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Labor Market Information and Parental Attitudes toward Women Working Outside the Home: Experimental Evidence from Rural Pakistan

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Abstract

Women's paid-work participation remains low in South Asian countries even though it is considered crucial for development and alleviation of poverty. Prior qualitative interviews have revealed the general lack of knowledge on labor market opportunities for women workers. This study aims to investigate whether providing parents with information on income earning opportunities for young women is effective in changing parental attitudes toward women working outside the home. A randomized controlled trial was conducted within commuting distance of formal export-oriented garment factories in rural Pakistan. The estimation results show that provision of information about working conditions and environments is effective in influencing positive changes in parental attitudes toward women working in garment factories. Given the strong stigma associated with women working outside the home, especially in factories, I believe that the observed positive transformation forms an encouraging first step toward achieving actual enhancement of women's paid-work participation.

1. Introduction

Enhancement of women's paid-work participation is often argued to be pivotal for nations in achieving development and alleviating poverty (World Bank 2011). Women's paid-work participation is also considered crucial to enhancement of women's empowerment (Duflo 2012) in various situations including delay in marriage (Singh and Samara 1996; Baird, McIntosh, and Özler 2011; Jensen 2012; Heath and Mushfiq Mobarak 2015), higher education (Luke and Munshi 2011; Jensen 2012), and higher bargaining position within the household (Qian 2008; S. Anderson and Eswaran 2009; Majlesi 2016; Dharmalingam and Morgan 1996; Rahman and Rao 2004). The rate of women's paid-work participation[1] is low in South Asian countries, with the lowest rate in Pakistan and the rate having been in decline in India since 1990 (Andres et al. 2017; De Haan 2018). Cultural and religious norms such as purdah (i.e., the practice of gender segregation and the seclusion of women in public, observed in South Asian countries), patriarchy, and Islam are often considered as reasons for the low rate of women's paid-work participation in these countries (Fletcher, Pande, and Troyer 2017; Bernhardt et al. 2018; Dean and Jayachandran 2019; Dildar 2015; Jayachandran 2019). However, these cultural and religious norms cannot systematically explain the low rate of women's paid-work participation in these countries, considering regional variation noted

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[1]The rate of women's paid-work participation can be different from the labor force participation rate defined by the International Labour Organization, that is, a measure of the proportion of a country's working-age population that engages actively in the labor market, either by working or looking for work. It may underestimate the number of persons who are (a) in the labor force for less than 30 days over the year preceding the survey, (b) in unpaid employment, or (c) working near or in their home, thus mixing work and personal activities during the day.

within South Asia.[2]

The low rate of women's paid-work participation can be attributed to both supply and demand factors (De Haan 2018). Demand-side factors such as the lack of income earning opportunities for women in rural areas cannot be ignored[3]; however, this study focuses on supply-side factors. Among supply-side factors, analysis is further centered on barriers that prevent young unmarried women from working outside the home. Aside from the universal burden of household chores, specific factors unique to South Asia that discourage women's paid-work participation can be extracted by concentrating attention on young unmarried women.[4] One distinguishing South Asian feature is the stigma against women working outside the home (WWOH). In rural Pakistan, young women stay within their natal household until marriage after completing their education without taking on primary responsibility for household chores. The average age of Pakistani women at marriage was 23 years in 2013, and girls of school entrance age were expected to obtain an average of 7 years of schooling in

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[2]For example, even though Bangladesh and Pakistan share similar cultural and religious norms, the majority of sewing operators in the garment industry in Pakistan are men whereas the majority in Bangladesh are women, as is typically observed in other parts of the world.

[3]For example, teaching is often regarded the only available and acceptable job for educated women in rural areas in developing countries. Young women in developing countries are increasingly educated in recent years; thus, there is often an oversupply of young qualified women for teaching jobs available in rural areas (Makino 2021).

[4]Married women are universally considered primary caretakers of households, and especially of children. In developing countries where formal institutions such as child care centers are not widely available, the burden of household chores is likely to be greater for married women with children.

