Appendix Table A.9). Note that only 2% of wives and 3% of husbands agree that women should not work, indicating demand for jobs for women.

3.4 Summary statistics at intervention

Table 2 summarizes the take-up of the intervention by the main respondents and wives' peers. Of the main respondents offered treatment, husbands and wives showed comparable interest in registering (70% of husbands and 65% of wives). The proportion of wives who showed interest was similar in both treatments (about 64%), while husbands in T1 showed slightly greater interest (73% vs. 66%). Conditional on interest, 37% successfully registered on the portal - higher in the network treatment arm (40%) than the non-network treatment arm (34%), and for both husbands and wives. Amongst the wives' peers who were offered registration, the proportion interested and registered (conditional on interest) was 70% and 47%, respectively.[18]

Wives in the network treatment group showed more interest in registering on the platform, relative to their husbands (columns 1-2 of Appendix Table A.10). But we do not find significant gender differences in the eventual take-up of the intervention in terms of registration on the platform (see columns 3-4 of Appendix Table A.10). Nevertheless, conditional on interest, both wives and husbands have higher platform registration rates in the network treatment group relative to the non-network group (see columns 5-6 of Appendix Table A.10). Further, Appendix Table A.10 indicates that the subsequent (unconditional on registration) job offer rate for wives was similar (if not marginally higher) to that of their husbands (9% compared to 7%) in the non-network group.

3.5 Estimation strategy

Our first empirical specification combines both treatment arms (non-network and network) into a single indicator of treatment status that takes value 1 if the couple (either with or without the wife's peers) was offered to register with the job aggregator platform, and zero

[17]Of course, part of these differences are also driven by selection effects.

[18]Besides individuals declining to formally register after showing interest, registrations could fail due to verification issues at the platform's end. Note that while it is possible that respondents in T1 could, on their own, inform their peers about the platform, our data confirm very few actually do. Only 4% of non-treated peers report being informed about the platform by their friends/relatives, and of those, only 0.07% registered on the platform (data from both our survey and the platform). Of the treated peers, 98% reported being informed about the portal by our research team.

otherwise. Thus, the baseline ANCOVA specification is:

$$Y_{iv} = \alpha + \beta T_v + \phi Y_{iv}^0 + X_{iv} + \mu_{iv} \tag{1}$$

where Y_{iv} are various labor market outcomes of individual i in cluster v at endline, including work status, the number of days worked in a month, the number of hours worked in a day, log monthly earnings, and occupation category (i.e. casual labor, self-employed or salaried).[19] Work status is a dummy variable that takes value 1 if an individual reports being engaged in an occupation over the past 3 months and zero otherwise. The occupation categories are dummy variables constructed on the basis of the main occupation in the previous quarter. Note that we use the term employment and (market) work interchangeably – both terms include any remunerative work, either through paid jobs or self-employment.[20]

T_v is a dummy variable indicating whether cluster v is randomly assigned to either treatment - non-network (T1) or network (T2), Y_{iv}^0 is the corresponding baseline labor market outcome of individual i in cluster v. X_{iv} are a set of baseline characteristics of individual i in cluster v that may affect their labor market outcomes. These include household characteristics (household asset index, dummy for joint family, number of under-5 children, dummy for SC/ST, dummy for Hindu, dummy for migrant status, years living in current location) and individual characteristics (education of the individual, age, occupation code, and mobile phone usage).[21]

Our second specification distinguishes between the two types of treatments to estimate and compare their impact as follows:

$$Y_{iv} = \alpha + \beta^1 T_v^1 + \beta^2 T_v^2 + \phi Y_{iv}^0 + X_{iv} + \mu_{iv} \tag{2}$$

where T_v^1 is a dummy variable indicating whether cluster v is assigned to the couples-only i.e. non-network treatment, while T_v^2 is a dummy variable indicating whether cluster v is assigned to the couple plus the wife's peers i.e. network treatment. We interpret the coefficients on the treatment variables as intention-to-treat (ITT) estimates. The control variables are the same as discussed above. In both specifications, the standard errors are clustered by the unit of randomization, i.e. the polling station (PS).

[19] The reported number of hours worked in a day is trimmed at 14 hours due to which 15 observations are dropped (0.56% of the sample (husbands only) at Endline 2).

[20] We first asked about the main activity of an individual over the previous quarter from the time of the survey. Work status is a binary variable equal to 1 if the respondent is engaged in casual labor, self-employment or salaried work during this reference period, and zero otherwise. For this reference period, we then asked days worked in a typical month, the average number of hours worked in a day, and the monthly earnings.

[21] The estimation strategy, including the list of control variables, is as per the pre-registered analysis plan. See Table A.3 for details on the construction of the occupation and other variables, including the asset index.

4 Main results

4.1 Labor market participation

Extensive margin of work: Table 3 reports ITT estimates of our intervention on the probability that an individual is working in the reference period, by gender, using the specifications described above. Columns 1-2 report the results using equation (1) while columns 3-4 report it by treatment group as per equation (2). Columns 5-6 present the household level results.[22]

More than a year after the intervention, we find no significant overall treatment effect on either wives' (Table 3, column 1) or husbands' (column 2) extensive margin of work, measured by the likelihood of working, resulting in a negligible effect for the household as a whole (column 5). Separating by treatment type (columns 3-4), we find a negative, though statistically insignificant, treatment effect on both wives and husbands in the non-network treatment group, reflected also at the household level (column 6). In contrast, we find a small positive, though statistically insignificant, treatment effect for wives in the network treatment group, and a significant improvement in their husbands' likelihood of working by 4.4 percentage points (pp) relative to the control group, equivalent to 4.6% of the baseline mean. As a result, household labor supply is also positively impacted.[23]

Intensive margin of work: Next, we examine the treatment effects on the intensive margin in Table 4, measured by the number of days worked in a month (Panel A) and the hours worked in a day (Panel B).[24] Wives show a negative but insignificant overall treatment effect on both measures (column 1). In contrast, we find a positive and statistically significant overall treatment effect of 1.7 additional days worked in a month (an increase of 7.5% relative to sample mean) for their husbands (Panel A, column 2), as well as a positive, though statistically insignificant, overall treatment effect on their daily work hours (Panel B, column 2). Consequently, the overall treatment effect for the average household as a whole is positive though insignificant (column 5).

[22] Appendix Table A.11 shows insignificant effects 6 months after intervention (Endline 1), attributable to the economic shutdown during the pandemic.

[23] We also analyze the heterogeneity in these treatment effects by baseline demographic characteristics in Appendix Table A.12. We find no statistically significant difference in the outcomes of wives or husbands in the network treatment group by poverty status, caste, religion, education (own or spouse), and having young children (aged 5 or below). However, the treatment effect for husbands in the network treatment group is driven by the relatively older husbands (aged 30-45 years) with no significant effect on younger husbands aged 15-30 years.

[24] We also test for alternative log specifications - IHS transformation ($log(y) = log(y+(y^2+1)^{1/2})$ (Burbidge *et al.*, 1988)) and taking logs after adding a small positive value of 0.01 to account for zero values - both of which yield qualitatively similar results.

However, disaggregating by treatment type, we note that the muted overall treatment effect for wives masks substantial heterogeneity by treatment type. Wives in the non-network treatment group report large reductions in intensity of work, both in terms of monthly workdays (by nearly 25% of sample mean) and daily work hours (by nearly 35% of sample mean) relative to the control group (Panels A and B, column 3), while their husbands report significantly greater intensity of work in terms of monthly workdays (Panel A, column 4) by 1.5 days (6.8% of sample mean). These two effects more or less cancel each other out, such that the overall impact on the intensity of labour supply at the household level is insignificantly different from zero in the non-network treatment group (column 6). In contrast, wives in the network treatment group do not experience any significant decline on either dimension of their work intensity, while their husbands, like their non-network counterparts, also report greater intensity of work, both in terms of working 1.9 additional workdays per month (8.4% of sample mean) and 0.66 additional hours per day on average (8.1% of sample mean). As a result, the intensity of labor supply at the household level increases significantly by similar proportions in the network treatment group.

4.2 Occupational choice

We examine the impact of the intervention on the type of work (self-employed, salaried, or casual labor) in order to test for occupational shifts in Table 5. In the non-network treatment group, we find a significant ($p<0.10$) reduction in casual labor supply among wives (Table 5, column 11), without any significant impact in any other type of employment. This appears to be driving the negative (although statistically insignificant) point estimate for overall employment effect for these wives in Table 3, and is also consistent with their significantly reduced intensity of work, as reported in Table 4.

In contrast, for the network treatment group, a similar (though imprecisely estimated) reduction in casual labor by wives is accompanied by a 4.5 pp increase in their self-employment (Table 5, column 3). Looking closer, we find that this increase in self-employment is primarily driven by those network treatment wives who were not working in baseline, rather than those switching out of casual work due to exposure to our intervention (see the transition matrices in Appendix Figure A.2a and Figure A.2b), indicating a compositional shift in the occupation structure of wives in the network treatment group. We find little impact on salaried jobs for wives in either treatment arm (column 7). Husbands too appear to be substituting away from casual work (column 12) into better, salaried jobs (column 8) and self-employment (column 4) in both treatment arms, though the latter effects are imprecisely estimated.

4.3 Labor market earnings

Next, we examine whether the observed impact on labor force participation and occupational change affected monthly earnings, both individual and household, as reported in Table 6.[25] The overall treatment effect for wives is negative though insignificant (column 1), driven by the fact that the non-network treatment wives experienced a contraction in their earnings relative to the control group (column 3, $p<0.10$), consistent with their withdrawal from casual labor discussed earlier that is compensated by their husbands' increased earning (column 4), though imprecisely estimated, due to increased work intensity. In contrast, the network treatment wives were successful in avoiding a contraction to their earnings: the estimated coefficient is positive and significantly different from the non-network coefficient (p=0.01), while their husbands enjoyed more than doubling of their earnings relative to the control group. As a result, monthly household earnings (i.e. the sum of spouses' labor earnings) increased in both treatment groups relative to baseline, as shown in column 6 (p-values = 0.08 and 0.01 for T1 and T2, respectively).

In order to shed more light on the nature of the additional earnings of husbands, we also examine in Appendix Table A.13 the treatment effects on whether the remuneration for work is in the form of *Salary* (columns 1-4), *Piece-rate* (columns 5-8 or *Daily wage* (columns 9-12). We find that the intervention resulted in husbands shifting to relatively more secure salaried payments (column 2) and away from vulnerable piece-rate (column 6) and daily wage (column 11) payment arrangements. While the magnitude of change is similar between the two treatment arms for piece-rate (p=0.86) and daily wage (p=0.66) payments, it is significantly higher for the network treatment husbands relative to the non-network treatment husbands for salaried payments (p=0.09). This provides further confirmation for our earlier findings on occupational shifts for husbands and the role of network treatment in driving these changes. Consistent with the overall insignificant impact on wives' earnings discussed earlier, the effect on wives' type of earnings also remains muted.

To summarize, we find that access to the job matching platform weakly improved labor market outcomes at the household level, but employment effects are stronger when networks are activated. Our intervention led to some substitutability in the labor supply of the wives and husbands in the non-network treatment group. Wives adjusted by reducing their engagement in casual labor while their husbands increased their intensive margin of work, and consequently their own as well as aggregate household (labor) earnings. In contrast,

[25] We add a positive value of 0.01 before the log transformation to account for zero values of earnings. Alternatively, we also use an IHS transformation of monthly earnings and add a positive value of 1 to reported earnings before the log transformation. Results are qualitatively similar and thereby not sensitive to the log transformation.

couples in the network treatment group did not, on average, experience such substitutability – husbands significantly increased their labor supply without triggering a fall in that of their wives'. However, the aggregate null effect on wives employment in the network treatment group masks a compositional shift in occupational structure: while some network treatment wives left casual work following exposure to our intervention (similar to their non-network treatment counterparts), some others who were previously not working now engaged in self-employment.[26]

Later, in Section 5 we interpret these various findings in the context of an intrahousehold bargaining framework that incorporates gender-differentiated job search costs, social norms against women's market work and the home production constraint.

4.4 Robustness checks

In this section, we present various robustness checks and alternative specifications for our main results.

Multiple hypothesis testing: Since we examine the impact of the intervention on seven labor market outcomes, this may raise the concern that these effects are simply observed by chance among all of the different outcome variables. We compute Michael Anderson's False Discovery Rate (FDR) q-values which computes the expected proportion of rejections that are type I errors (false rejections). Using this method, we adjust the p-values of our main estimates for multiple hypothesis testing. Our ITT estimates for employment on the extensive and intensive margin and for earnings are robust to concerns about multiple hypothesis testing (Appendix Table A.14). However, we lose significance for the gain in self-employment of wives and the fall in wage-labor.

ToT estimates: Given the low platform registration rates (about 25% amongst main respondents and 35% amongst treated peers), we also obtain treatment-on-treated (ToT) estimates by instrumenting for registration on the portal with random assignment to treatment (either non-network, T1 or network treatment, T2).[27] Our findings remain qualitatively unchanged, but somewhat larger in magnitude, as shown in Appendix Table A.15. In line with the ITT estimates, we find an insignificant impact on registered wives' likelihood of work, but a larger, significant reduction in non-network wives' days (hours) of work (∼5.4, ∼1.5), indicating that non-network wives whose behaviour was affected by the intervention

[26]Note that, a total of 220 (self-reported) job offers (110 to wives and 110 to husbands) were received by 852 individuals who registered on the platform in the treatment group, yielding a job offer rate of 0.26 jobs per registered worker.

[27]We use the same set of control variables and cluster standard errors at the PS level as in the main specification.

withdrew almost entirely from work, as compared to their baseline levels. For registered husbands too, the ToT estimate for overall likelihood of working is similar in magnitude to the ITT estimates, although we lose statistical significance. In contrast, those for workdays ($\sim$6.1, $p<0.05$) and monthly earnings ($=$3.3, $p<0.05$) continue to be significant but larger in magnitude. The impact of overall treatment is attributable to the positive effects on both the extensive and intensive margins on registered husbands in the network treatment group, as in Table 3 above.

Attrition bias: Our findings are also robust to concerns about attrition bias. Overall attrition rate at Endline 2 was low at 4.67%, but it was significantly different across the three groups (7.3% in T1, 4.4% in T2 and 2.3% in control). We address selective attrition concerns in three ways: first, in Appendix Table A.16, we restrict the sample to a balanced panel comprising couples who were interviewed in all rounds of our study, and find that our results remain robust. Second, we test for attrition bias in Appendix Table A.17 by comparing the differences in mean baseline outcomes across the treatment arms for the non-attriters and the attriters. Third, we also address any potential bias from selective attrition using the Manski bounds, as shown in Appendix Table A.18. Our overall results remain robust, indicating that they are not driven by selective attrition. For further details refer to Appendix A.

5 Discussion and mechanisms

In this section, we outline a simple conceptual framework to understand the factors driving the persistence of low female employment in gender conservative settings, study the pathways through which our intervention worked to address these factors, and interpret our empirical findings. The corresponding theoretical model is discussed in detail in Appendix Section C.

5.1 Conceptual framework

We use a collective intrahousehold model to outline the labor market on the demand side (i.e. the nature of work or jobs available) and the supply side (i.e. the intrahousehold behavior that determines spouses' labor supply) to highlight the frictions faced by (married) women in undertaking market work in our setting.

Job search constraint: Work opportunities arrive at different rates for women and men. A minimum threshold of hours of work is needed to take up any form of market work – self-employment being the least demanding and salaried jobs being the most demanding in terms of market work hours (see Figure 1a). Women face higher job or work search costs relative to men, due to restrictions on their physical mobility and safety concerns (Borker,

2021), as well as potentially fewer "weak ties" (Beaman *et al.*, 2018; Granovetter, 1973). This reduces the set of work opportunities "available" to wives relative to husbands (see Figure 1a). Thus, the search constraint is the *first friction* faced by wives in the labor market compared to their husbands.

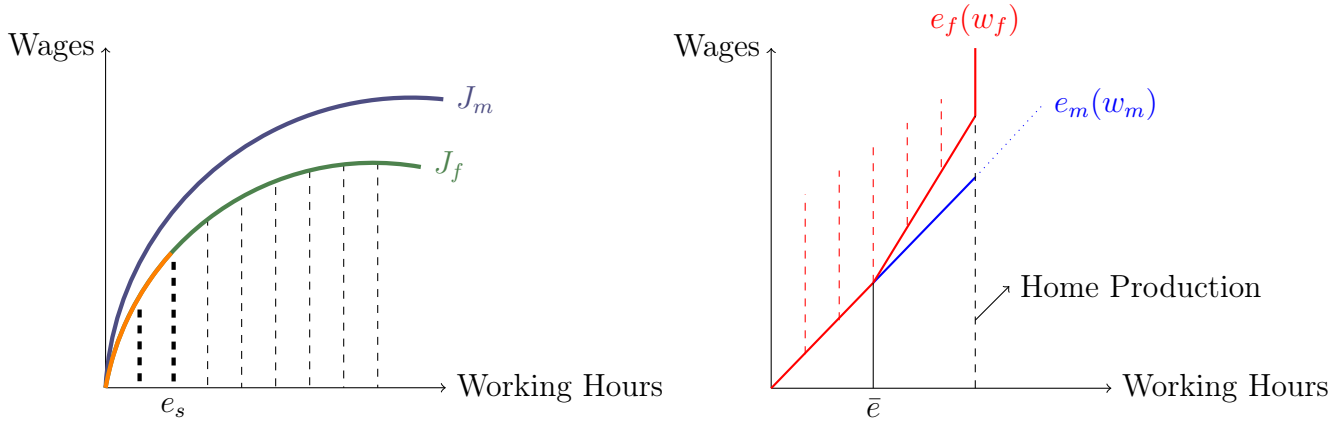
Social norm constraint: Within a collective intra-household decision-making process, the household makes the (joint) decision about the wife's market work hours, conditional on the optimized level of husband's market work hours. Any deviation from a social norm on how much time the wife can devote to market work implies that the household incurs a social sanction cost of non-conformism (even when it may be feasible and desirable for the wife to work) that applies to both home-based self-employment and paid work outside the home, depending on whether hours spent on paid work are above or below the socially acceptable market work hours. Thus, the norm constraint on wives' market work hours is the *second friction* faced by women in the labor market, compared to their husbands. Consequently, the labor supply curve of wives is steeper than that of their husbands when the social norm threshold is exceeded (see Figure 1b), and is inelastic when wives hit the constraint on hours of home-production (conditional on husbands' labor supply). This constrains the set of "acceptable" jobs for wives.