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2014.[5] Hence, young women aged above 13 years in Pakistan are neither students nor primary caretakers of household chores; instead, they are regarded as staying at home unproductively for an average of 10 years. I believe that it is important to encourage paid-work participation of such young women to financially assist their own households, and to make the best use of human capital at the national level. Furthermore, maintaining a narrow focus on unmarried women makes it simpler to analyze the decision-making process about whether women should work outside the home. Decisions concerning young unmarried women are almost always made by parents, especially fathers, in South Asian countries but those concerning married women are more complex because their husbands, in-laws, or parents may be involved.

Qualitative interviews in the present study further reveal that many people are not aware of working opportunities for young women within commuting distance; the stigma against WWOH may discourage these people from obtaining proper information (see Section 2). This study aims to investigate whether providing parents with information on income earning opportunities for young women is effective in changing parental attitudes toward WWOH. The income earning opportunity is specified as working in formal export-oriented garment factories. Thus, a randomized controlled trial (RCT) was conducted within commuting distance of formal export-oriented garment factories in rural Pakistan in which an

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[5]Data sources for the age of marriage and years of schooling are the United Nations Marriage Data 2017, and the Human Development Report 2015, respectively. The mean and median of mother's age at marriage in the study sample were both 21 years, which seem consistent with the nationally representative statistics, or may imply that the expected age at marriage for daughters in the study sample may be older than 23 years given the upward time trend of women's age at marriage.

intervention was implemented to provide parents of young women with the same information that is given by the garment factories when they recruit female workers.

Estimation results demonstrate that provision of information was effective in changing parental attitudes toward women working in garment factories in rural Pakistan, which is consistent with the seminal work by Jensen (2012). Parents of unmarried daughters were more likely to positively alter their opinion about WWOH—in general and in relation to garment factories—when they were made aware of the available working conditions and environment. Hence, parents who received information were more likely to be prepared to send their daughters to work in garment factories compared with the control group. The observed change was still effective 1 year after the information was provided. The effects seem to be more effective when the information was disseminated in sessions to groups of people than provided individually. The results show no notable gender difference in the attitude changes, that is, whether the information was provided to the father or mother. However, when the attitude toward women working in garment factories is measured by negative changes in reservation wage (i.e., the minimum wage at which the parents would be willing to send their daughters to work in factories), the positive effects (i.e., negative change in reservation wages) are only observed when the person provided the information is the mother.

The present study adds to the limited number of recent empirical studies using a light-touch intervention trying to change family attitudes toward women's paid-work participation (Dean and Jayachandran 2019; McKelway 2019a; 2019b; Bursztyn, Gonzalez, and Yanagizawa-Drott 2020). In the patriarchal society, family members' opposition can be a key constraint on WWOH. My intervention target is not young women themselves, but their parents. Past interventions aimed at empowering young women, such as encouraging their labor force

participation and delaying their marriage including the seminal work by Jensen (2012), tend to address young women themselves rather than their parents, even though the parents are the decision-makers. In the Pakistani context, young women's paid-work participation is usually decided by their parents, especially their fathers. This practice is confirmed in qualitative interviews (see Section 2).

The light-touch intervention focusing on blue-collar work is the novel contribution of the present study because the existing relevant studies often concern white-collar sector (Jensen 2012; Dean and Jayachandran 2019; Bursztyn, Gonzalez, and Yanagizawa-Drott 2020). Traditionally, social stigma is attached to women who work outside the home in jobs that require manual labor, not to educated young women who work in white-collar jobs (Boserup 1970; Goldin 2006; Mammen and Paxson 2000; Costa 2000). This study focuses on working opportunities in factories that are available for young women of poor households in rural Pakistan. Despite the similar social views against women working in factories, such working opportunities have shown to enhance welfare of many women in Bangladesh (Ahmed and Bould 2004; Kabeer 1997; Heath and Mushfiq Mobarak 2015; Heath 2014; Kabeer and Mahmud 2004). Because the blue-collar sector hires relatively uneducated women in poor households, the present study may provide insights into empowering the vulnerable women in the patriarchal society in developing countries.