These two frictions reinforce each other: fewer desirable jobs induce fewer wives to take up employment, thereby reinforcing a low norm of wives' market work and low employment of wives in equilibrium (see e.g. Muldoon *et al.* (2014) on the emergence of descriptive norms). Our conceptual framework yields the following insights on how our intervention may potentially impact wives' market work, to help us identify the mechanisms underlying our findings:

1. *Wives' market work may remain unchanged, or even decline, due to a binding home-production constraint when husbands' labor market opportunities improve simultaneously.*

Reducing job search costs through the offer of registering on the job search platform increases the set of available jobs for wives (see Figure 2a1) and husbands. However, with work opportunities increasing simultaneously for the husbands who are now more likely to be employed and work longer hours, the tighter household production constraint can crowd out wives' labor market participation (see Figure 2a2).

Figure 1: Conceptual framework: The Setup



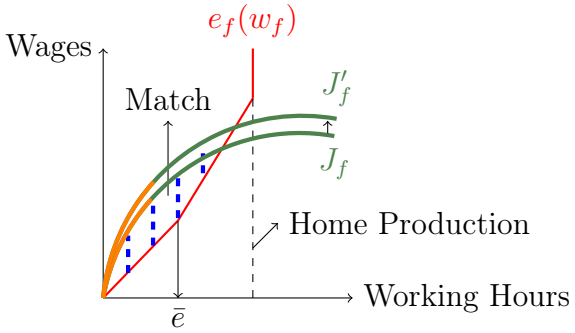
(a) **Demand side**: Available jobs for wives

(b) **Supply side**: Acceptable jobs for wives

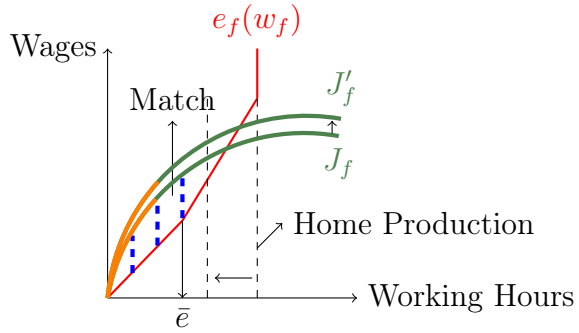
Note: Figure (a) depicts the set of cumulative jobs that are available to wives and husbands as J_f and J_m, respectively. The lower section of this curve (colored orange) represents the non-employable range, where the work hours are below the minimum e_s hours of work that are required to be gainfully employed in any work while the upper section of the curve (colored green) represents the employable range (with self-employment being the least demanding in terms of work hours and salaried jobs being the most demanding). Figure (b) represents the labor supply curves of wives ($e_f(w_f)$) and husbands ($e_m(w_m)$). $\bar{e}$ is the social norm on wives' market work hours. The dotted black line represents the *home-production constraint* on the hours of market work of the wife, conditional on the husbands' labor supply decision.

Figure 2: Conceptual framework: Intervention channels

(a) **Relaxing job search constraint (Friction 1)**

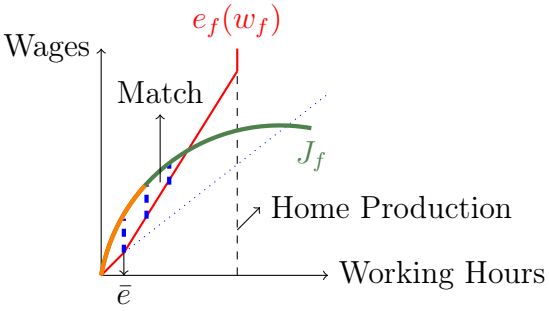


(a1) Lowering job search costs

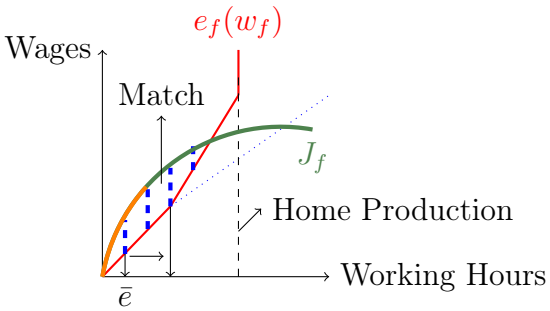


(a2) Tightening home production constraint

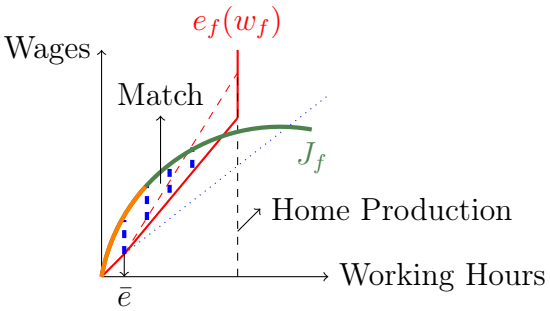
(b) **Relaxing the norm constraint (Friction 2)**



(b1) Fewer matches (low $\bar{e}$ or high ϕ)



(b2) More matches (high $\bar{e}$)



(b3) More matches (low ϕ)

Note: Panel (a) depicts the effect of increasing work opportunities (offer of job platform registration) on the first friction of **job search constraints**. Figure (a1) shows an upward shift of the J_f curve as job search cost is lowered - increasing the potential set of job *match* (shaded with blue dashed lines), i.e. the set of jobs that are both available and acceptable. Simultaneously, the J_m curve (not shown here) also shifts upwards, resulting in a leftward shift in *home-production constraint* as depicted in Figure (a2), which shrinks the *match* region. **Panel (b)** depicts the effect of engaging with the wives' social network on the second friction of the **social norm constraint**. Figure (b1) represents the scenario with conservation social norms as the acceptable working hours for women are low ($\bar{e}$) - resulting in fewer matches. As this norm on acceptable hours of market work ($\bar{e}$) shifts to the right, or the weight on the social sanction cost (ϕ) is lowered, the the set of matches becomes larger as depicted in Figures (b2) and (b3), respectively. Self-employment and other types of work (green region of J_f curve) now become available to wives.

Our experimental results are consistent with this explanation. Husbands significantly increased the intensity of their engagement in the labor market in the non-network treatment arm (Table 4, column 4), leading to their wives significantly reducing their market work at the intensive margin (Table 4, column 3), relative to control group. This indicates a tightening of the home production constraint for the non-network wives, and aligns with the finding that by endline, their husbands report a reduction in their likelihood of helping with household chores (Table 7, column 8).[28]

However, the striking result is that such a crowding out effect is absent for couples in the network treatment arm. Husbands in this group are able to increase both their intensive (Table 4, column 4) and extensive margin of work (Table 3, column 4) without any corresponding fall in their wives' intensity of market work. The next insight helps us better understand this finding.

2. *Improving job opportunities for wives and their peers simultaneously may relax the social norm about wives' market work and increase suitable employment opportunities available to them, especially self-employment that has relatively less demanding working hours.*

Our conceptual framework posits that a society with a low norm threshold on wives' market work hours will have fewer acceptable jobs available for wives compared to one with a higher level of this norm.

We find that while wives in both treatment groups revise upwards their attitudes about women's market work relative to the control group (Table 7, column 1), it is only husbands in the network treatment that are differentially more likely to support women's market work ($p<0.10$, Table 7, column 4).[29] Since the attitudes of husbands are relevant in terms of their wives' decision to engage in market work, this indicates that the intervention led to a weakening of the socially acceptable norm of wives' market work in the network treatment group. If this shift is large enough, previously unavailable market opportunities for wives (including self-employment) now become acceptable to the household. Indeed, we show that it is those (previously not working) network treatment wives whose husbands showed improved

[28] A plausible alternative explanation for these findings could be that access to the job platform affected individuals' beliefs about the labor market in general Bandiera *et al.* (2021); Banerjee & Sequeira (2023); Abebe *et al.* (2020), including information on job opportunities outside the platform, that then impacted their labor market outcomes, rather than actual job offers from the platform *per se* (which were low at 0.26 offers per registered person). Nevertheless, our interpretation of the intrahousehold dynamics of the impact of access to the job platform still hold.

[29] Although some other gender attitudes also improved among husbands, there are no significant differences between network treatment and non-network treatment husbands (see Appendix Table A.19), indicating that these changes cannot explain the self-employment of network treatment wives. Further, it is reassuring to observe a shift among husbands in the network group in the specific attitude that is most relevant for their wives' market work.

attitudes towards women's market work that are more likely to transition into self-employment (see column 1 of Appendix Table A.20). In addition, this attitudinal improvement among husbands in the network treatment group is matched by similar improvement among the wives' treated peers in this group, providing suggestive evidence that the peer network is the potential mediator of such norm shifts, at least for the compliers (see column 2 of Appendix Table A.20).

However, with no improvements in husbands' willingness to share the domestic chores if the wife works (Table 7, column 8) in the network treatment group, only self-employment work with low demand for hours of market work and greater flexibility becomes available to the wives. Hence, while (some) women in the network treatment group took up self-employment in less demanding own business in manufacturing (e.g. tailoring, see Appendix Table A.21, column 3), even this type of market work remained unacceptable for wives in the non-network treatment, who report a marginally significant decline in engagement in casual work (Table 5, column 11). Interestingly, the positive impact of the intervention on these network treatment wives' self employment appears to be driven by those wives whose female peers also contemporaneously took up self-employment (Appendix Table A.22).

3. *The structure of the social network may reinforce the norm through the social cost of deviation, restricting wives' market work and boosting their husbands' employment.*

As postulated by our theoretical framework, an additional channel through which the set of market work opportunities for wives may be impacted is through the lowering of the social cost of deviation from the norm. The weight on the norm, in turn, depends on the structure of the social network. Our results suggest that the structure of the wives' social network constrained their labor market outcomes, either by making them conform to the existing norm of low employment or via fewer weak ties (Calvo-Armengol & Jackson, 2004; Mortensen & Vishwanath, 1994), or both. We provide some suggestive evidence for this channel by looking at heterogeneous treatment effects by type of peers on wives' likelihood of working in the network treatment group.

Existing research has shown that a home-bound, family-based network structure is relatively conservative compared to a friends-based network and puts a higher penalty on deviation from the norm (Field *et al.*, 2016; Anukriti *et al.*, 2022). As a result, the former may restrict market work opportunities more than the latter. Indeed, our empirical analysis shows that the wives in the network treatment whose social network do not consist of relatives are 16 pp ($p<0.05$) more likely to be engaged in market work relative to control, but this effect is completely reversed for those whose peer network includes relatives (Table 8a, column 1). Furthermore, wives in the network treatment, whose peer networks consist of higher

proportion of friends, are also more likely to be working. While we do not ascribe any causal interpretation to these heterogeneous treatment effects given that network formation is endogenous, taken together, these results provide suggestive evidence that family-based networks may hurt wives' take-up of market work while friend-based networks have the opposite impact.[30]No such heterogeneity is observed for husbands.

In contrast, we posit that family-based social networks of wives may instead facilitate their husbands' employment, which is consistent with the larger positive treatment effects that we observe on husbands' labor market outcomes in the network treatment group relative to the non-network group. In particular, we show that the extent of (family) overlap between spouses' social networks may be an important driver of these effects enjoyed by the network husbands (see Table 8b, columns 2 and 4), possibly due to sharing of relevant job information through common relatives. Consistent with this explanation, we also find significant positive treatment effects on employment (both extensive and intensive margins) for the network treatment wives' male peers, many of whom share many labor market characteristics with their husbands, but not for their female peers, as shown in Appendix Table A.23. This further suggests sharing of information between male peers of wives and the husbands, that would have benefited men (or husbands) even in the absence of bundling the job platform intervention to the couple. We acknowledge, however, that this finding could also be explained by alternative channels, e.g. increased social competition between husbands and their wives' male peers in response to the network treatment, that could fall within the broader scope of peer effects.

5.2 Alternative explanations

In this section, we attempt to rule out other possible explanations for our results, beyond that posited by our conceptual framework above.

Gender differences in technology take-up: Are women less likely to take up new digital technology resulting in our observed gender-differentiated treatment effects? As Appendix Table A.10 shows, there is no statistically significant gender difference in the take-up of the technology as measured by registration on the platform, whether unconditional or conditional.[31] Of course, both wives and husbands have higher platform registration rates in the network treatment group relative to the non-network group, consistent with positive

[30]We also find further suggestive evidence on the peer network's influence on wives' work status by examining gender attitudes of the peers . Wives in the network treatment, whose peers reported relatively progressive (conservative) attitudes at endline were more (less) likely to be working relative to the control group (Appendix Table A.24).

[31]Furthermore, since registration could be completed by just having a simple mobile phone, we check for, but do not find, any heterogeneity in our results by mobile phone ownership or usage of the respondent.

peer effects in take-up, but we find no statistically significant gender differences therein. Moreover, the fact that our collaborating platform did not require a smartphone (only a basic mobile phone) and offered several jobs that women traditionally prefer (as discussed previously in Appendix Table A.1), addresses any concern that women were less likely to take-up our intervention.

Insufficient demand for women's labor: Did women's employment not increase because there were just no jobs for women, especially in the backdrop of potentially systematic gender differences in the recovery of the labor market during the post-pandemic period? The descriptive evidence appears to belie this concern. First, Panel B of Appendix Table A.10 indicates that the (unconditional) job offer rate for wives was similar (if not marginally higher) to that of their husbands (9% compared to 7%) in the the non-network group. Second, looking at the broader time trends of female labor force participation in Delhi and urban India post-pandemic (see Appendix Figure A.3), we find that female employment rates had already begun to recover from losses during the pandemic around the time of our endline in 2021, indicating the potential of digital job search platforms in further boosting demand for women's labor at this time.

Post-pandemic recovery of male employment: Could the increase in employment rates of husbands in the network treatment group be driven by a recovery response to sharp male job losses during the pandemic? However, we find no differential employment outcomes for husbands in the network treatment group, either by job loss during the pandemic (see Appendix Table A.25) or work status right after the pandemic-induced lockdown at Endline 1. Thus, husbands in the network treatment group who lost their jobs during the pandemic or were not employed up to 6 months after (at Endline 1) show a similar impact of the intervention as husbands who did not lose their jobs during the pandemic or found work.

Income effects: Could the increase in self-employment among network treatment wives be driven by income effects enjoyed by their husbands due to the intervention? We find that the higher participation in self-employment is driven by wives whose husbands were working at baseline but is not positively impacted by gains in husbands' work status or earnings between baseline and endline (Appendix Table A.26).

Network-mediated access to women's market work: Finally, we check for any heterogeneity in treatment effects by the average minimum distance between the polling station in which the respondent resided and the closest factory (the average minimum distance was 1.4 kms, while the average maximum distance was 3.9 kms). We do not find any differential treatment effects (see Appendix Table A.27), suggesting that network-mediated access to work opportunities – e.g. changes in labor demand during the pandemic that wives

in the network treatment group took advantage of through their network (such as stitching face masks from home and supplying to the factory) – does not drive the self-employment results.

6 Conclusion

In this paper, we study the impact of offering new job search technology aimed at lowering labor market frictions to married couples, either on their own or alongside the wife's social network in a setting with strong social norms against women's market work. We find that access to a digital job search platform weakly improved labor market outcomes at the household level, with stronger positive effects when social networks were treated similarly.

However, couples who were offered the service on their own (non-network treatment), experienced a degree of substitution in their labor force participation, with wives decreasing their intensity of work, driven by their withdrawal from casual labor, while their husbands increased their work engagement. On the other hand, couples that were offered the service together with the wife's peer network (network treatment) were able to circumvent such substitution. Husbands in this group succeeded in increasing their work involvement, both at the extensive and intensive margins, without negatively impacting their wives' labor force participation on either front. Instead, we find that wives in the network treatment group were more likely to transition towards self-employment in terms of their occupational choice, potentially driven by improvement in their husbands' attitudes towards women's market work that is indicative of a norm shift within their peer network.

We argue that the home-bound, family-based nature of women's social networks reinforce existing norms of low female market work to keep wives at home, while simultaneously benefiting their husbands (owing to significant network overlap in terms of common relatives) through potential sharing of labor market information. Existing research has identified social networks as an important positive driver in the adoption of new technology (Beaman *et al.*, 2021; Bandiera & Rasul, 2006). In contrast, our findings shed new light on how the structure of social networks can itself moderate the impact of new technology, differently for men relative to women, in the context of labor markets in developing countries. Hence, our findings have implications for the development of effective interventions that weaken regressive gender norms and expand women's networks beyond the boundary of their families. This may be critical to ensure that new technologies do not exacerbate existing gender inequities in the labor market, constituting a promising area for future research.

References

Abebe, Girum, Caria, Stefano, Fafchamps, Marcel, Falco, Paolo, Franklin, Simon, Quinn, Simon, & Shilpi, Forhad. 2020. Matching frictions and distorted beliefs: Evidence from a job fair experiment. *Department of Economics, Oxford University (mimeo)*.

Afridi, Farzana, Bishnu, Monisankar, & Mahajan, Kanika. 2022. What determines women's labor supply? The role of home productivity and social norms. *forthcoming, Journal of Demographic Economics*.

Anderson, Siwan, & Eswaran, Mukesh. 2009. Determinants of female autonomy: Evidence from Bangladesh. *Journal of Development Economics*, **90**(2), 179–191.

Anukriti, S, Herrera-Almanza, Catalina, & Karra, Mahesh. 2022. Bring a friend: Strengthening women's social networks and reproductive autonomy in India. *IZA Discussion Papers No. 15381*.

Bandiera, Oriana, & Rasul, Imran. 2006. Social networks and technology adoption in northern Mozambique. *Economic Journal*, **116**(514), 869–902.

Bandiera, Oriana, Bassi, Vittorio, Burgess, Robin, Rasul, Imran, Sulaiman, Munshi, & Vitali, Anna. 2021. The search for good jobs: Evidence from a six-year field experiment in Uganda. *Available at SSRN 3910330*.

Banerjee, Abhijit, Chandrasekhar, Arun G, Duflo, Esther, & Jackson, Matthew O. 2013. The diffusion of microfinance. *Science*, **341**(6144), 1236498.

Banerjee, Abhijit V, & Sequeira, Sandra. 2023. Learning by searching: Spatial mismatches and imperfect information in southern labor markets. *Journal of Development Economics*, **164**, 1–14.

Beaman, Lori, Keleher, Niall, & Magruder, Jeremy. 2018. Do job networks disadvantage women? Evidence from a recruitment experiment in Malawi. *Journal of Labor Economics*, **36**(1), 121–157.

Beaman, Lori, BenYishay, Ariel, Magruder, Jeremy, & Mobarak, Ahmed Mushfiq. 2021. Can network theory-based targeting increase technology adoption? *American Economic Review*, **111**(6), 1918–43.

BenYishay, Ariel, & Mobarak, A Mushfiq. 2019. Social learning and incentives for experimentation and communication. *The Review of Economic Studies*, **86**(3), 976–1009.

Bernhardt, Arielle, Field, Erica, Pande, Rohini, & Rigol, Natalia. 2019. Household Matters: Revisiting the Returns to Capital among Female Microentrepreneurs. *American Economic Review: Insights*, **1**(2), 141–60.

Borker, Girija. 2021. Safety first: Perceived risk of street harassment and educational choices of women. *World Bank Policy Research Working Paper 9731*.

Burbidge, John B, Magee, Lonnie, & Robb, A Leslie. 1988. Alternative transformations to handle extreme values of the dependent variable. *Journal of the American Statistical Association*, **83**(401), 123–127.

Calvo-Armengol, Antoni, & Jackson, Matthew O. 2004. The effects of social networks on employment and inequality. *American Economic Review*, **94**(3), 426–454.

Caria, Stefano, Orkin, Kate, Andrew, Alison, Garlick, Robert, Heath, Rachel, & Singh, Nikarika. 2024. *Barriers to Search and Hiring in Urban Labour Markets*. Tech. rept. VoxDevLit, 10(1) February.

Cavapozzi, Danilo, Francesconi, Marco, & Nicoletti, Cheti. 2021. The impact of gender role norms on mothers' labor supply. *Journal of Economic Behavior & Organization*, **186**, 113–134.

Chakraborty, Tanika, Mukherjee, Anirban, Rachapalli, Swapnika Reddy, & Saha, Sarani. 2018. Stigma of sexual violence and women's decision to work. *World Development*, **103**, 226–238.

Chiappori, Pierre-Andre. 1992. Collective labor supply and welfare. *Journal of Political Economy*, **100**(3), 437– 467.

Dean, Joshua T, & Jayachandran, Seema. 2019. Changing family attitudes to promote female employment. *Pages 138–42 of: AEA Papers and Proceedings*, vol. 109.

Dhia, Aïcha Ben, Crépon, Bruno, Mbih, Esther, Paul-Delvaux, Louise, Picard, Bertille, & Pons, Vincent. 2022. Can a website bring unemployment down? Experimental evidence from France. *NBER Working Paper 29914*.

Dupas, Pascaline, & Jain, Radhika. 2023. Women Left Behind: Gender Disparities in Utilization of Government Health Insurance in India. *forthcoming, American Economic Review*.

Eswaran, Mukesh, & Malhotra, Nisha. 2011. Domestic violence and women's autonomy in developing countries: Theory and evidence. *Canadian Journal of Economics*, **44**(4), 1222–1263.

Eswaran, Mukesh, Ramaswami, Bharat, & Wadhwa, Wilima. 2013. Status, caste, and the time allocation of women in rural India. *Economic Development and Cultural Change*, **61**(2), 311–333.

Field, Erica, Jayachandran, Seema, & Pande, Rohini. 2010. Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India. *American Economic Review*, **100**(2), 125–29.

Field, Erica, Jayachandran, Seema, Pande, Rohini, & Rigol, Natalia. 2016. Friendship at work: Can peer effects catalyze female entrepreneurship? *American Economic Journal: Economic Policy*, **8**(2), 125–53.

Ghanem, Dalia, Hirshleifer, Sarojini, & Ortiz-Becerra, Karen. 2021. Testing attrition bias in field experiments. *CEGA WPS No. 113*.

Granovetter, Mark S. 1973. The strength of weak ties. *American Journal of Sociology*, **78**(6), 1360–1380.

Guarnieri, E., & Rainer, H. 2021. Colonialism and female empowerment: A two-sided legacy. *Journal of Development Economics*, **151**.

Heath, Rachel. 2014. Women's access to labor market opportunities, control of household resources, and domestic violence: Evidence from Bangladesh. *World Development*, **57**, 32–46.

Ho, Lisa, Jalota, Suhani, & Karandikar, Anahita. 2024. Bringing Work Home: Flexible Work Arrangements as Gateway Jobs for Women in West Bengal. *MIT Working Paper*.

Jones, Sam, & Sen, Kunal. 2022. Labour market effects of digital matching platforms: Experimental evidence from sub-Saharan Africa. *IZA Discussion Paper No. 15409*.

Jones, Sam, & Sen, Kunal. 2024. The Gendered Impact of Digital Jobs Platforms: Experimental Evidence from Mozambique. *forthcoming, World Bank Economic Review*.

Kandpal, Eeshani, & Baylis, Kathy. 2019. The social lives of married women: Peer effects in female autonomy and investments in children. *Journal of Development Economics*, **140**, 26–43.

Kelley, Erin M, Ksoll, Christopher, & Magruder, Jeremy. 2022. How do online job portals affect employment and job search? Evidence from India. *Working Paper No. 3740*.

Lindenlaub, Ilse, & Prummer, Anja. 2021. Network structure and performance. *The Economic Journal*, **131**(634), 851–898.

Lowe, Matt, & McKelway, Madeline. 2024. *Bargaining breakdown: Intra-household decision-making and female labor supply*. Tech. rept. Working Paper.

MacDonald, Heather I. 1999. Women's employment and commuting: Explaining the links. *Journal of Planning Literature*, **13**(3), 267–283.

Maurin, Eric, & Moschion, Julie. 2009. The social multiplier and labor market participation of mothers. *American Economic Journal: Applied Economics*, **1**(1), 251–72.

Mortensen, Dale T, & Vishwanath, Tara. 1994. Personal contacts and earnings: It is who you know! *Labour Economics*, **1**(2), 187–201.

Mota, Nuno, Patacchini, Eleonora, & Rosenthal, Stuart S. 2016. Neighborhood effects, peer classification, and the decision of women to work. *IZA Discussion Paper No. 9985*.

Muldoon, Ryan, Lisciandra, Chiara, Bicchieri, Cristina, Hartmann, Stephan, & Sprenger, Jan. 2014. On the emergence of descriptive norms. *Politics, Philosophy & Economics*, **13**(1), 3–22.

Munshi, Kaivan. 2020. Social networks and migration. *Annual Review of Economics*, **12**, 503–24.

Nicoletti, Cheti, Salvanes, Kjell G, & Tominey, Emma. 2018. The family peer effect on mothers' labor supply. *American Economic Journal: Applied Economics*, **10**(3), 206–34.

Paul, S. 2016. Women's labour force participation and domestic violence: Evidence from India. *Journal of South Asian Development*, **11**(2), 224–250.

Tur-Prats, A. 2021. Unemployment and intimate partner violence: A cultural approach. *Journal of Economic Behavior Organization*, **185**, 27–49.

Wellman, Barry, & Wortley, Scot. 1990. Different strokes from different folks: Community ties and social support. *American Journal of Sociology*, **96**(3), 558–588.

Wheeler, Laurel, Garlick, Robert, Johnson, Eric, Shaw, Patrick, & Gargano, Marissa. 2022. LinkedIn (to) job opportunities: Experimental evidence from job readiness training. *American Economic Journal: Applied Economics*, **14**(2), 101–25.

Table 1: Work status and social networks, by gender (at baseline)

	Wife	Husband	Wife-Husband
	Panel A: Labor Force Participation		
Working	0.24	0.96	-0.72***
	(0.42)	(0.20)	
Casual labor	0.07	0.25	-0.18***
	(0.26)	(0.44)	
Self-employed	0.11	0.30	-0.19***
	(0.32)	(0.46)	
Salaried	0.04	0.40	-0.35***
	(0.21)	(0.49)	
Unemployed	0.02	0.04	-0.02***
	(0.13)	(0.19)	
Not in labor force	0.75	0.01	0.74***
	(0.13)	(0.19)	
Monthly earnings (INR)	908.48	11146.82	-10238***
	(75.29)	(436.13)	
Expected earnings (INR)	10246.77	13384.25	-3137.48***
	(214.91)	(309.91)	
	Panel B: Social Network (by relationship and gender)		
Non co-resident relative	0.75	0.39	0.35***
	(0.30)	(0.37)	
Friend	0.04	0.37	-0.33***
	(0.12)	(0.37)	
Neighbor	0.21	0.17	0.04***
	(0.29)	(0.27)	
Co-worker	0.00	0.07	-0.06***
	(0.04)	(0.18)	
Female	72.06	12.38	59.68***
	(0.25)	(0.21)	
N	1514	1514	

Note: In Panel A, we report the mean labor force participation of wives and husbands at baseline. An individual is either working, unemployed (and looking for work) or not in labor force (not working and not looking for work). Working status is classified into three categories - (1) Casual labor, (2) Self-employment and (3) Salaried Work. In Panel B, the social network of an individual is classified on the basis of the relationship with the member in the network at baseline. These can be relatives who are not co-residing with the respondent, friends, neighbors or co-workers. 'Expected earnings' from the HNM portal, for the sub-sample who registered. In each Panel, the last column reports the difference in the mean value of wife and husband (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table 2: Summary of registration rates on HNM job portal

	Main respondents (all treatments)							Wife's Peers (in T2)		
	All	Wife			Husband			All	Female	Male
Variable		T1 & T2	T1	T2	T1 & T2	T1	T2			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Interested	67.06	64.58	64.97	64.19	69.54	73.39	65.59	69.93	69.38	72.12
	(2016)	(1008)	(511)	(497)	(1008)	(511)	(497)	(828)	(663)	(165)
Registered	36.69	34.87	32.23	37.62	38.37	34.93	42.33	46.63	46.09	48.74
(Conditional)	(1352)	(651)	(332)	(319)	(701)	(375)	(326)	(579)	(460)	(119)
Registered	25.05	23.02	21.53	24.55	27.08	25.83	28.37	32.85	32.28	35.15
(Unconditional)	(2016)	(1008)	(511)	(497)	(1008)	(511)	(497)	(828)	(663)	(165)

Note: The matched husband and wife pairs in the two treatment arms and peers of wives in the network treatment arm (T2) were offered to register on the job portal. The first row reports the *Interest rate* of the respondents to join the portal. The second and third row report the Conditional and Unconditional *Registration rates*, respectively. The former conditions registration on being interested in on-boarding the portal while the latter is unconditional. Columns (1)-(7) list the sign-up rates for the main respondents - overall (column (1)), for the treated wives (column (2)) and their husbands (column (5)). Columns (3)-(4) and columns (6)-(7) report the treatment-wise averages for the treated wives and husbands, respectively. And the columns (8)-(10) report it for the peers of wife in T2 who were offered the same service - overall (column (8)) and by gender of the peer in columns (9) and (10). The number of respondents per category in parentheses.

Table 3: Impact of treatment on work status

	Wife	Husband	Wife	Husband	Household	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.013	0.012			0.018	
	(0.025)	(0.018)			(0.017)	
T1 (non-network)			-0.044	-0.018		-0.008
			(0.027)	(0.020)		(0.020)
T2 (network)			0.019	0.044**		0.045**
			(0.029)	(0.020)		(0.018)
Baseline Y	0.938***	0.193	0.919***	0.191	0.214***	0.213***
	(0.035)	(0.173)	(0.041)	(0.178)	(0.078)	(0.077)
p-value [T1=T2]			[0.02]	[0]		[0]
Observations	1,377	1,377	1,377	1,377	1,377	1,377
Mean Y	0.23	0.94	0.23	0.94	0.96	0.96

Note: The dependent variable is an indicator variable that takes value one if an individual is working in reference period and zero otherwise. Columns (1)-(2) report the combined treatment effect using equation (1) while Columns (3)-(4) report it for equation (2), by gender. Columns (5)-(6) report treatment effects for the household, i.e. the sum of husband's and wife's earnings. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table 4: Impact of treatment on work status on the intensive margin

	Wife	Husband	Wife	Husband	Household	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Number of days worked in a month						
Treatment	-0.484	1.715**			1.256	
	(0.545)	(0.771)			(1.038)	
T1 (non-network)			-1.228**	1.539*		0.332
			(0.591)	(0.820)		(1.121)
T2 (network)			0.286	1.901**		2.209*
			(0.639)	(0.830)		(1.115)
Baseline Y	0.182***	0.080*	0.185***	0.080*	0.138***	0.140***
	(0.067)	(0.047)	(0.067)	(0.047)	(0.046)	(0.046)
p-value [T1=T2]			[0.01]	[0.54]		[0.03]
Observations	1,377	1,377	1,377	1,377	1,376	1,376
Mean Y	5	22.75	5	22.75	27.76	27.76
Panel B: Number of hours worked in a day						
Treatment	-0.191	0.435			0.297	
	(0.156)	(0.326)			(0.384)	
T1 (non-network)			-0.367**	0.221		-0.102
			(0.176)	(0.345)		(0.416)
T2 (network)			-0.009	0.661*		0.707*
			(0.180)	(0.353)		(0.416)
Baseline Y	0.283***	0.186***	0.284***	0.186***	0.196***	0.197***
	(0.071)	(0.034)	(0.071)	(0.034)	(0.030)	(0.030)
p-value [T1=T2]			[0.04]	[0.08]		[0.02]
Observations	1,377	1,362	1,377	1,362	1,361	1,361
Mean Y	1.05	8.15	1.05	8.15	9.18	9.18

Note: The dependent variable in Panel A (B) is the average number of days worked in a month (the number of hours worked in a day) in the reference period. Days worked in a month were calculated by multiplying the number of days worked in a week by four. In Panel B, we drop outliers where the number of hours reported at individual is above 14 per day and that at the household level is above 28 per day. Columns (1)-(2) report the combined treatment effect using equation (1) while Columns (3)-(4) report it for equation (2), by gender. Columns (5)-(6) report effects for the household, i.e. the sum of husband's and wife's earnings. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). In Panel A and B, 'Mean Y' denotes the mean value of workdays and work hours, respectively, for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table 5: Impact of treatment on type of work

Employment Type	Self-employed				Salaried				Casual labor			
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment	0.015	0.036			-0.001	0.027			-0.030*	-0.042		
	(0.016)	(0.025)			(0.009)	(0.026)			(0.017)	(0.032)		
T1 (non-network)			-0.013	0.042			0.001	0.016			-0.034*	-0.067*
			(0.014)	(0.026)			(0.011)	(0.029)			(0.020)	(0.036)
T2 (network)			0.045**	0.030			-0.002	0.039			-0.025	-0.016
			(0.022)	(0.031)			(0.011)	(0.031)			(0.017)	(0.039)
Baseline Y	0.158***	0.417***	0.157***	0.416***	0.340***	0.290***	0.340***	0.291***	0.332***	0.228***	0.332***	0.226***
	(0.041)	(0.032)	(0.041)	(0.032)	(0.071)	(0.035)	(0.071)	(0.035)	(0.056)	(0.064)	(0.057)	(0.064)
p-value [T1=T2]			[0]	[0.68]			[0.81]	[0.46]			[0.6]	[0.18]
Observations	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377
Mean Y	0.12	0.32	0.12	0.32	0.05	0.39	0.05	0.39	0.06	0.23	0.06	0.23

Note: The dependent variable is an indicator variable for type of work. In Columns(1)-(4), it takes value one if an individual is self-employed and zero otherwise. Similarly, Columns (5)-(8) and Columns (9)-(12) are indicator variables for salaried and casual labor, respectively. Columns (1)-(2), (5)-(6) and (9)-(10) report the combined treatment effect using equation (1) while Columns (3)-(4), (7)-(8) and (11)-(12) report the treatment-wise effect for equation (2), by gender. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table 6: Impact of treatment on monthly earnings

	Wife	Husband	Wife	Husband	Household	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.211	0.924**			0.991**	
	(0.299)	(0.442)			(0.406)	
T1 (non-network)			-0.605*	0.668		0.770*
			(0.320)	(0.463)		(0.435)
T2 (network)			0.196	1.195**		1.219***
			(0.349)	(0.467)		(0.425)
ln(Baseline level)	0.232***	0.082*	0.238***	0.083*	0.143***	0.144***
	(0.082)	(0.045)	(0.082)	(0.045)	(0.041)	(0.041)
p-value [T1=T2]			[0.01]	[0.08]		[0.12]
Observations	1,377	1,377	1,377	1,377	1,376	1,376
Mean Y	889.07	11515.43	889.07	11515.43	12404.5	12404.5

Note: The dependent variable is the log transformation of the monthly individual earnings (Columns (1)-(4)) and monthly household earnings (defined as the sum of husbands' and wives' labor earnings) (Columns (5)-(6)), respectively. The p-values correspond to test of equivalence in the treatment effect between the two treatments (T1 and T2). 'Mean Y' denotes the mean of monthly earnings (without log transformation) for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table 7: Impact of treatment on own attitude towards outside work and domestic chores

	Womens' market work				Husband's help with domestic chores			
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.148**	0.082			-0.006	-0.047**		
	(0.057)	(0.060)			(0.028)	(0.021)		
T1 (non-network)			0.128**	0.019			-0.016	-0.083***
			(0.063)	(0.071)			(0.036)	(0.027)
T2 (network)			0.169***	0.147**			0.003	-0.009
			(0.061)	(0.065)			(0.033)	(0.023)
Baseline Y	0.060*	0.114***	0.059*	0.115***	0.132***	0.052	0.131***	0.046
	(0.035)	(0.029)	(0.035)	(0.028)	(0.031)	(0.033)	(0.031)	(0.033)
p-value [T1=T2]			[0.39]	[0.06]			[.62]	[.01]
Observations	1,376	1,377	1,376	1,377	1,373	1,376	1,373	1,376
Mean Y	0.11	-0.12	0.11	-0.12	0.74	0.85	0.74	0.85

Note: The dependent variable in Columns (1)-(4) is an indicator variable that takes value one if an individual agrees to the norm "In your opinion, should an adult woman work outside of the home if she wants to?". In (5)-(7), the dependent variable is an indicator variable that takes value one if the wife reports her husband helps in household chores and in columns (6)-(8), it is an indicator variable that takes value one if the husband reports helping the wife. The p-values correspond to test of equivalence in the treatment effect between the two treatments (T1 and T2). 'Mean Y' denotes the mean of dependent variables for control group at baseline.