A limit of the present study is that the outcome is measured by parental attitudes, but not by actual change in women working in garment factories. One year is not a realistic time frame within which genuine change in conservative areas such as rural Pakistan can be observed given that only 30 girls engaged in any salaried or piece-rate works at baseline in the study sample. However, considering the strong existing stigma against women who work in factories in Pakistan, I believe that a positive change in attitudes toward women working

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in factories is a prerequisite of social transformation. This attitude change is thus an important outcome and represents an encouraging first step in accomplishing the actual enhancement of women's paid-work participation.

The remainder of this paper is organized as follows: section 2 presents the research background and motivation; section 3 describes the RCT and household survey; section 4 reports the datasets; section 5 presents the empirical results; and section 6 concludes the study.

2. Background and Motivation

In this section, the study background based on the prior qualitative interviews (Makino 2014) is presented, along with how it motivated the RCT that provided parents with information on income earning opportunities for young women. The research area was intentionally selected to be within commuting distance of formal export-oriented garment factories so as to not deviate from the study's focus on supply-side barriers. In the formal export-oriented garment factories, human resource managers have asserted their desire to increase the numbers of women workers because they are more punctual, docile, and easily trained than men (Haque 2009; Makino 2014). This is consistent with the earlier study reporting that 64% of factory owners/managers are positive about hiring women (Haque 2009). There appeared to be abundant job opportunities for women at least in the selected survey area. Qualitative interviews with 293 non-working women (Makino 2014) reveal that demand-side factors are not the main reasons preventing them from working outside the home in this area with many garment factories (Figure 1).

[Insert Figure 1 here]

As shown in Figure 1, the primary reason preventing them from working outside the home in the survey area is patriarchal males opposed to their women household members working outside the home. The stigma against WWOH seems to discourage people from obtaining accurate information about working opportunities for young women within commuting distance. Typically, parents dislike the idea of allowing their daughters to work in factories. Some say that women working in factories is morally degrading. Others fear that women may be raped in factories. These beliefs are mainly based on mere rumors or social prejudice. Most people do not have even the most basic information about working in factories such as how much workers are paid. They know even less about the socially acceptable working environments for women that are offered by some factories. This lack of knowledge is understandable given the low educational attainment levels of the parents' generation. Further, the reality of the traditional Pakistani garment sector has contributed to the typical image of the working conditions and environments of garment factories. The Pakistani garment sector has traditionally hired men as workers in roles such as sewing operators, and most factories have not offered socially acceptable working environments for women. Only a few factories in the Pakistani garment sector have initiated the drive to promote the hiring of women workers by providing socially acceptable working environments for them (Makino 2014; 2021). It is thus not surprising that the rural poor adhere to traditional beliefs about factory environments and that they do not know about the few progressive factories that have initiated movement toward offering socially acceptable working environments for women.

Contrary to the commonly held belief, some factories hire many women as production workers, and women who work in these environments seem to be satisfied with their working

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conditions (Makino 2021). This contentment is unsurprising because formal sectors pay at least minimum wage[6] and abide by minimum regulations, whereas the remuneration and working conditions are much worse for alternative jobs available to women in the informal sector as housekeepers or agricultural laborers. Also, the socially acceptable working environments for women that some factories offer include 2 months of training to become a sewing operator, gender-segregated work areas, many female colleagues, and attractive payment compared with alternatives.

In the present study's research area, many households were not aware of the socially acceptable working conditions and environments offered by factories for their women employees despite many working women informing of their satisfaction with their working conditions and workplace environment. Therefore, it was assumed that the provision of information on the female-friendly working conditions and environments of these factories may affect people's attitudes toward WWOH because parents may be convinced that the work is less likely than originally thought to harm their daughter. By providing parents with information, I tackle the first barrier that possibly prevents young women residing in rural areas from working outside the home, that is, lack of information. The rural poor are uneducated and disadvantaged in terms of access to information pertaining to newly available, lucrative, and socially acceptable working opportunities for women. Jensen (2012) elucidates that the provision of information about the availability of new income earning opportunities effectively enhances the participation of young women in the workforce.

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[6]The minimum wage was PKR 14,000 in the year 2016–2017, during which time the average exchange rate was USD 1 = PKR 104.7.