Table 8: Heterogeneity in the impact of treatment on work status by network

(a) Structure of network

Network Type (Z)	Non-co-resident Family		Friends		Neighbors		Co-workers	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1 (non-network)	0.070	-0.025	-0.056**	0.019	-0.064**	-0.045*	-0.047*	-0.018
	(0.070)	(0.031)	(0.026)	(0.027)	(0.029)	(0.023)	(0.026)	(0.022)
T2 (network)	0.160**	0.032	0.003	0.055**	-0.011	0.042*	0.015	0.045**
	(0.067)	(0.027)	(0.029)	(0.025)	(0.034)	(0.023)	(0.029)	(0.021)
T1 × Proportion Z	-0.151*	0.021	0.362	-0.097*	0.097	0.169**	0.762	0.002
	(0.080)	(0.056)	(0.227)	(0.050)	(0.074)	(0.072)	(0.627)	(0.103)
T2 × Proportion Z	-0.194**	0.030	0.381**	-0.027	0.131	0.014	0.806	-0.037
	(0.078)	(0.050)	(0.191)	(0.043)	(0.080)	(0.069)	(0.791)	(0.070)
Observations	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377

Note: The dependent variable in both tables is an indicator for own work status. It takes value one if the individual is working and zero otherwise. Columns (1)-(2) report the heterogeneity estimates by the proportion of the baseline social network consisting of non-co-resident family members, columns (3)-(4) by proportion of friends, columns (5)-(6) by neighbors, and columns (7)-(8) by co-workers. The first and second rows report the regression coefficients for the non-network and network treatments, while the third and fourth rows report the heterogeneity in the treatment effects by the proportion of the network consisting of different types of peers. All specifications control for household characteristics and individual characteristics at baseline. Standard errors clustered at the PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

(b) Impact by network overlap

	Relatives/Neighbors		Friends	
	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)
T1 (non-network)	-0.043	-0.018	-0.043	-0.018
	(0.027)	(0.020)	(0.027)	(0.020)
T2 (network) $\times Overlap = 0$	0.008	0.033	0.016	0.043**
	(0.029)	(0.021)	(0.030)	(0.020)
T2 (network) $\times Overlap = 1$	0.050	0.073***	0.407	0.085***
	(0.051)	(0.020)	(0.256)	(0.028)
p-value [$Overlap$]	[0.35]	[0.03]	[0.13]	[0.13]
Observations	1,377	1,377	1,377	1,377

Note: The first row reports the estimate for treatment without a network (T1). The second and third rows report the estimates for treatment with a network (T2) by no overlap in the treated network of wife and husband and those with an overlap, respectively. The overlap is captured by the presence of treated non-co-resident family members or neighbors (columns (1)-(2)) and friends (columns (3)-(4)) in the social network of the wife at baseline. If such peers exist in the wife's network (also relatives/neighbors of the husbands) at baseline, then the variable 'Overlap' takes value one and zero otherwise. The p-values correspond to the equivalence test in the treatment effect between the two *Overlap* categories. All specifications control for household and individual characteristics at baseline. Standard errors clustered at the PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

ONLINE APPENDIX

A Sampling and Attrition

We use publicly available household listing from electoral registers as the basis of our sampling frame. Delhi has over 300 Electoral Board (EB) wards contained in 70 Assembly Constituencies (AC) across 11 districts.

EB wards where the largest proportion of households consisted of slum clusters (low-income residential areas) resettled into permanent habitations were considered for sampling and mapped into relevant Census 2011 wards to assess their population, employment, literacy, and civic amenities. We sampled 24 such EB wards spread across 11 ACs within 5 districts of Delhi - West, North, North-west, Shahadra, and North-east. On average, an AC consists of around 150-180 polling stations (PS), with approx. 500-1000 eligible voters (or 250-500 households) per PS. For each of the 11 sampled AC, a stratified random sample of about 10 PS was drawn, and within each sampled PS, 15 households were randomly sampled for inclusion in our study. Stratification of PS was by proportion of low-income residential households. To ensure sufficient power in the event of attrition and replace households where both husband and wife could not be interviewed, we randomly sampled additional households beyond our target sample size. A household was considered eligible for the study if it had at least one married couple in the age group of 18-45 years. Figure A.1 shows the geographical spread across Delhi of the sampled 108 polling stations, which form our primary sampling unit (cluster)

As mentioned in Section 3, overall attrition is low in our data (below 5%) but significantly different across the three groups (7.3% in T1, 4.4% in T2 and 2.3% in control). Notably, the baseline characteristics, such as age, education, and employment status, of those who dropped out were similar to those who remained in the sample. Nonetheless, we restrict the sample to a balanced panel of couples who were successfully followed up in all rounds of the survey to check the robustness of our results to selective attrition. This comprises 96% of our original sample. The regression results for the balanced sub-sample in Appendix Table A.16 show that our results remain unchanged. We continue to find that the probability of working, the intensity of work (workdays and work hours), and earnings in the network treatment group for husbands is higher relative to the control group. The higher beneficial effect in T2 (network treatment) over T1 holds for both husbands and their wives.[32]

[32]The attrition rates for the peers were comparable in T1 and control groups, while T2 exhibited a relatively higher attrition rate. At Endline 1, the attrition rate was 11% for both the T1 and the control group and 20% for T2. And at Endline 2, the attrition rate ranged from 14-15% for T1 and the control group, whereas it was 18.5% for T2. At both endlines, the age and education level of surveyed peers are similar to

Furthermore, we follow Ghanem *et al.* (2021) to test for attrition bias in our sample. For this, we test for the differences in mean baseline outcomes across the treatment arms for the non-attriters and the attriters. Appendix Table A.17 reports the baseline mean for two main outcome variables: (i) work status (Panel A), and (ii) average monthly earnings (Panel B). Columns (1)-(3) report the mean for the non-attriters while columns (4)-(6) report it for the attriters. In columns (7)-(8), we report the p-values of the test of mean differences between the treatments and control group for the non-attriters, while the corresponding p-values for attriters are in columns (9)-(10). We find that both these baseline outcomes are similar across control and treated non-attriters in both the treatment arms (columns (7)-(8)) as well as treated and control group attriters (columns (9)-(10)). Additionally, there are no significant differences in both these outcome variables amongst all treatment-response subgroups, i.e. between the treatment and control respondents and attriters. Therefore, the difference in mean outcomes at endline identifies the treatment effect on our sample since the identifying assumption of internal validity is satisfied.[33]

the peers who drop out of the sample but the former have a lower baseline employment rate compared to the latter (63% vs 69% at Endline 1 and 62.5% vs 71% at Endline 2, respectively.)

[33]We also carried out the standard inverse-probability weighted (IPW) approach. Our results are robust to correction for selection on observed household and individual characteristics as well as multiple hypotheses tests.

Figure A.1: Sampled districts, and polling stations by treatment status

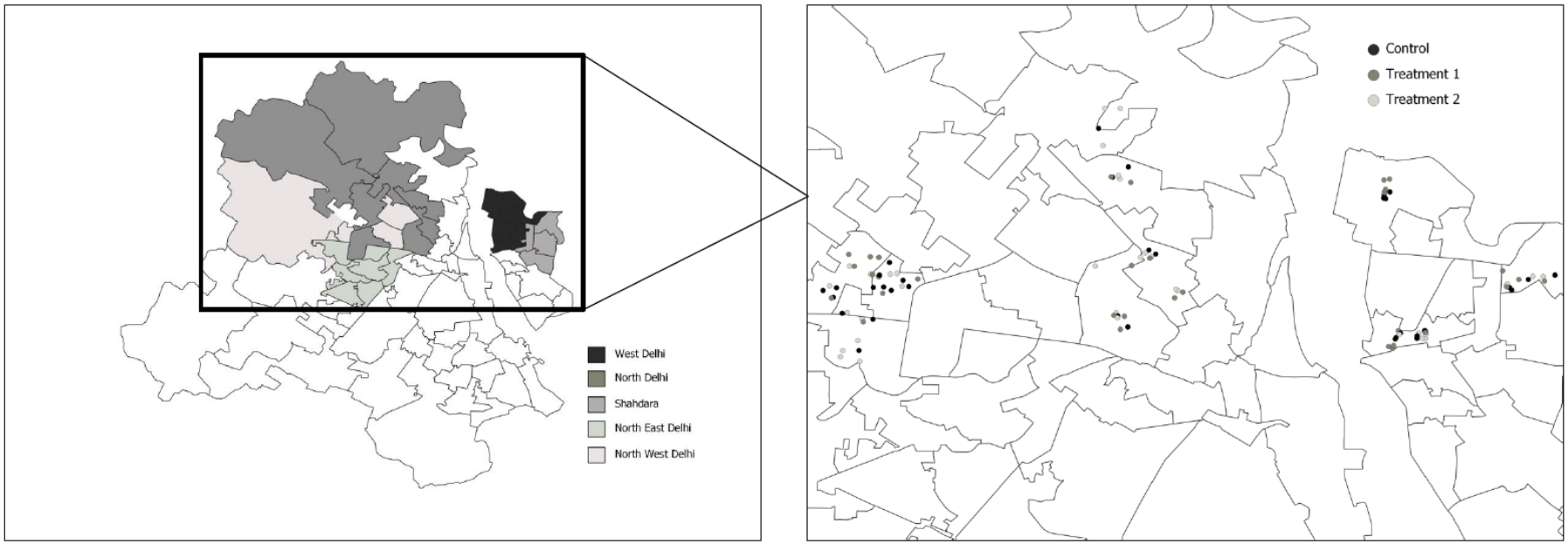
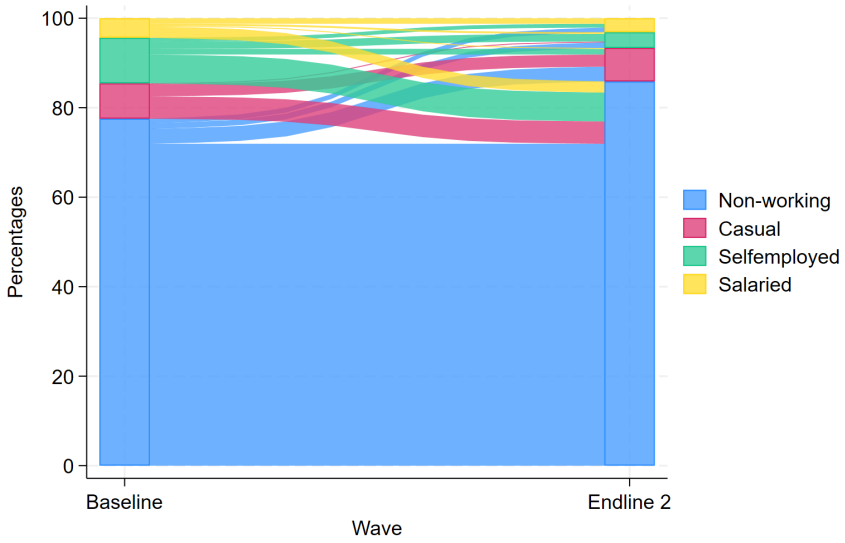
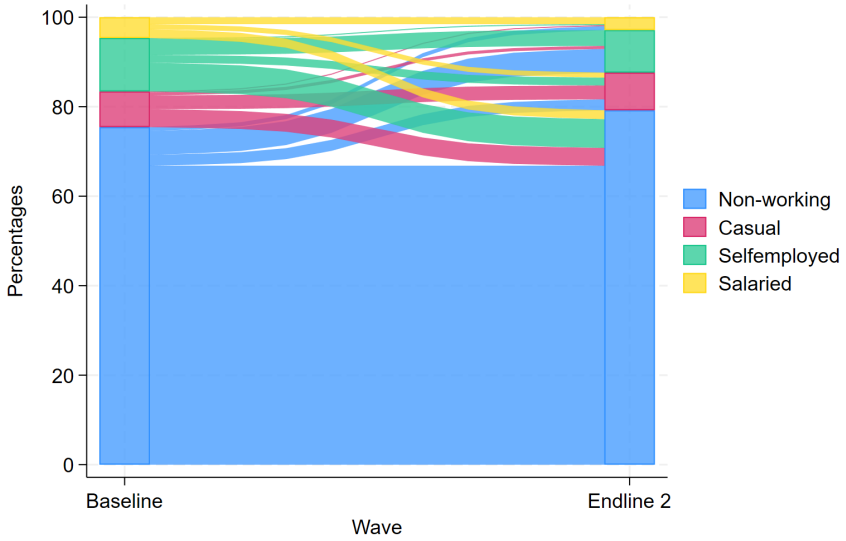


Figure A.2: Transition matrices of wives, by treatment



(a) **T1**: Non-network treatment



(b) **T2**: Network treatment

Note: The figures above show the occupational transition that wives made between Baseline and Endline 2. Figure (a) is based on the sample of 481 wives in the T1 group, while Figure (b) consists of the sample of 452 wives who were part of the network treatment group T2. *Non-working* includes wives who reported being housewives or unemployed.

B Additional Tables and Figures

Table A.1: Registrations on HNM job portal, by occupation and gender

Job Profiles	Worker registrations			Featured for job opening			Called for job	
	All (1)	Female (2)	Distance (3)	All (4)	Female (5)	Distance (6)	All (7)	Female (8)
Overall	**78493**	**0.57**	**5.51**	**18071**	**0.82**	**2.74**	**11866**	**0.83**
Babysitter	1870	1.00	3.06	1439	1.00	2.35	981	1.00
Beautician	713	0.92	4.53	46	1.00	6.36	31	1.00
Cook	3493	0.87	3.58	5932	0.86	2.22	3799	0.87
Driver	3544	0.00	9.29	1033	0.00	5.47	619	0.00
Electronic Technician	609	0.01	11.36					
Maid/domestic helper	19775	0.87	3.61	8751	0.93	2.63	5849	0.94
Medicinal Helper	691	0.55	7.27	48	0.46	7.51	27	0.41
Office Helper	25485	0.38	6.60	383	0.19	3.98	239	0.14
Other	1463	0.17	8.19	95	0.00	6.33	70	0.00
Other Helper	13210	0.70	4.67	124	0.23	4.12	85	0.19
Other Technician	985	0.04	8.58	34	0.00	4.14	23	0.00
Salesperson	6655	0.41	6.79	186	0.01	5.22	143	0.00

Note: We summarise the job profiles of the universe of all workers (excluding our study sample) registered on the HNM portal and the job profiles for which they were 'featured' or listed for employers and (phone) called by employers up to June 2021. Columns (1)-(3) list the preferences of registered workers - the total number of job profiles workers registered for (column (1)), the proportion of women in the total works registered (column (2)), and the distance they are willing to travel (in km) (column (3)). Columns (4)-(6) record the number of workers who were featured for each job (column (4)), the proportion of women featured for each job (column (5)), and the average distance of the worker from employer (column (6)). Lastly, columns (7)-(8) list the number of workers who were called (column (7)) for the featured job and the proportion of women called for that jobs (column (8)).*Other* includes job profiles of skilled construction worker/mason, Machine Operator, Bartender, Supervisor. *Other Helper* includes Salon Helper, Stitching Helper, Security Guard. And *Other Technician* comprises Construction Painter, Electronic Technician, Construction Carpenter, Construction Plumber.

Table A.2: Timeline of study

Date	**Round**	**Unit**	**Full Sample**	**Matched Sample**
May-July 2019	Baseline	Household	1613	1514
		Individual	3127	3028
		Peers in Network	3468	3468
Nov 2019–Jan 2020	Intervention	Household	1549	1383
		Individual	2972	2878
		Peers in Network	893 (treated)	881
Apr-Aug 2020	Nation-wide Lockdown Due to Covid-19 Pandemic			
Aug-Nov 2020	First Endline	Household,	1588	1449
		Individual	3069	2976
		Peers in Network	3583 (baseline+treated)	3575
Apr-June 2021	Second Endline	Household,	1555	1422
		Individual	2981	2891
		Peers in Network	3522 (baseline+treated)	3511

Table A.3: Summary statistics (at baseline)

Variable	N	Mean	S.D.	Definition
Panel A: Household Characteristics				
Household Size	1514	5.29	1.84	number of household members
Joint Family	1514	0.19	0.39	=1 if more than one couple present in the household, 0 otherwise
Young Children	1514	0.57	0.70	=1 if the couple has children below 5 years of age, 0 otherwise
Hindu	1514	0.82	0.38	=1 if household reports Hindu religion, 0 otherwise
SC/ST	1510	0.44	0.50	=1 if household belongs to scheduled Caste or Tribe, 0 otherwise
Asset Index	1471	0.00	1.00	PCA of assets
Native	1514	0.36	0.48	=1 if household native of Delhi, 0 otherwise
Years of stay	1512	28.76	14.08	number of years the household has stayed in current location
Panel B: Individual Characteristics				
Age	3028	32.71	6.52	years
Education	3025	0.62	0.48	=1 if above primary level of education, 0 otherwise
Phone usage	3028	0.94	0.24	=1 if use mobile phone, 0 otherwise
Working	3028	0.60	0.49	=1 if working, 0 otherwise
Casual labor	3028	0.16	0.37	=1 if working for wages in factories, construction, domestic help or other casual activities, 0 otherwise
Self-employed	3028	0.21	0.41	=1 if self-employed in retail, own business manufacturing or other self-employment activities, 0 otherwise
Salaried	3028	0.22	0.41	=1 if working as salaried employee in government or non-government organisations, 0 otherwise
Unemployed	3028	0.03	0.16	=1 if not working but looking for work, 0 otherwise
Not in labor force	3028	0.38	0.48	=1 if not working and not looking for work, 0 otherwise
Earnings	3028	6027.65	13207.69	Monthly income (in INR)
Earnings (Conditional)	1691	10793.45	16154.85	Monthly income conditional on being employed
Panel C: Network Characteristics				
Age	3466	36.23	11.39	in years
Female	3468	0.38	0.48	=1 for females, 0 otherwise
Education	3462	0.66	0.48	=1 if above primary level of education, 0 otherwise
Working	3468	0.64	0.48	=1 if working, 0 otherwise
Unemployed	3468	0.06	0.23	=1 if not working but looking for work, 0 otherwise
Not in labor force	3468	0.31	0.46	=1 if not working and not looking for work, 0 otherwise

Note: SC/ST is an indicator variable for belonging to the marginalized Schedule Caste or Tribe category. The *Asset Index* is constructed using the principal components analysis (PCA) on the households' ownership of different assets (flat, box TV, LCD TV, fridge, clock, stove, cycle, bike, car fan, cooler, AC, computer, mobile, sewing machine, agricultural land, rented land and farm animals).

Table A.4: Balance of household characteristics (at baseline)

	Control	**Treatment**		**Difference**		
	C	**T1**	**T2**	**C-T1**	**C-T2**	**T1-T2**
	(N=506)	**(N=511)**	**(N=497)**			
	(1)	(2)	(3)	(4)	(5)	(6)
Household Size	5.308	5.256	5.318	0.052	-0.010	-0.062
	(0.086)	(0.068)	(0.089)	(0.109)	(0.123)	(0.111)
SC/ST	0.405	0.445	0.464	-0.040	-0.059	-0.019
	(0.038)	(0.043)	(0.043)	(0.057)	(0.057)	(0.060)
OBC	0.344	0.313	0.302	0.031	0.041	0.011
	(0.037)	(0.028)	(0.032)	(0.046)	(0.048)	(0.042)
Hindu	0.789	0.869	0.811	-0.080	-0.022	0.058
	(0.048)	(0.038)	(0.041)	(0.061)	(0.063)	(0.055)
Pucca house	0.964	0.959	0.970	0.006	-0.005	-0.011
	(0.014)	(0.013)	(0.015)	(0.019)	(0.020)	(0.019)
Have tapped water	1.263	1.249	1.276	0.014	-0.013	-0.027
	(0.032)	(0.031)	(0.037)	(0.044)	(0.048)	(0.048)
Have ration card	0.638	0.593	0.630	0.045	0.008	-0.037
	(0.026)	(0.032)	(0.022)	(0.041)	(0.034)	(0.039)
Asset Index	0.015	-0.067	0.044	0.082	-0.028	-0.110*
	(0.044)	(0.036)	(0.056)	(0.056)	(0.070)	(0.066)
Years staying in current location	28.433	29.108	28.722	-0.675	-0.289	0.386
	(0.904)	(1.001)	(0.977)	(1.339)	(1.322)	(1.389)
Joint family	0.208	0.182	0.189	0.026	0.018	-0.007
	(0.019)	(0.022)	(0.015)	(0.029)	(0.024)	(0.027)
Number of young children	0.593	0.562	0.565	0.031	0.027	-0.004
	(0.037)	(0.029)	(0.035)	(0.046)	(0.050)	(0.045)
Native of Delhi	0.346	0.372	0.358	-0.026	-0.012	0.014
	(0.032)	(0.043)	(0.040)	(0.053)	(0.051)	(0.058)
p-values for joint significance	-	-	-	[0.386]	[0.991]	[0.169]

Note: The sample here is restricted to matched husband-wife pair data. T1 denotes treatment where only main respondents (husband-wife pair) were offered the job aggregator service, T2 represents treatment in which the main respondents and two of the wife's peers were offered this service and C denotes the control group where no such service was offered. The p-values reported in the last row of the table correspond to F-test of joint significance of household characteristics in determining the treatment status in a linear probability model. Standard errors, clustered at the PS level, are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.5: Balance of individual characteristics (at baseline)

	Wife						Husband					
	Control	Treatment		Difference			Control	Treatment		Difference		
	C	T1	T2	C-T1	C-T2	T1-T2	C	T1	T2	C-T1	C-T2	T1-T2
	(N=506)	(N=511)	(N=497)				(N=506)	(N=511)	(N=497)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	30.547	30.777	30.934	-0.229	-0.386	-0.157	34.579	34.622	34.833	-0.043	-0.254	-0.211
	(0.306)	(0.284)	(0.290)	(0.415)	(0.418)	(0.403)	(0.347)	(0.332)	(0.301)	(0.477)	(0.456)	(0.445)
Education	0.590	0.551	0.567	0.039	0.023	-0.016	0.673	0.671	0.694	0.002	-0.021	-0.023
	(0.026)	(0.035)	(0.033)	(0.043)	(0.041)	(0.047)	(0.030)	(0.033)	(0.031)	(0.044)	(0.043)	(0.045)
Years married	11.504	11.912	11.871	-0.408	-0.367	0.041	11.504	11.912	11.871	-0.408	-0.367	0.041
	(0.351)	(0.317)	(0.378)	(0.470)	(0.512)	(0.489)	(0.351)	(0.317)	(0.378)	(0.470)	(0.512)	(0.489)
No. of children	2.168	2.211	2.192	-0.043	-0.024	0.020	2.168	2.211	2.192	-0.043	-0.024	0.020
	(0.063)	(0.065)	(0.073)	(0.090)	(0.096)	(0.097)	(0.063)	(0.065)	(0.073)	(0.090)	(0.096)	(0.097)
Mobile usage	0.915	0.894	0.913	0.021	0.002	-0.019	0.962	0.977	0.978	-0.014	-0.015	-0.001
	(0.020)	(0.021)	(0.017)	(0.029)	(0.027)	(0.027)	(0.010)	(0.010)	(0.009)	(0.014)	(0.014)	(0.013)
Skill Trained	0.172	0.186	0.177	-0.014	-0.005	0.009	0.043	0.051	0.046	-0.007	-0.003	0.005
	(0.020)	(0.023)	(0.022)	(0.030)	(0.030)	(0.031)	(0.009)	(0.009)	(0.008)	(0.013)	(0.012)	(0.012)
Number of Peers	3.931	4.297	3.915	-0.367*	0.015	0.382*	3.069	3.139	3.201	-0.070	-0.132	-0.062
	(0.122)	(0.182)	(0.112)	(0.218)	(0.164)	(0.212)	(0.074)	(0.068)	(0.078)	(0.100)	(0.107)	(0.102)
Number of peers with mobile	1.923	1.875	1.944	0.048	-0.021	-0.069	2.077	2.108	2.107	-0.031	-0.030	0.001
	(0.069)	(0.072)	(0.076)	(0.099)	(0.101)	(0.104)	(0.084)	(0.105)	(0.077)	(0.133)	(0.113)	(0.129)
Native	0.395	0.401	0.400	-0.006	-0.006	0.001	0.526	0.566	0.584	-0.040	-0.058	-0.018
	(0.024)	(0.032)	(0.030)	(0.040)	(0.038)	(0.044)	(0.032)	(0.034)	(0.037)	(0.046)	(0.048)	(0.050)
Years in Delhi	19.472	19.573	19.382	-0.101	0.090	0.191	30.423	28.746	30.753	1.677	-0.330	-2.007
	(0.567)	(0.784)	(0.702)	(0.961)	(0.897)	(1.046)	(1.656)	(0.802)	(1.471)	(1.828)	(2.200)	(1.664)
Casual labor	0.063	0.084	0.076	-0.021	-0.013	0.008	0.235	0.239	0.288	-0.004	-0.053	-0.049
	(0.012)	(0.017)	(0.018)	(0.021)	(0.021)	(0.024)	(0.028)	(0.026)	(0.027)	(0.038)	(0.039)	(0.037)
Self-employed	0.123	0.102	0.119	0.021	0.004	-0.017	0.322	0.290	0.294	0.033	0.028	-0.004
	(0.017)	(0.015)	(0.017)	(0.023)	(0.024)	(0.023)	(0.023)	(0.025)	(0.031)	(0.034)	(0.038)	(0.039)
Salaried	0.049	0.041	0.044	0.008	0.005	-0.003	0.379	0.431	0.380	-0.051	-0.001	0.050
	(0.012)	(0.010)	(0.010)	(0.015)	(0.015)	(0.014)	(0.030)	(0.030)	(0.029)	(0.042)	(0.042)	(0.042)
Unemployed	0.008	0.025	0.022	-0.018*	-0.014	0.003	0.047	0.033	0.026	0.014	0.021*	0.007
	(0.004)	(0.009)	(0.008)	(0.010)	(0.009)	(0.012)	(0.009)	(0.010)	(0.008)	(0.013)	(0.012)	(0.012)
Attitude Index	-0.067	-0.052	-0.084	-0.015	0.017	0.032	-0.125	-0.160	-0.128	0.034	0.002	-0.032
	(0.032)	(0.034)	(0.031)	(0.047)	(0.045)	(0.046)	(0.020)	(0.021)	(0.018)	(0.029)	(0.027)	(0.028)
Norm Index	-0.008	-0.010	-0.011	0.002	0.003	0.001	-0.010	-0.009	-0.014	-0.001	0.004	0.005
	(0.031)	(0.031)	(0.029)	(0.043)	(0.042)	(0.042)	(0.025)	(0.031)	(0.038)	(0.040)	(0.045)	(0.049)
Decision making Index	-0.109	-0.134	-0.152	0.025	0.043	0.019	-0.105	-0.076	-0.114	-0.029	0.009	0.038
	(0.022)	(0.023)	(0.019)	(0.031)	(0.029)	(0.029)	(0.026)	(0.028)	(0.027)	(0.038)	(0.037)	(0.038)
p-values for joint significance				[0.812]	[0.774]	[0.917]				[0.519]	[0.502]	[0.769]

Note: The sample here is restricted to matched husband-wife pair data. T1 denotes treatment where only main respondents (husband-wife pair) were offered the job aggregator service, T2 represents treatment in which the main respondents and two of the wife's peers were offered this service and C denotes the control group where no such service was offered. The p-values reported in the last row of the table correspond to F-test of joint significance of individual characteristics in determining the treatment status in a linear probability model. Standard errors, clustered at the PS level, are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.6: Mis-match in the expected and actual salaries (in INR)

Job Profiles	Women			Working Women			Men		
	Expected salary (1)	Actual salary (2)	Mismatch (%) (3)	Expected salary (4)	Actual salary (5)	Mismatch (%) (6)	Expected salary (7)	Actual salary (8)	Mismatch (%) (9)
Overall	8817.79	4183.12	110.79	8221.92	5047.35	62.90	12851.96	10437.23	23.14
Babysitter	13369.38			13776.01					
Beautician	12370.95	3400.00	263.85	12796.44	3400.00	276.37	12370.95		
Cook	8514.59	5600.00	52.05	8493.18	5600.00	51.66	8514.59	5600.00	52.05
Driver	17798.90	11600.00	53.44	18013.33	11600.00	55.29	17798.90	11600.00	53.44
Electronic Technician	9693.05			12433.33			9693.05	14000.00	-30.76
Maid/domestic helper	7182.15	7161.93	0.28	7116.29	7260.51	-1.99	7182.15	7161.93	0.28
Medicinal Helper	13434.40			14276.65			13434.40	11500.00	16.82
Office Helper	11503.14	9576.65	20.12	12537.46	9717.11	29.02	11503.14	9576.65	20.12
Other	14584.80			13324.07			14584.80	9533.33	52.99
Other Helper	10471.98	6618.17	58.23	11001.15	7282.35	51.07	10471.98	6618.17	58.23
Other Technician	10404.78			10251.32			10404.78	11178.57	-6.92
Salesperson	12206.93	10604.84	15.11	13592.57	11212.50	21.23	12206.93	10604.84	15.11

Note: The table summarizes the *Expected salaries*, *Actual salaries*, and *Mis-match* for women (Columns (1)-(3)), currently employed women (Columns (4)-(6)) and men (Columns (7)-(9)) registered on the HNM job portal up to June 2021 (excluding our sample). There were 25,946 women (of which 16,203 are working women) and 22,343 men registered on the portal. As a person can register for multiple job profiles, this gave us a total sample of 45,080 women, 28,463 working women, and 33,283 men. *Expected salaries* record the stated salaries the job seekers registered on the HNM portal were expecting for each job profile. The corresponding *Actual salary* for a job profile is measured as the mean salary earned by employed individuals who registered on the job portal for this job profile. Columns (2) and (5) reports the mean salaries for employed women (122 observations) and Column (8) reports it for men (363 observations). If we have no registered woman/man working in a profile the corresponding actual salaries have been left blank. *Mis-match* is the percentage deviation of expected salaries from the actual salaries.

Table A.7: Structure of social network by gender of main respondent

	Male Peer Type				Female Peer Type			
	Relative (1)	Friend (2)	Neighbor (3)	Work (4)	Relative (5)	Friend (6)	Neighbor (7)	Work (8)
Panel A: Husband (all, at baseline)								
Prop of network	0.38	0.37	0.12	0.05	0.05	0.00	0.02	0.00
	(0.44)	(0.44)	(0.30)	(0.21)	(0.20)	(0.05)	(0.12)	(0.03)
Age (in years)	37.02	33.48	36.76	34.43	41.82	39.00	40.64	36.67
	(11.38)	(9.04)	(10.85)	(10.08)	(12.46)	(16.49)	(11.71)	(18.72)
Working	0.90	0.92	0.85	0.97	0.23	0.20	0.33	1.00
	(0.30)	(0.27)	(0.36)	(0.18)	(0.43)	(0.45)	(0.48)	(0.00)
N	679	682	222	94	90	5	33	3
Panel B: Wife (all, at baseline)								
Prop of network	0.23	0.00	0.05	0.00	0.57	0.02	0.12	0.00
	(0.38)	(0.06)	(0.20)	(0.03)	(0.45)	(0.13)	(0.29)	(0.03)
Age (in years)	35.65	32.60	36.06	32.00	37.67	29.47	36.01	40.00
	(12.06)	(7.44)	(12.65)		(12.42)	(8.64)	(10.12)	(16.97
Working	0.88	1.00	0.88	1.00	0.19	0.36	0.20	1.00
	(0.33)	(0.00)	(0.32)		(0.39)	(0.48)	(0.40)	(0.00)
N	382	5	77	1	935	45	189	2
Panel C: Wife (T2, at intervention)								
Prop of network	0.11	0.03	0.06		0.35	0.12	0.33	0.00
	(0.31)	(0.16)	(0.24)		(0.48)	(0.33)	(0.47)	(0.06)
Age (in years)	32.81	30.43	31.11		34.99	32.30	34.74	25.00
	(10.51)	(8.53)	(11.30)		(11.74)	(6.47)	(9.92)	(6.24)
Working	0.84	0.61	0.64		0.27	0.27	0.23	0.00
	(0.37)	(0.50)	(0.48)		(0.44)	(0.45)	(0.42)	(0.00)
N	94	23	56		305	107	292	3

Note: Panels A and B report the type of relationship of the top two rank-ordered peers of the husband and the wife surveyed at baseline, respectively. In Panel C, the sample is restricted to the two treated (and surveyed) peers of wives only in the T2 group. This includes all peers recommended by the wives in T2 for treatment, including those reported at baseline. Of the 881 individuals (peers) suggested by wives at intervention in T2, 153 had been recommended at baseline too. The network characteristics in Panel C are reported at intervention, approximately 3-6 months after the baseline. Panels A, B, and C are based on the network data for 1198 husbands, 1123 wives (all arms) and 420 wives in T2, respectively. Standard errors in parentheses.