The second barrier that the present study addresses is negative attitudes toward WWOH, which prevent young women in rural areas from working outside the home. If personal internal stigma against WWOH is very strong and steadfast, that attitude rarely changes even after receiving accurate information on new and lucrative income earning opportunities for women. In rural areas of South Asian countries, decisions about young women joining the work force are usually the responsibility of the parents, especially fathers. Our baseline survey reveals that daughters' paid-work participation is decided by their parents in 95% of households, and fathers have the greatest decision-making power in 85% of these households. It is thus necessary to positively transform parental attitudes toward WWOH if young women are to be encouraged to work outside the home. However, it may be more difficult to amend the long-standing opinions of the parent's generation, in comparison to the beliefs of young women. This study investigates the steadfastness of parental internal stigma after dissemination of new information about women's working environment.

It is possible that parents are aware that female-friendly working environments and conditions are available in their neighborhood and that they also believe that allowing their daughters to work outside the home is beneficial and financially helpful, but they simply cannot allow this to happen because of social pressure against this course of action.[7] External social pressure against WWOH may form the third barrier, and can be considered separately from personal attitudes toward WWOH: social pressure is operative when the behavior is observable, and personal attitudes are operative when the behavior is kept private (Bursztyn

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[7]A similar context is examined by Bursztyn, Gonzalez, and Yanagizawa-Drott (2020). They show that Saudi husbands privately support WWOH but underestimate the level of support for WWOH by other men, and therefore ultimately do not allow their wives to work outside the home.

and Jensen 2017). Because the present study does not focus on the actual change in women's paid-work participation, it is difficult and beyond the scope of this current study to distinguish these two barriers. However, in an effort to capture any differences between social pressure and personal attitudes, I examine differences in the effect of information provision via whether the treatment was delivered in a group session or individually (See Section 5.4).

3. Survey Design

An RCT was conducted in rural Punjab in Pakistan in 2016–2017 to examine whether the provision of information to young women's parents affects their attitude toward WWOH. Given that parents were not aware of socially acceptable working opportunities for young women, information provision may convince that the work is less likely than originally thought to harm their daughter. The timeline of the RCT and household surveys is shown in Figure 2.

[Insert Figure 2 here]

3.1 Village and household surveys

Working opportunities for women, especially in factories, are generally limited in Pakistan. For the purpose of this study, it was necessary to implement the RCT in an area where it was at least realistic for women to work in factories with sufficient working opportunities. Such a rural area that is within commuting distance of export-oriented garment factories that actively hire women was first identified in the districts of Faisalabad, Hafizabad, Nankana

Sahib, and Chiniot (Figure 3).[8] The census data of these districts were used to randomly select 40 villages (and 10 substitutes) in a commutable rural area.

[Insert Figure 3 here]

In each village, the village survey was conducted using a structured village questionnaire. The respondents of the village questionnaire were village chiefs or equivalent informants in the villages. The village questionnaire consists of questions about basic village information, such as demography, land holdings, caste structure, income earning opportunities, infrastructure, access to export-oriented garment factories, and educational opportunities. To elicit cooperation of the village chiefs and influential persons, information was also collected on the village's cooperative atmosphere. Rivalry within the village can be detrimental to intervention implementation, especially group information sessions. Two initially selected villages were replaced with substitute villages in a pre-determined order of priority due to concerns about rivalry. Note that the replacement took place before random assignment of households to treatment or control groups.

Next, all households in each village were profiled in collaboration with the village survey respondents and other village informants. Households that were eligible for inclusion in the study were defined as follows: either landless or own no more than 3 acres of land, presence of both father and mother, and family comprising at least one unmarried daughter

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[8]Karachi in Sindh province also hosts export-oriented garment factories that actively hire women, but because of the deteriorating law and order situation in Sindh, our study focuses on Punjab province.

aged between 15 and 30 years.[9] Landless or nearly landless households were targeted because only impoverished households would realistically need women to work in factories. The presence of both father and mother in households was a condition because the survey was designed to assign father or mother respondents in the selected households, as randomly determined at the village level. The target households for the study were also restricted to families with unmarried daughters aged 15 to 30 years because this range encompasses the age during which women remain in their natal household after school and before marriage without taking on primary responsibility for household chores.