Table A.8: Attitudes and preferences towards women's work, by gender (at baseline)

	Wife (1)	Husband (2)	Wife - Husband (3)
Panel A: Attitude towards gender roles			
Woman should take care of home	0.8	0.88	-0.078***
	(0.4)	(0.33)	
Woman should support husband's career	0.86	0.73	0.13***
	(0.34)	(0.44)	
If mother works children suffer	0.88	0.88	0.00
	(0.33)	(0.33)	
If mother works poor relationship with children	0.36	0.3	0.06***
	(0.48)	(0.46)	
N	1513	1510	
Panel B: Attitude towards women's market work			
Woman can travel outside locality	0.88	0.88	-0.01
	(0.33)	(0.33)	
Woman can work outside home	0.91	0.84	0.06***
	(0.29)	(0.36)	
Woman can work even if husband provides	0.6	0.33	0.27***
	(0.49)	(0.47)	
If woman works husband shares domestic duties	0.95	0.97	-0.025***
	(0.22)	(0.16)	
N	1513	1506	
Panel C: Job preferences for women			
Salaried	0.67	0.78	-0.10***
	(0.47)	(0.42)	
Casual	0.08	0.03	0.05***
	(0.27)	(0.18)	
Domestic help	0.02	0.01	0.01***
	(0.15)	(0.09)	
Home-based	0.81	0.78	0.03**
	(0.39)	(0.41)	
Should not work	0.02	0.03	-0.10**
	(0.13)	(0.17)	
N	1514	1514	

Note: In Panels A and B, each row is an indicator variable that takes value one if an individual agrees with a statement, and zero otherwise. In Panel A, the questions corresponding to each row were: (1) It is much better for everyone involved if the man is the achiever outside the home and the women takes care of the home and family; (2) It is more important for a wife to help her husband's career than to have one herself; (3) When a mother works for pay, the children suffer; (4) A working mother cannot establish just as warm and secure a relationship with her children as a mother who does not work. In Panel B, the corresponding questions were: (1) In your opinion, is it acceptable for an adult woman to travel outside the locality if she wants to?; (2) In your opinion, should an adult woman work outside of home if she wants to?; (3) Do you approve of a married woman earning money if she has a husband capable of supporting her?; (4) In your opinion, if the wife is working outside the home, should the husband help her with household/care duties? Panel C lists the type of jobs considered suitable for themselves by wives (column (1)) and by husbands for their wives (column (2)). Each row of the table indicates a type of job which takes value one if an individual reported it to be suitable for herself/wife and zero otherwise. *Salaried* indicates job in govt or private establishment (e.g. office, school, hospital), *Casual* indicates factory-based or construction work, *Domestic help* is domestic work, $Home-based$ is work from home and *Not work* represents preference for not working at all. The last column (column (3)) reports the differential in wife's and husband's attitudes and preferences (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.9: Peers' gender attitudes (at baseline)

Peers	Wive's peers			Husband's peers		
	Relative/ Neighbors	Friends	Difference	Relative/ Neighbors	Friends	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Attitude towards gender roles						
Woman should take care of home	0.831	0.6	0.23***	0.817	0.799	0.01
	(0.37)	(0.49)		(0.39)	(0.4)	
Woman should support husband's career	0.9	0.8	0.1**	0.875	0.833	0.04**
	(0.3)	(0.4)		(0.33)	(0.37)	
If mother works children suffer	0.872	0.78	0.09*	0.816	0.838	-0.02
	(0.33)	(0.42)		(0.39)	(0.37)	
If mother works poor relationship with children	0.599	0.489	0.13	0.577	0.56	0.01
	(0.49)	(0.51)		(0.49)	(0.5)	
N	1544	47		1004	670	
Panel B: Attitude towards women's outside work						
Woman can travel outside locality	0.616	0.92	-0.3***	0.659	0.696	-0.03
	(0.49)	(0.27)		(0.47)	(0.46)	
Woman can work outside home	0.82	0.9	0.15	0.778	0.809	-0.03
	(0.38)	(0.3)		(0.42)	(0.39)	
Woman can work even if husband provides	0.333	0.54	-0.21***	0.28	0.309	-0.029
	(0.47)	(0.5)		(0.45)	(0.46)	
If woman works husband shares domestic duties	0.956	1	-0.04	0.982	0.977	0.005
	(0.21)	(0)		(0.13)	(0.15)	
N	1543	47		1003	669	

Note: In Panels A and B, each row is an indicator variable that takes value one if the peer agrees with a statement, and zero otherwise. In Panel A, the questions corresponding to each row were: (1) It is much better for everyone involved if the man is the achiever outside the home and the women takes care of the home and family; (2) It is more important for a wife to help her husband's career than to have one herself; (3) When a mother works for pay, the children suffer; (4) A working mother cannot establish just as warm and secure a relationship with her children as a mother who does not work. In Panel B, the corresponding questions were: (1) In your opinion, is it acceptable for an adult woman to travel outside the locality if she wants to?; (2) In your opinion, should an adult woman work outside of home if she wants to?; (3) Do you approve of a married woman earning money if she has a husband capable of supporting her?; (4) In your opinion, if the wife is working outside the home, should the husband help her with household/care duties? Columns (1)-(2) report the average attitudes of wives' peers who are no-co-residing relatives or neighbors and friends, respectively, followed by the difference in the two estimates (column (3)). Similarly, for husbands' peers, columns (4) and (5) report the average attitudes of relatives or neighbors and friends in the social network, respectively, followed by the difference in the two estimates (column (6)) (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.10: Impact of network treatment on interest in, registration on and job-offers (self-reported) from platform

	Panel A: Interest in and registration on platform						**Panel B: Job-offers from platform**					
	Interested		Registered (Unconditional)		Registered (Conditional on interest)		Job offer (Unconditional)		Job offer		Job offers (Count)	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T2 (network)	-0.021	-0.090**	0.034	0.033	0.079*	0.126***	0.001	0.052**	0.022	0.150***	0.080	0.202***
	(0.049)	(0.040)	(0.033)	(0.026)	(0.046)	(0.038)	(0.020)	(0.021)	(0.041)	(0.045)	(0.056)	(0.069)
Difference (Wife-Husband)	0.069**		0.001		-0.048		-0.051*		-0.128**		-0.122	
	(0.034)		(0.035)		(0.052)		(0.027)		(0.059)		(0.085)	
Observations	921	922	921	922	562	621	886	887	362	348	362	348
R-squared	0.048	0.042	0.064	0.041	0.084	0.079						
Mean T2	0.66	0.67	0.25	0.29	0.42	0.47	0.09	0.11	0.23	0.3	0.3	0.37
Mean T1	0.66	0.75	0.22	0.26	0.35	0.36	0.09	0.07	0.21	0.17	0.23	0.19

Note: The sample is restricted to the treatment 1 (T1) and treatment 2 (T2) groups. The dependent variables are indicator variables that take a value of one if an individual reports being interested in registering for the portal (Columns (1)-(2)), registers on the portal (Column (3)-(4)) unconditional on being interested to register, and registers on the portal conditional on being interested in registering (Column (5)-(6)). The dependent variables in columns (7) - (8) are indicator variables that equal one if an individual reports receiving a job offer from the portal, and 0 otherwise. In columns (9)-(10)), the indicator of job offer is conditional on registration on the portal. Columns (11)-(12) report the number of job offers received during the reference period, conditional on registration. The first row reports the impact of T2 relative to the benchmark category of T1. The second row (*Difference*) reports difference in the estimated coefficients of each dependent variable for the wife and the husband. 'Mean T2 (Mean T1)' reports the mean of the dependent variable for T2 (T1) group. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.11: Impact of treatment on labor market outcomes (6 months after intervention)

	Work Status		Workdays (per month)		Work hours (per day)		Earnings (per month)	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1 (without network)	0.030	-0.031	0.379	0.735	0.060	-0.165	0.157	-0.790*
	(0.022)	(0.030)	(0.532)	(0.755)	(0.158)	(0.291)	(0.273)	(0.428)
T2 (with network)	0.015	-0.011	0.512	0.515	-0.123	-0.107	0.105	-0.187
	(0.019)	(0.027)	(0.482)	(0.709)	(0.126)	(0.293)	(0.245)	(0.406)
Baseline Y	0.341	0.338*	0.186***	0.164***	0.317***	0.154***	0.279***	0.151***
	(0.359)	(0.180)	(0.044)	(0.056)	(0.062)	(0.042)	(0.053)	(0.055)
p-value [T1=T2]	[0.51]	[0.51]	[0.8]	[0.79]	[0.24]	[0.85]	[0.84]	[0.14]
Observations	1,401	1,402	1,401	1,402	1,400	1,388	1,401	1,402
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43

Note: The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. In columns (3)-(4) and (5)-(6) the dependent variable is the number of days worked in a month and the number of hours worked in a day, respectively. In columns (7)-(8) the outcome is the log transformation of the monthly earnings in the reference period. The p-values correspond to the test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the corresponding dependent variable in levels for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.12: Heterogeneity in the impact of treatment on work status by demographics

	Poor		SC-ST		Hindu		Education		Spouse Education		Parents		Young	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
T1 (non-network)	-0.067	0.003	-0.050	-0.027	-0.052	0.011	-0.094**	-0.011	-0.105**	-0.043	-0.083**	0.015	-0.133***	0.001
	(0.042)	(0.029)	(0.031)	(0.029)	(0.062)	(0.040)	(0.040)	(0.030)	(0.047)	(0.030)	(0.036)	(0.029)	(0.035)	(0.027)
T2 (network)	-0.028	0.042	0.044	0.029	0.064	0.064**	-0.002	0.027	-0.009	0.032	0.039	0.047*	0.008	0.067***
	(0.041)	(0.029)	(0.040)	(0.027)	(0.067)	(0.028)	(0.039)	(0.031)	(0.045)	(0.027)	(0.041)	(0.028)	(0.043)	(0.023)
T1 x Z	0.037	-0.036	0.013	0.022	0.008	-0.035	0.090**	-0.011	0.092**	0.046	0.088**	-0.073	0.171***	-0.060
	(0.043)	(0.041)	(0.045)	(0.047)	(0.066)	(0.047)	(0.039)	(0.038)	(0.046)	(0.043)	(0.043)	(0.049)	(0.039)	(0.043)
T2 x Z	0.078*	0.003	-0.057	0.035	-0.057	-0.026	0.035	0.025	0.042	0.019	-0.043	-0.009	0.022	-0.075**
	(0.042)	(0.035)	(0.050)	(0.042)	(0.069)	(0.035)	(0.041)	(0.031)	(0.051)	(0.032)	(0.045)	(0.046)	(0.048)	(0.037)
Observations	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,376	1,375	1,377	1,377	1,377	1,377
R-squared	0.183	0.054	0.183	0.053	0.182	0.053	0.184	0.053	0.184	0.054	0.187	0.056	0.191	0.056
Estimate T1 (Z=1)	-0.03	-0.032	-0.037	-0.005	-0.044	-0.024	-0.004	-0.021	-0.013	0.003	0.005	-0.058*	0.038	-0.059*
Estimate T2 (Z=1)	0.05	0.046*	-0.013	0.064**	0.008	0.038*	0.033	0.051**	0.033	0.052**	-0.004	0.038	0.03	-0.008

Note: The dependent variable is an indicator for work status. It takes a value of one if an individual is working in the reference period and zero otherwise. Z denotes an individual characteristic measured at baseline – *Poor* is an indicator variable for individuals in the bottom tercile of asset index distribution; *SC-ST* is an indicator for individuals belonging to the SC or ST category; *Hindu* indicates individuals following the Hindu religion; *Education* and *Spouse Education* indicate individuals who report own and spouse education level, respectively, to be above primary; *Parent* indicates individuals with children below 5 years of age at baseline and *Young* is an indicator variable for individuals in the 15-30 age category. For our main categories ($Z = 1$), these characteristics equal one. For the base categories ($Z = 0$), these equal zero. The first two rows report the regression coefficients for T1 and T2 for the base categories while the third and fourth rows report the heterogeneous treatment effects for T1 and T2, respectively, by the characteristic. The last two rows 'Estimate (Z=1)' report the estimated coefficients for the main categories for T1 and T2, respectively. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.13: Impact of treatment on type of earnings

Earnings Type	Salary				Piece-rate				Daily wage			
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment	-0.009	0.097***			-0.002	-0.062***			-0.002	-0.049***		
	(0.014)	(0.028)			(0.013)	(0.019)			(0.002)	(0.014)		
T1 (non-network)			-0.017	0.068**			-0.016	-0.060***			-0.003	-0.049***
			(0.017)	(0.030)			(0.015)	(0.021)			(0.003)	(0.014)
T2 (network)			-0.001	0.128***			0.014	-0.063***			-0.002	-0.050***
			(0.017)	(0.036)			(0.016)	(0.020)			(0.002)	(0.013)
Baseline Y	0.374***	0.276***	0.372***	0.276***	0.264***	0.228***	0.267***	0.229***	0.001	0.077	0.001	0.077
	(0.074)	(0.049)	(0.074)	(0.049)	(0.053)	(0.046)	(0.053)	(0.046)	(0.001)	(0.062)	(0.001)	(0.062)
p-value [T1=T2]			[0.38]	[0.09]			[0.05]	[0.86]			[0.74]	[0.66]
Observations	1,321	1,254	1,321	1,254	1,321	1,254	1,321	1,254	1,321	1,254	1,321	1,254
R-squared	0.227	0.243	0.227	0.245	0.110	0.112	0.113	0.112	0.009	0.058	0.009	0.058
Mean Y	0.09	0.58	0.09	0.58	0.08	0.07	0.08	0.07	0	0.01	0	0.01

Note: The dependent variable is an indicator variable for different types of wage earnings. In Columns(1)-(4), it takes a value of one if an individual is paid a fixed salary and zero otherwise. Similarly, columns (5)-(8) and Columns (9)-(12) are indicator variables for piece-rate and daily wages, respectively. Columns (1)-(2), (5)-(6) and (9)-(10) report the combined treatment effect using equation (1) while columns (3)-(4), (7)-(8) and (11)-(12) report the treatment-wise effect for equation (2), by gender. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.14: Robustness (Multiple Hypothesis Testing): Impact of treatment on employment outcomes and type of employment

	Panel A: Employment outcomes								**Panel B: Type of employment**					
	Work Status		Workdays (per month)		Work hours (per day)		Earnings (per month)		Self-employed		Salaried		Wage labor	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
T1 (non-network)	-0.044	-0.018	-1.228	1.539	-0.367	0.221	-0.605	0.668	-0.013	0.042	0.001	0.016	-0.034	-0.067
	(0.104)	(0.38)	(0.04)	(0.063)	(0.04)	(0.523)	(0.062)	(0.152)	(0.345)	(0.118)	(0.944)	(0.574)	(0.097)	(0.064)
	[0.191]	[0.195]	[0.191]	[0.084]	[0.191]	[0.244]	[0.191]	[0.115]	[0.425]	[0.548]	[0.894]	[0.755]	[0.348]	[0.548]
T2 (network)	0.019	0.044	0.286	1.901	-0.009	0.661	0.196	1.195	0.045	0.030	-0.002	0.039	-0.025	-0.016
	(0.527)	(0.029)	(0.656)	(0.024)	(0.959)	(0.064)	(0.574)	(0.012)	(0.043)	(0.349)	(0.855)	(0.215)	(0.149)	(0.69)
	[0.6]	[0.084]	[0.6]	[0.084]	[0.922]	[0.084]	[0.6]	[0.084]	[0.348]	[0.548]	[0.894]	[0.548]	[0.348]	[0.755]
Observations	1,377	1,377	1,377	1,377	1,377	1,362	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377
R-squared	0.181	0.053	0.177	0.048	0.196	0.061	0.183	0.047						
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43	0.12	0.32	0.05	0.39	0.06	0.23

Note: The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. In columns (3)-(4) and (5)-(6) the dependent variable is the number of days worked in a month and the number of hours worked in a day, respectively. In columns (7)-(8) the outcome is the log transformation of the monthly earnings in the reference period. The dependent variable in columns (9)-(14) is an indicator variable for type of work. In Columns(9)-(10), it takes value one if an individual is self-employed and zero otherwise. Similarly, Columns (11)-(12) and Columns(13)-(14) are indicator variables for salaried and casual labor, respectively. 'Mean Y' denotes the mean value of the corresponding dependent variable in levels for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Original p-values from Tables 5,6 and 8 are reported in parentheses while p-values of Anderson's sharpened False Discovery Rate (FDR) q-values which adjust for multiple hypothesis testing are reported in square brackets.

Table A.15: Impact of treatment on labor market outcomes by treatment (ToT Specification)

	Work Status		Workdays (per month)		Work hours (per day)		Earnings (per month)	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Overall (T1 and T2)							
Treatment	-0.055	0.042	-2.040	6.087**	-0.806	1.536	-0.889	3.267**
	(0.104)	(0.063)	(2.279)	(2.712)	(0.654)	(1.134)	(1.247)	(1.546)
Observations	1,377	1,377	1,377	1,377	1,377	1,362	1,377	1,377
Wald chi2	10060.96	40.87	206.83	65.35	163.48	74.25	215.21	51.05
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43
	Panel B: Non-network treatment (T1)							
Treatment	-0.199	-0.074	-5.405*	5.974*	-1.515*	0.914	-2.653*	2.619
	(0.124)	(0.077)	(2.760)	(3.095)	(0.815)	(1.286)	(1.480)	(1.743)
Observations	935	935	935	935	935	925	935	935
Wald chi2	4844.82	39.70	160.37	51.17	139.41	64.10	172.82	38.09
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43
	Panel C: Network treatment (T2)							
Treatment	0.077	0.150**	1.142	6.457**	-0.066	2.224*	0.802	4.016**
	(0.113)	(0.066)	(2.446)	(2.792)	(0.684)	(1.167)	(1.348)	(1.583)
Observations	912	911	912	911	912	903	912	911
Wald chi2	4802.59	44.22	181.70	51.68	145.40	71.66	192.25	46.58
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43

Note: 'Treatment' is a dummy variable that equals one if the respondent registered on the platform and zero otherwise. We use 2SLS estimation model and instrument the registration with a dummy for whether the respondent was offered platform registration i.e., if he/she was randomly assigned to either of the treatment arms - T1 or T2 or the control group (**Panel A**), whether assigned to T1 or control (**Panel B**) and whether assigned to T2 or control (**Panel C**). The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. In columns (3)-(4) and (5)-(6) the dependent variable is the number of days worked in a month and the number of hours worked in a day, respectively. In columns (7)-(8) the outcome is the log transformation of the monthly earnings in the reference period. 'Mean Y' denotes the mean value of the corresponding dependent variable in levels for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.16: Robustness (Balanced Sample): Impact of treatment on employment outcomes

	Work status		Workdays (per month)		Work hours (per day)		Earnings (monthly)	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1 (without network)	-0.042	-0.021	-1.220**	1.490*	-0.356**	0.178	-0.590*	0.617
	(0.027)	(0.021)	(0.590)	(0.823)	(0.176)	(0.348)	(0.322)	(0.468)
T2 (with network)	0.018	0.044**	0.263	1.911**	-0.014	0.667*	0.186	1.199**
	(0.029)	(0.020)	(0.639)	(0.829)	(0.181)	(0.353)	(0.349)	(0.467)
Baseline Y	0.921***	0.149	0.188***	0.075	0.286***	0.184***	0.242***	0.086*
	(0.041)	(0.204)	(0.068)	(0.048)	(0.072)	(0.035)	(0.084)	(0.045)
p-value [T1=T2]	[0.03]	[0]	[0.01]	[0.48]	[0.06]	[0.06]	[0.02]	[0.06]
Observations	1,364	1,364	1,364	1,364	1,364	1,349	1,364	1,364
R-squared	0.188	0.054	0.185	0.050	0.203	0.061	0.190	0.048
Mean Y	0.23	0.94	4.94	22.7	1.03	8.13	879.67	11539.27

Note: The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and is zero otherwise. Columns (3)-(4) report the workdays in a month, columns (5)-(6) list hours of work in a day, and columns (7)-(8) report the log-transformed monthly earnings. The p-values correspond to the test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable in levels for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at the PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.17: Robustness: Internal Validity

	Responders			Attritors			Differences			
							Responders		Attritors	
	Control	T1	T2	Control	T1	T2	T1-C	T2-C	T1-C	T2-C
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Panel A: Work Status									
Endline 1	0.59	0.59	0.6	1	0.69	0.75	[0.84]	[0.46]	[0.37]	[0.49]
Endline 2	0.59	0.59	0.61	0.69	0.59	0.55	[0.72]	[0.34]	[0.56]	[0.37]
	Panel B: Earnings (Monthly)									
Endline 1	6205.7	6189	5823.73	4500	4500	5000	[0.98]	[0.52]	[1]	[0.90]
Endline 2	6204.13	6149.75	5771.89	6061.54	5909.09	6544.64	[0.94]	[0.48]	[0.94]	[0.86]

Note: The dependent variable in Panel A and Panel B are the average work status and monthly earnings at baseline. Work status is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. Columns (1)-(3) report the mean for the responders (i.e., non-attriters for whom data was collected at respective endlines) while columns (4)-(6) report it for the attriters (i.e., individuals surveyed at baseline who couldn't be reached for data collection at respective endlines). In columns (7)-(8), we report the p-values of the test of mean differences between the two treatment arms - T1 (column (7)) and T2 (column (8)) and control group for the responders, while the corresponding p-values for attriters are in columns (9)-(10).