Ten households were randomly picked from the list of all eligible households in each of the 40 villages. Among these 40 villages, 20 were randomly chosen with mothers as respondents and the other half had fathers as respondents. The questionnaire was uniquely designed to collect information requisite to capturing change in attitudes toward WWOH. It consists of a household roster concerning age, enrollment status, work status, and educational attainment level of all household members; typical socioeconomic questions; and unique questions specific to this survey including those asking for personal and general opinions pertaining to WWOH and reservation wages for their daughters to work in factories. The questionnaire also contains questions about gender relations, such as who has the

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[9]The minimum working age is mandated to be 14 and 16 years as per the Employment of Children Act and the Constitution, respectively. Under the legislation of the state of Punjab, the minimum working age is 15 years. This contradiction in the laws is not a problem for determining the age range of daughters in eligible households because, for the purposes of this study, it is not essential that daughters work. They are merely required to fall within the age range in which their parents could think of the possibility of their daughters working outside the home.

authority to make decisions, degree of mobility, and level of son preference. The same questionnaire was utilized for the baseline survey conducted before the intervention and the endline survey conducted 1 year after the intervention.

3.2 Experiment

The RCT involved a treatment group where either the father or mother was provided with pertinent information on working conditions and environments in the export-oriented garment factories and a control group where the same information was not provided. The assumption based on the qualitative interviews prior to the survey was that parents were not well informed of the female-friendly working conditions and environments of these factories. The actual intervention was very simple. In households randomly allocated into the treatment group, either the father or mother received a lecture on the working conditions and environments of these factories. Whether the father or the mother received the lecture depended on the gender of the respondent who was randomly selected at the village level, as described above.

There were three randomizations at the village level: the first was whether the father or mother was the survey respondent-cum-lecture recipient, the second was the number of treated households in the village, and the third concerned whether the treatment was delivered in a group session or individually. The number of treated households was randomized as zero, four, six, or ten households at the village level (Figure 4). Villages in which four or six households were treated, the households were randomized into treatment or control groups at the household level. In villages where ten households were treated, all ten households received the intervention. As shown in Figure 4, there were 164 households in the control group and 236 in the treatment group.

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[Insert Figure 4 here]

The lecture provided to the treatment group imitated the workshops organized by the actual factories when they recruited women workers from villages. When a village was randomly assigned to the treatment group that was appointed to receive an individual session, the lecture was provided to individuals rather than via a group session workshop, but the information provided was equivalent to the group session. According to the human resource manager of one of the largest garment factories in the survey area, the standard recruitment workshop explains the female-friendly working environment, especially the security that is provided and the level of segregation from male workers, the offered salaries, and the training process (Makino 2014). One female and one male lecturers, each with a master's degree and at least 2 years of teaching experiences, were hired and trained so that they were equivalent to the actual recruitment staff. The female lecturer was in charge of information sessions for mothers and the male lecturer was in charge of those for fathers. Each intervention was completed in around 2 hours and included a friendly chat between the lecturer and the individual or group.

The impact of the intervention is examined by intention-to-treat (ITT) analysis; however, the selection was considered as a possible area of concern because the mental and physical costs of attending the group sessions were expectedly higher than those of attending the individual sessions, which were held at the respondents' homes. The group sessions with fathers were found to be easy to implement, but those with mothers were somewhat difficult due to their restricted mobility. In particular, there was concern about the selection of the mothers attending the group session and the absence of such selection among the mothers

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who were assigned to individual sessions. To alleviate the selection problem and achieve the maximum attendance rate, the following measures were implemented. First, as described above, the village's cooperative atmosphere was carefully assessed and two villages were replaced with substitutes due to rivalry within those villages. Village unity was considered indispensable to obtaining the cooperation of the village chief and influential persons. Second, the cooperation of the village chief's wife was requested to accommodate the mothers who were assigned to the group session. Women in rural Pakistan do not usually gather outside the home, but the private room inside the village chief's home was an ideal place for them to meet. In addition, a mentor–protege type relationship could be utilized between the village chief's wife and the women of the poor households that were the intervention target. Because the village chief's wife is respected in village society, especially if the atmosphere is cooperative, it was natural for the women of the poor households to gather at her place when she asked them to do so. Third, their time was compensated for with remuneration of PKR 500, which was equivalent to the average agricultural wage per day in the survey area at the time. Because of these measures, a 99% attendance rate was achieved for the information sessions.