Table A.18: Robustness (Manski Bounds): Impact of treatment on employment outcomes and type of employment

	Panel A: Employment outcomes								**Panel B: Type of employment**					
	Work Status		Workdays (per month)		Work hours (per day)		Earnings (per month)		Self-employed		Salaried		Wage labor	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
T1 (non-network)	-0.044	-0.018	-1.228**	1.539*	-0.367**	0.221	-0.605*	0.668	-0.013	0.042	0.001	0.016	-0.034*	-0.067*
	(-0.096, 0.009)	(-0.058, 0.025)	(-2.399, -0.058)	(-0.108, 3.205)	(-0.716, -0.017)	(-0.462, 0.905)	(-1.239, 0.0297)	(-0.262, 1.609)	(-0.041, 0.015)	(-0.012, 0.094)	(-0.021, 0.02)	(-0.042, 0.07)	(-0.075, 0.006)	(-0.139, 0.004)
T2 (network)	0.019	0.044**	0.286	1.901**	-0.009	0.661*	0.196	1.195**	0.045**	0.030	-0.002	0.039	-0.025	-0.016
	(-0.039, 0.077)	(0.004, 0.085)	(-0.98, 1.55)	(0.236, 3.588)	(-0.367, 0.348)	(-0.038, 1.36)	(-0.495, 0.887)	(0.259, 2.14)	(0.001, 0.088)	(-0.034, 0.092)	(-0.024, 0.02)	(-0.0238, 0.102)	(-0.059,0.009)	(-0.0945,0.06)
Observations	1,377	1,377	1,377	1,377	1,377	1,362	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377
R-squared	0.181	0.053	0.177	0.048	0.196	0.061	0.183	0.047						
Mean Y	0.23	0.94	5	22.75	1.05	8.15	889.07	11515.43	0.12	0.32	0.05	0.39	0.06	0.23

Note: The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. In columns (3)-(4) and (5)-(6) the dependent variable is the number of days worked in a month and the number of hours worked in a day, respectively. In columns (7)-(8) the outcome is the log transformation of the monthly earnings in the reference period. The dependent variable in columns (9)-(14) is an indicator variable for type of work. In Columns(9)-(10), it takes value one if an individual is self-employed and zero otherwise. Similarly, Columns (11)-(12) and Columns(13)-(14) are indicator variables for salaried and casual labor, respectively. 'Mean Y' denotes the mean value of the corresponding dependent variable in levels for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. The Manski bounds from Tables 4, 5, 6 and 7 are reported in parentheses.

Table A.19: Impact of treatment on own gender attitudes

Panel A: Regressive gender attitudes

	Attitude 1 Gendered home production				Attitude 2 Support husbands career				Attitude 3 Children suffer				Attitude 4 Motherly relationship suffers			
	Wife (1)	Husband (2)	Wife (3)	Husband (4)	Wife (5)	Husband (6)	Wife (7)	Husband (8)	Wife (9)	Husband (10)	Wife (11)	Husband (12)	Wife (13)	Husband (14)	Wife (15)	Husband (16)
Treatment	-0.441***	-0.471***			-0.190*	-0.239***			-0.202**	-0.102			0.091	0.033		
	(0.115)	(0.072)			(0.110)	(0.080)			(0.084)	(0.071)			(0.096)	(0.110)		
T1 (non-network)			-0.452***	-0.453***			-0.272**	-0.303***			-0.168*	-0.025			-0.007	-0.114
			(0.143)	(0.085)			(0.136)	(0.097)			(0.093)	(0.073)			(0.102)	(0.117)
T2 (network)			-0.430***	-0.489***			-0.104	-0.171*			-0.237**	-0.183*			0.192	0.189
			(0.136)	(0.106)			(0.120)	(0.102)			(0.099)	(0.097)			(0.116)	(0.130)
Baseline Y	0.053	0.113***	0.052	0.112***	0.021	0.002	0.023	0.001	0.066*	0.010	0.066*	0.012	-0.034	0.006	-0.036	0.001
	(0.036)	(0.040)	(0.036)	(0.040)	(0.038)	(0.030)	(0.037)	(0.029)	(0.039)	(0.027)	(0.039)	(0.027)	(0.032)	(0.032)	(0.032)	(0.032)
p-value [T1=T2]			[0.89]	[0.77]			[0.21]	[0.27]			[0.47]	[0.1]			[0.06]	[0.01]
Observations	1,376	1,377	1,376	1,377	1,377	1,376	1,377	1,376	1,376	1,375	1,376	1,375	1,377	1,375	1,377	1,375
R-squared	0.056	0.065	0.056	0.065	0.024	0.034	0.028	0.037	0.025	0.007	0.026	0.011	0.017	0.009	0.023	0.024
Mean Y	-0.1	0.09	-0.1	0.09	0.21	-0.22	0.21	-0.22	-0.02	0.02	-0.02	0.02	0.05	-0.1	0.05	-0.1

Panel B: Progressive attitudes towards women's market work

	Attitude 5 Womens' mobility				Attitude 6 Womens' market work				Attitude 7 Breadwinner norm				Attitude 8 Sharing domestic chores			
	Wife (17)	Husband (18)	Wife (19)	Husband (20)	Wife (21)	Husband (22)	Wife (23)	Husband (24)	Wife (25)	Husband (26)	Wife (27)	Husband (28)	Wife (29)	Husband (30)	Wife (31)	Husband (32)
Treatment	0.132*	-0.075			0.148**	0.082			-0.105*	-0.178**			0.143**	-0.002		
	(0.069)	(0.068)			(0.057)	(0.060)			(0.063)	(0.075)			(0.065)	(0.055)		
T1 (non-network)			0.215***	-0.012			0.128**	0.019			-0.072	-0.138*			0.150**	-0.030
			(0.071)	(0.078)			(0.063)	(0.071)			(0.074)	(0.081)			(0.068)	(0.068)
T2 (network)			0.047	-0.142			0.169***	0.147**			-0.138*	-0.221**			0.135*	0.028
			(0.089)	(0.087)			(0.061)	(0.065)			(0.073)	(0.086)			(0.070)	(0.062)
Baseline Y	0.048	0.082***	0.048	0.081***	0.060*	0.114***	0.059*	0.115***	0.099***	0.115***	0.099***	0.118***	0.017	0.018	0.017	0.020
	(0.034)	(0.031)	(0.034)	(0.030)	(0.035)	(0.029)	(0.035)	(0.028)	(0.032)	(0.030)	(0.032)	(0.030)	(0.023)	(0.037)	(0.023)	(0.037)
p-value [T1=T2]			[0.04]	[0.17]			[0.39]	[0.06]			[0.38]	[0.26]			[0.76]	[0.42]
Observations	1,377	1,377	1,377	1,377	1,376	1,377	1,376	1,377	1,376	1,373	1,376	1,373	1,377	1,374	1,377	1,374
R-squared	0.034	0.026	0.039	0.029	0.037	0.044	0.038	0.047	0.046	0.051	0.046	0.052	0.020	0.014	0.020	0.014
Mean Y	0.02	0	0.02	0	0.11	-0.12	0.11	-0.12	0.28	-0.27	0.28	-0.27	-0.07	0.07	-0.07	0.07

Note: The dependent variables are the standardised Z-scores ($Z(y) = \frac{y-\bar{Y}}{sd}$ where, $\bar{Y}$ is the mean value of y for the control group and sd is the standard-deviation for the control group) of the responses to questions on gender attitudes (Attitude1: It is much better for everyone involved if the man is the achiever outside the home and the women takes care of the home and family; Attitude2: It is more important for a wife to help her husband's career than to have one herself; Attitude3: When a mother works for pay, the children suffer, Attitude4: A working mother cannot establish just as warm and secure a relationship with her children as a mother who does not work, Attitude5: In your opinion, is it acceptable for an adult woman to travel outside the locality if she wants to?; Attitude6: In your opinion, should an adult woman work outside of home if she wants to?; Attitude7: Do you approve of a married woman earning money if she has a husband capable of supporting her?; Attitude8: In your opinion, if the wife is working outside the home, should the husband help her with household/care duties?). Columns (1)-(4), (5)-(8), (9)-(12), (13)-(16),(17)-(20), (21)-(24), (25)-(28) and (29)-(32) report the coefficients for first, second, third, fourth, fifth, sixth, seventh and eighth attitude, respectively. Columns (1)-(2) report the combined treatment effect using equation (1) while Columns (3)-(4) report it for equation (2), by gender for the first Attitude. Similarly, the subsequent columns report the result for the second, third, fourth, fifth, sixth, seventh and eighth attitude. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable for the control group at Baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.20: Impact of treatment by husbands' and peers' attitudes towards women's market work

	Self-employment of wives (1)	Peer's Norms (2)
T1 (non-network)	-0.020	
	(0.038)	
T2 (network)	-0.059*	
	(0.032)	
T1×Husband more progressive	0.007	
	(0.038)	
T2×Husband more progressive	0.112***	
	(0.037)	
Treatment		0.197*
		(0.109)
Observations	1,377	1,814
R-squared	0.086	0.015

Note: In column (1), the dependent variable is an indicator that takes value one if the wife is self-employed at Endline 2 (one year after the intervention). *Husband more progressive* is an indicator variable that takes value one if the husband's attitude towards women's outside work at Endline 2 was relatively more progressive as compared to Baseline. The attitude is measure as a standardised Z-score ($Z(y) = \frac{y-\bar{Y}}{sd}$ where, $\bar{Y}$ is the mean value of y for the control group and sd is the standard-deviation for the control group) of the responses to question "In your opinion, should an adult woman work outside of home if she wants to?". The specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. In column (2), the dependent variable is the peers' standardised Z-score of response to the same question at Endline 2. The sample consists of all (baseline + intervention) peers of the wife in T1, T2, and the control group. 'Treatment' is a dummy variable that equals one if the wife's peer was offered platform registration and zero otherwise. We use 2SLS estimation model and instrument the peers' treatment status with a dummy for whether the wife was randomly assigned to T2 or not. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.21: Impact of treatment on type of self-employment

Employment Type	Own business manufacturing				Retail				Other Services			
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment	0.019	-0.001			-0.004	-0.002			0.002	0.032*		
	(0.013)	(0.017)			(0.007)	(0.020)			(0.006)	(0.016)		
T1 (non-network)			-0.006	-0.005			-0.009	0.006			0.000	0.031
			(0.011)	(0.017)			(0.007)	(0.023)			(0.006)	(0.019)
T2 (network)			0.045**	0.002			0.001	-0.010			0.004	0.033*
			(0.019)	(0.021)			(0.009)	(0.022)			(0.007)	(0.020)
Baseline Y	0.069	0.110***	0.068	0.110***	0.190**	0.366***	0.189**	0.365***	0.074	0.258***	0.074	0.258***
	(0.059)	(0.037)	(0.059)	(0.037)	(0.089)	(0.047)	(0.088)	(0.047)	(0.047)	(0.043)	(0.048)	(0.043)
p-value [T1=T2]			[0]	[0.71]			[0.28]	[0.44]			[0.6]	[0.91]
Observations	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377
R-squared	0.057	0.057	0.070	0.058	0.070	0.211	0.071	0.211	0.030	0.089	0.031	0.089
Mean Y	0.08	0.11	0.08	0.11	0.01	0.11	0.01	0.11	0.03	0.11	0.03	0.11

Note: The dependent variable is an indicator variable for different types of self-employment. In Columns(1)-(4), it takes a value of one if an individual is self-employed in own business manufacturing (e.g. tailoring from home) and zero otherwise. Similarly, Columns (5)-(8) and Columns(9)-(12) are indicator variables for self-employment in retail and other services (e.g. beauty salon), respectively. Columns (1)-(2), (5)-(6) and (9)-(10) report the combined treatment effect using equation (1) while Columns (3)-(4), (7)-(8) and (11)-(12) report the treatment-wise effect for equation (2), by gender. The p-values correspond to test of equivalence in the treatment effect between the two treatment arms (T1 and T2). 'Mean Y' denotes the mean value of the dependent variable for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.22: Heterogeneity in the impact of treatment on self-employment of wives by self-employment of her peers

	All peers (1)	Female peers (2)	Male peers (3)
T1 (non-network)	-0.023	-0.023	-0.013
	(0.016)	(0.015)	(0.015)
T2 (network)	0.029	0.032	0.045*
	(0.022)	(0.021)	(0.023)
T1 × Z	0.079*	0.142**	-0.003
	(0.041)	(0.057)	(0.036)
T2 × Z	0.096**	0.140**	0.013
	(0.046)	(0.054)	(0.057)
Observations	1,377	1,377	1,377
R-squared	0.087	0.091	0.083
Mean Y	0.12	0.12	0.12

Note: The dependent variable is an indicator variable that takes value one if the wife is self-employed in reference period and zero otherwise. Column (1) reports the heterogeneity in wife's self-employment at Endline 2 (one year after the intervention) by the proportion of peers contemporaneously (at Endline 2) engaged in self-employment (Z) and columns (2)-(3) report it by gender of the peer. The first and second rows report the regression coefficients for non-network and networks treatments while the third and fourth row report the heterogeneity in the treatment effects by the proportion of self-employed peers (Z) in the social network of the wife. 'Mean Y' denotes the mean value of the dependent variable for the control group at baseline. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.23: Impact of treatment on employment outcomes of wife's network (2SLS) (> 1 year after intervention)

	Extensive Margin	Intensive Margin		
	Working	Days (Monthly)	Hours (per day)	Income (Monthly)
	(1)	(2)	(3)	(4)
	Panel A: Male peers			
Treatment	0.118***	3.685***	1.260***	2.176***
	(0.044)	(1.196)	(0.463)	(0.694)
Observations	394	394	389	394
Mean Y	0.76	17.04	6.26	8217.27
	Panel B: Female peers			
Treatment	-0.025	-0.796	-0.311	-0.284
	(0.030)	(0.694)	(0.207)	(0.372)
Observations	1,428	1,428	1,427	1,428
R-squared	0.139	0.148	0.151	0.146
Mean Y	0.19	4.09	1.22	2197.06

Note: The sample consists of all (baseline + intervention) peers of the wife in T1, T2 and the control group. 'Treatment' is a dummy variable that equals one if the wife's peer was offered platform registration and zero otherwise. We use 2SLS estimation model and instrument the peers' treatment status with a dummy for whether the wife was randomly assigned to T2 or not. The dependent variable in column (1) is an indicator variable that equals one if the peer is working in the reference period, and 0 otherwise. Columns (2)-(4) are the number of workdays (per month), hours (per day), and log transformation of monthly earnings. ANOVA specification is used in this analysis as intensive margin data of peers is not reported at the baseline. 'Mean Y' denotes the mean value for the peers of wives in the benchmark group (control + T1) at Endline 1 of the dependent variable in Columns (1)-(3) and the mean value without log transformation for the dependent variables in Column (4). Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.24: The impact of treatment on own work status by **peers'** gender attitudes

	Regressive gender roles		Progressive work attitudes	
	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)
T1 (non-network)	-0.048	-0.019	-0.084**	-0.005
	(0.031)	(0.038)	(0.038)	(0.028)
T2 (network)	0.089**	0.064*	-0.052	0.048*
	(0.042)	(0.033)	(0.038)	(0.027)
T1 x Z	-0.011	0.002	0.056	-0.038
	(0.057)	(0.058)	(0.047)	(0.055)
T2 x Z	-0.125**	-0.034	0.150***	-0.003
	(0.061)	(0.043)	(0.046)	(0.039)
Observations	1,016	1,011	1,016	1,012
R-squared	0.199	0.058	0.200	0.057
Estimate T1 (Z=1)	-0.059	-0.017	-0.027	-0.043
Estimate T2 (Z=1)	-0.036	0.03	0.098***	0.045

Note: The dependent variable is an indicator for own work status. It takes a value of one if an individual is working and is zero otherwise. The average over 'Peers' attitudes are measured at Endline 1. *Regressive gender roles* indicates relatively restrictive gender attitudes (takes a value of one for above median Z-score of regressive attitudes and is zero below median values) and *Progressive work attitudes* indicates relatively liberal attitudes towards women's outside work (takes a value of one for above median Z-score of progressive attitudes and is zero below median values). For our main categories ($Z = 1$), these characteristics equal one and zero for the base categories ($Z = 0$). The first two rows report the regression coefficients for T1 and T2 for the base categories while the third and fourth row report the heterogeneous treatment effects for T1 and T2, respectively, by these characteristics. The last two rows 'Estimate (Z=1)' report the estimated coefficients for the main categories for T1 and T2, respectively. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.25: Impact of job loss during Covid-19 on employment status