For the mothers who were assigned to the individual session at home, their privacy was maintained as much as possible, for example, by requesting a separate room so that only the mothers received the information. This arrangement was not difficult to implement because fathers were not usually at home during the daytime.

4. Data

No significant difference is found in either the household and unmarried daughters' socioeconomic characteristics or the outcomes of interest between the treatment and control

groups prior to the intervention (Tables 1 and 2). It may thus be asserted that the households were randomly allocated into the treatment or control groups.

[Insert Table 1 here]

Table 1 presents the results of a balance test conducted on household and unmarried daughters' characteristics prior to the intervention. The educational attainment level of the respondents is low: the fathers' average level is below primary school completion, and the mothers average close to null formal learning. This result is unsurprising because this study focuses on impoverished households in rural areas. Also, the respondents are relatively older with unmarried daughters aged between 15 and 30 years. The average age of the fathers is 49 years, and that of the mothers is 46 years. The mean number of household members is around six. The proportion of functionally lower castes (*kammees*[10]) is 46%. The agricultural land owned by the households is 1.3 acres on average, the mean livestock value per household amounts to PKR 300,000, and the mean value of the residential home and land is approximately PKR 540,000. The wealth index and living conditions index are constructed based on principal component analysis, allowing for correlations across factors. The index

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[10]In the traditional rural Punjab economy, a person's occupation is determined by birth (Eglar et al. 2010). Those who provide various services to landowning households (*zamindars*) are collectively called *kammees*. Islam denies the caste system, and those born in *kammee* households do not engage in traditional services in contemporary Pakistan, but social stratification by birth stubbornly persists. For descriptive purposes in the present study, the *zamindar-kammee* distinction is referred to as the caste system.

variable is the only factor that has an eigenvalue greater than 1. Variables used in constructing the index are shown in the appendix as Tables A1 and A2. The average age of unmarried daughters is 17 years. Among daughters who dropped out of school, the education attainment level is a bit below primary completion. Note that this is not the average completion level of unmarried daughters given that more than half of them are still enrolled at school. Most export-oriented garment factories do not necessarily require a minimum level of education of their workers, but human resource managers revealed their preference of hiring young women with literacy. The majority of unmarried daughters in the study sample seem to be qualified for the jobs.

Table 2 presents the balance test applied to the outcome variables and the variables from which the outcome variables are constructed at baseline. The questions and answers that construct these variables are explained in the appendix. The variable "knowledge of factories" is a binary variable that takes a value of 1 if the respondent knows how women work in these factories. The mean value is found to be 0.30, which is consistent with the results of the qualitative interviews conducted prior to the present research. Hence, the findings reveal that the poor within commuting distance of factories do not know much about the working conditions and workplace environments offered by these factories. The variable "attitude toward women working in factories" is a binary variable that takes a value of 1 if the respondent is positive about women working in factories. The variable "attitude toward daughter working in factories" is a binary variable that takes a value of 1 if the respondent is positive about their daughter working in such an environment. The mean value is found to be 0.14 for "attitude toward women working in factories" and 0.04 for "attitude toward daughter working in factories" and these findings also support the view that people are very negative about both women working in factories and allowing daughters to work in factories.