	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)
T1 (non-network)	-0.049*	-0.018	-0.047*	-0.030
	(0.026)	(0.022)	(0.026)	(0.023)
T2 (network)	0.018	0.040*	0.021	0.047**
	(0.031)	(0.020)	(0.031)	(0.022)
T1 x Permanent job loss	0.440	-1.035***		
	(0.382)	(0.057)		
T2 x Permanent job loss	0.678***	-0.027		
	(0.127)	(0.053)		
T1 x Temporary job loss			0.013	0.074*
			(0.123)	(0.044)
T2 x Temporary job loss			0.009	-0.040
			(0.112)	(0.054)
Observations	1,231	1,231	1,231	1,231
R-squared	0.182	0.071	0.182	0.066
Estimate T1 (Z=1)	0.391	-1.053***	-0.034	0.044
Estimate T2 (Z=1)	0.696***	0.013	0.03	0.007

Note: The dependent variable is an indicator for employment status at Endline 2. It takes a value of one if an individual is employed and is zero otherwise. *Permanent Job loss* indicates the self-reported permanent loss of job during the Covid period while *Temporary Job loss* indicates a (self-reported) temporary loss of job. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.26: Heterogeneity in the impact of treatment on wives' self-employment

	(1)	(2)	(3)
T1 (non-network)	-0.066	-0.010	-0.011
	(0.055)	(0.016)	(0.014)
T2 (network)	-0.064	0.050*	0.046**
	(0.053)	(0.028)	(0.022)
T1 x Spouse baseline employment	0.055		
	(0.055)		
T2 x Spouse baseline employment	0.114**		
	(0.055)		
T1 x Spouse gain income		-0.012	
		(0.020)	
T2 x Spouse gain income		-0.022	
		(0.033)	
T1 x Spouse gain employment			-0.145*
			(0.085)
T2 x Spouse gain employment			-0.171**
			(0.086)
Observations	1,377	1,422	1,422
R-squared	0.084	0.063	0.064

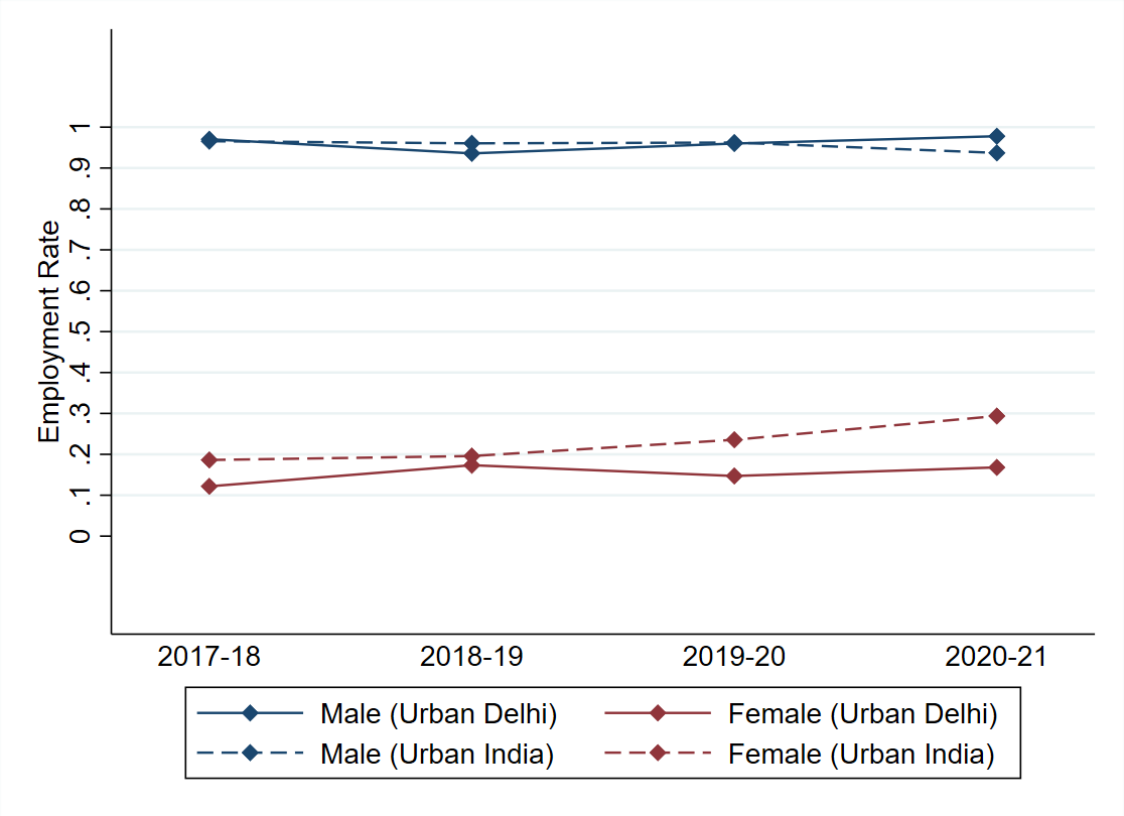
Note: The dependent variable is an indicator for self-employment status of wives. It takes a value of one if an individual is self-employed and is zero otherwise. *Spouse baseline employment* indicates the employment status of the husband at baseline. It takes a value of one if the husband was employed and is zero otherwise; *Spouse gain income* is an indicator variable for an increment in the income of husbands between Baseline and Endline 2 (>1 year after the baseline); and *Spouse gain employment* is an indicator variable for husbands that were unemployed at Baseline and gained employment by Endline 2 (>1 year after the baseline). All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Table A.27: Heterogeneity in the impact of treatment on work status by distance from closest factory

	Work Status		Workdays (per month)		Work hours (per day)		Earnings (per month)	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1 (non-network)	-0.021	-0.017	-0.312	0.223	-0.186	0.316	-0.306	0.480
	(0.031)	(0.024)	(0.233)	(0.483)	(0.176)	(0.269)	(0.368)	(0.648)
T2 (network)	0.029	0.043*	-0.026	0.498	0.162	0.322	0.469	0.972
	(0.034)	(0.025)	(0.225)	(0.486)	(0.187)	(0.269)	(0.408)	(0.657)
T1 x Longer distance	-0.060	-0.001	-0.145	0.184	-0.311	0.206	-0.763	0.574
	(0.055)	(0.044)	(0.347)	(0.709)	(0.303)	(0.428)	(0.656)	(0.920)
T2 x Longer distance	-0.025	0.005	0.068	0.587	-0.220	0.441	-0.687	0.639
	(0.064)	(0.040)	(0.384)	(0.702)	(0.343)	(0.414)	(0.737)	(0.869)
Observations	1,377	1,377	1,377	1,377	1,377	1,377	1,377	1,377
R-squared	0.183	0.055	0.197	0.069	0.179	0.053	0.184	0.056

Note: The dependent variable in columns (1)-(2) is an indicator variable that takes a value of one if an individual is working in the reference period and zero otherwise. In columns (3)-(4) and (5)-(6) the dependent variable is the number of days worked in a month and the number of hours worked in a day, respectively. In columns (7)-(8) the outcome is the log transformation of the monthly earnings in the reference period. *Longer distance* is an indicator variable that takes a value of one if the average minimum distance between the polling station (in which the individual resides) and the closest factory is equal to or above the average for all sampled polling stations or clusters. All specifications control for household characteristics (asset index, joint family, number of children, SC/ST, Hindu religion, native, and years staying in the current location) and individual characteristics (above primary education, age (in years), occupation type, mobile usage) at baseline. Standard errors clustered at PS level are reported in parentheses (*** $p<0.01$, ** $p<0.05$, * $p<0.1$).

Figure A.3: Employment trends by gender



Source: Periodic Labor Force Survey (PLFS) of India, 2017-18, 2018-19, 2019-20 and 2020-21.
Note: Employment rate is the proportion of married individuals in the 18-45 age group in urban India (or urban Delhi) who spent a majority of their time during the preceding 365 days from the date of survey in any economic activity as self-employed worker, wage/salaried worker or casual wage laborer.

C Detailed theoretical framework

In this section, we outline a conceptual framework that describes the labor market on the demand side (i.e. the nature of work or jobs available) and the supply side (i.e. the intra-household behavior that determines spouses' labor supply) to highlight the frictions faced by (married) women in undertaking remunerative work in our setting.

C.1 Demand for labor

We characterize any work or job by the wages it pays per unit of labor and various other features such as flexibility in working hours, commuting time and costs, and safety at work. Thus each job is characterized by a pair (w, e) – the wages per hour (w) and the minimum hours of work (e) required in the job.

Jobs arrive at a rate r_i, $i = f(\text{wives}), m(\text{husbands})$ per period. Denote the set of cumulative jobs that are available to wives (f) as J_f and to husbands (m) as J_m.[34] Figure 1a illustrates one possible set of available jobs for wives, J_f.[35] In Figure 1a, we show that a minimum threshold of e_s hours is needed for taking up any form of market work. The orange-colored section represents the non-employable region. Notably, the lower end of the distribution captures self-employment opportunities that require lower levels of e and have lower wages w associated with these jobs. From e_s hours onwards various employment opportunities starting with low-intensity (i.e. low or flexible work hours) self-employment, casual employment, and salaried work lie successively further to the right on the green-colored region of the J_f curve.

Since job search requires physical mobility, and women face greater safety issues in traveling in a difficult urban landscape (Borker, 2021; Dean & Jayachandran, 2019; Chakraborty *et al.*, 2018), they face higher search costs than men. In addition, while men's job search costs are mitigated by job information arriving via their networks, this may not hold for women, as evidenced in Beaman *et al.* (2018). One reason for this might be that men's networks are typically characterised by more "weak ties" (friends rather than family) that provide non-redundant information on jobs (Granovetter, 1973). Thus, the set of work opportunities available for wives is limited compared to that of husbands.

From the labor demand curve, we can deduce the set of "available" jobs. The area under the J_f curve in Figure 1a represents the various jobs that are available for wives. An increase

[34] The job arrival rate is assumed to depend on the duration of time spent on job search and the number of distinct sources (e.g. peers) from where information about jobs is available. Longer search duration and more sources translate into a higher job arrival rate r_i, therefore larger J_f.

[35] Of course, J_f need not look like this - it is plausible that the frequency distribution of jobs for women provides high wages only for high out-of-home hours of work, and wages peak at some level.

in the availability of job opportunities will shift the J_f curve upwards. Wives face higher costs of job search due to their restricted physical mobility, safety concerns and fewer "weak ties". Consequently, the available pool of job opportunities for wives would be smaller than that of husbands, i.e., $J_f < J_m$. Thus, the **job search constraint** is the *first friction* faced by wives in the labor market.

C.2 Supply of labor

Consider a household (HH) with a husband (m) and wife (f). The collective model of household behavior of the HH is given by:[36]

$$U_{HH} = v(w_f.e_f + w_m.e_m) - c(e_f) - c(e_m) - I_{Dev} \times \phi_i(n_i)(e_f - \bar{e})^2 \tag{C.1}$$

where $e_i \in [0, 1]$, denotes the fraction of total time (out of a working day) spent on market production (working for a wage) and unpaid household work or home production, by husbands ($i = m$) and wives ($i = f$). $w_i, i = f, m$ denotes wages for wives and husbands respectively. $\bar{e}$ denotes the socially acceptable norm on e_f. A deviation from this norm on wives's market work imposes a social sanction cost (ϕ) which depends on the type of network a couple inhabits – higher cost when one's social network is conservative and lower when the social network is liberal. The HH must balance market work between husband and wife to satisfy a minimal home production of H, denoted $\underline{H}$. Thus maximization is subject to $1 - e_f \geq \underline{H} - (1 - e_m^*)$ where e_m^* is the optimized level of the husband's market work hours.

We are interested in how the HH makes the joint decision of the wife's market work hours, e_f. We assume that both husbands and wives are interested in maximizing joint HH income, subject to home-production constraints and the norm constraints (such as male breadwinner norm, supported by our evidence in Section 3.3) that apply to the wife's market work hours.[37] Note that the costs of non-conformism apply only when the norm is challenged, i.e., $I_{Dev} = 1$ if $e_f > \bar{e}$ and are zero for market work hours below the norm (i.e., $I_{Dev} = 0$ if $e_f < \bar{e}$). This assumption is based on our observations that there is no stigma for women who do not engage in market work.

The maximization w.r.t e_f yields the following:

$$v'(\cdot)w_f - c'(e_f) - I_{Dev} \times \phi_i(n_i)2(e_f - \bar{e}) = 0 \tag{C.2}$$

We assume $v'' \leq 0, c'' > 0$, i.e the marginal utility of income is decreasing in income, and

[36] Note that the non-cooperative model gives the same solution.
[37] This is the indirect utility function.

the marginal cost of effort is increasing. The second order conditions are satisfied, e.g if utility is linear in income and convex in costs. For simplicity therefore, assume $v(\cdot) = w_m e_m + w_f e_f$ and $c(e_i) = e_i^2$, for $i = f, m$.

Equation C.2 implies that

$$e_f^* = \begin{cases} \frac{w_f}{2} & e_f \leq \bar{e} \\ \frac{w_f + 2\phi\bar{e}}{2(1+\phi)} & e_f \geq \bar{e} \end{cases} \tag{C.3}$$

Moreover given the constraint $\underline{H} - (1 - e_m^*) \leq 1 - e_f$, labour supply is given by the minimum of equation C.3 and $2 - \underline{H} - e_m^*$. Thus: $e_f^* =$

$$\begin{cases} \min\left(2 - \underline{H} - e_m^*, \frac{w_f}{2}\right) & w_f \leq 2\bar{e} \\ \min\left(2 - \underline{H} - e_m^*, \frac{w_f + 2\phi\bar{e}}{2(1+\phi)}\right) & w_f \geq 2\bar{e} \end{cases}$$

while the husband's labour supply is determined by

$$e_m(w_m) = \frac{w_m}{2} \tag{C.4}$$

Figure 1b illustrates the labor supply curves for the husband and wife along with the home-production constraint. Up to the social norm $\bar{e}$, the labor supply curves for husbands and wives will have the same slope. For instance, if they start with similar wages, the labor supply curves will overlap as illustrated by Figure 1b. But as soon as this threshold is reached, the wives will have to incur an additional sanction cost, making their labor supply curves steeper than that of their husbands. Thus as the weight on norms $\phi_i(n_i)$ increases, the supply curve of wives becomes steeper while that of husbands remains the same as depicted in Figure 1b. The **norm constraint on women's market work**, $\bar{e}$ is therefore the *second friction* faced by wives in the labor market. Further, wives (and husbands) have to engage in home-production. The home-production constraint faced by the wives is represented by the dotted lines in Figure 1b. Note that this home-production constraint is conditional on the labor supply decision of husbands, i.e. the hours the wife must spend on domestic and care work, given the husband's time allocation to home production.

From the labor supply curve, we can thus deduce the set of "acceptable" jobs: these are jobs such that for a fixed e_f the wages offered must be at least as high as the supply curve, depicted in Figure 1b by the area above the supply curves (red) for wives and husbands (blue), respectively.

C.3 The matching process and model implications

Given the characterization of the demand and supply of labor above, we now describe the matching process between workers (the supply side) and market work or jobs (the demand side). A match occurs at the intersection of the set of acceptable jobs and the set of available jobs. Note that the likelihood of a successful match (given available jobs) is lower when (1) the social norm $\bar{e}$ is low and/or (2) the weight on norms $\phi_i(n_i)$ is high. In such a scenario, the labor supply curve for wives may be so steep that there is no intersection between the set of available jobs and the set of acceptable jobs for them. This leads us to the following observations:

1. Due to the steeper labor supply curve for wives, even if we assumed that the same set of jobs is available for both husbands and wives, $J_f = J_m$, the husbands would be more likely to accept a job offer first (and also due to the male breadwinner norm), leading to the shifting of the household production constraint for wives (i.e., the leftward shift of the $2 - H - e_m^*$ line in Figure 1b). If wives were initially employed they may end up working less because they need to substitute for the increase in e_m. Increases in e_m can potentially crowd out e_f. With a lower job arrival rate for wives relative to husbands (i.e., $r_f < r_m$) or a smaller set of available jobs (i.e., $J_f < J_m$), this negative externality may be exacerbated.

2. Greater availability of well-paid jobs may change the desire to conform as more women take up market work, thus increasing $\bar{e}$, leading to norms becoming more liberal as well. Conversely, fewer desirable jobs induce fewer women to take up employment, thereby reinforcing a low norm. Such self-reinforcing nature of norms and job search (social) networks of women may thus give rise to different equilibria in women's employment and norms: some with conservative gender norms against women's market work sustained by low (paid) employment of wives and some with liberal gender norms and high employment of wives. Also, HHs with higher ϕ_i or more conservative (home-based) networks are less likely to respond to job opportunities, compared to HHs that place a lower weight on norms or have more liberal networks.

C.4 Implications for intervention design

The above framework highlights two channels that may potentially shift the equilibrium to higher employment of women, that motivate our intervention: (A) increasing J_f, and (B) increasing the belief on the norm $\bar{e}$ or reducing ϕ_i.

Channel (A) entails improving the opportunities for suitable jobs to be available for wives.

Provision of hyperlocal employer-employee matching service through the job platform (both treatment arms), has the potential to increase the job arrival rate for wives, leading to an upward shift of the J_f curve and expanding the intersection between the set of acceptable jobs and J_f (see Figure 2a1). This can, in turn, catalyze an increase in the take-up of market work by wives, unless the home production constraint becomes tighter (by shifting inwards) if husbands also benefit from improved job opportunities provided by the platform and increase their participation in market work (see Figure 2a2).

Channel (B) entails *directly* challenging the existing low norm of wives' market work by simultaneously improving job opportunities for their peers (network treatment arm) that can weaken the norm $\bar{e}$ and eventually reduce the cost of non-conformism, $\phi_i(n_i)$.[38] As more women in the wives' network participate in the labor market, the norm ($\bar{e}$) may also shift and can gradually modify the beliefs held by the network from conservative to relatively liberal attitudes ($\phi_i(n_i)$) towards women's market work. This would lead to increased take-up of market work by wives, as illustrated in Figures 2b1, 2b2 (shifting $\bar{e}$ to the right) and Figure 2b3 (lowering $\phi_i(n_i)$). Moreover, communication with peers may also lead to a faster estimation of the "true" set J_f, since the flow of information about jobs will be larger from private job search as well as information from peers about potential job opportunities.

[38]For instance, by applying for jobs where they can commute together to mitigate safety concerns or using examples of similar women who take up jobs to challenge their family members' regressive gender attitudes.