[Insert Table 2 here]

The outcome variable "attitude toward WWOH index" is constructed based on principal component analysis using the following four variables that inquire into WWOH in general.[11] The intention behind asking respondents about their general attitudes toward WWOH is to capture the broadening effect of the intervention beyond the information provided in the session, that is, beyond the information provided about working conditions and environments in the export-oriented garment factories. For the variable "attitude toward women working before marriage," Likert scale values of 1 to 5 are assigned to indicate a respondent's agreeableness with the overall idea that it is good for women to work for pay before marriage. The variable "attitude toward women working after marriage" is a similar variable but refers to women who are married but without children. Questions were asked separately for before and after marriage on the assumption that people would be more negative toward WWOH when women have primary responsibility for household chores. Both "attitude toward women working as teachers before marriage" and "attitude toward women working as teachers after marriage" are similar variables but they only pertain to women working as teachers. WWOH is separated into any job in general and teachers because

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[11]The alternative WWOH index is based on M. L. Anderson (2008), that is, the sum of the standardized outcomes by weighting each item by the inverse of the covariance matrix of the standardized outcomes. The estimation results do not substantially change when the alternative measure is used, which is understandable because the correlation coefficient between these two WWOH indices is very high at 0.94. The results are available upon request.

teaching is the only accepted and respected job for women in rural areas in developing countries, including the survey area.

The variable "minimum wage (subjective)" denotes the respondents' beliefs about the minimum wage. The variable "reservation wage for daughter to work in factories" is the minimum amount that a respondent would be willing to accept to allow his or her daughter to work in a factory. This is considered a proxy for the parental mental barrier to permitting their daughters to work in factories. The variable "reservation wage minus (subjective) minimum wage" is the difference between the above two variables "minimum wage (subjective)" and "reservation wage for daughter to work in factories." Given that the target households are relatively uneducated and not necessarily familiar with legalities, the subjective minimum wage was queried because their belief about the minimum wage affects their reservation wage, whereas the actual legal minimum wage does not. It is also necessary to consider the subjective minimum wage because the treatment group was given precise information about the legal minimum wage whereas the control group was not. This fact probably affected the answers provided in the endline survey so that only the treatment group adjusted the reservation wages based on the legal minimum wage irrespective of their readiness to allow their daughters to work in factories. What matters to them in deciding whether they would permit their daughters to work in factories is the amount of money that they could expect above what they believe is the minimum wage. This final reservation wage minus (subjective) minimum wage is referred to as the (adjusted) reservation wage in the following estimation.

5. Estimation Results

5.1 Main results

The randomization between the treatment and control groups is found to work well overall (Tables 1 and 2), so a single difference is first estimated without any covariates. Next, given that one outcome variable at baseline, namely knowledge of garment factories, was different between treatment and control groups at the 0.1 level, I take a more conservative approach, that is, analysis of covariance (ANCOVA) and difference-in-differences (DID) with and without covariates. It is considered better to estimate DID, even in the case of no significant difference in observed characteristics at baseline in the setting of RCTs (Twisk et al. 2018). However, McKenzie (2012) suggests that it is better to use the ANCOVA estimator than DID to increase statistical power, especially when autocorrelation of the outcome variables is low, i.e., 0.2–0.3 as a benchmark. Autocorrelation of outcome variables (i.e., parental attitudes toward WWOH) is high, ranging from 0.56 to 0.78 depending on the outcome measures, which is unsurprising in the context of the conservative society in rural Pakistan. We ultimately consider it more conservative to estimate the impact of information provision on parental attitudes toward WWOH by both the DID and ANCOVA.

The endline outcome variables are described above and in Table 2: knowledge of factories, attitudes toward their daughter and women in general working in factories, attitude toward WWOH in general, and adjusted reservation wages. I estimate the effect of providing young women's parents with information about working conditions and environments offered by garment factories that hire a substantial number of women workers. Ideally, it is better to estimate the effects on the actual WWOH. However, the actual WWOH is very limited in this conservative area of rural Pakistan. Only 30 girls engaged in any salaried and piece-rate works at baseline and an increase by 12 girls was observed between baseline and endline, and thus it is impractical to estimate them. The p-values adjusted for cluster (village)-robust standard errors and for Romano-Wolf (Clarke, Romano, and Wolf 2020) stepdown

multiple hypothesis test are reported.

Panel A of Tables 3 presents the main estimation results without controls. The treatment households are 10.3 percentage points more likely to know about working conditions and environments of export-oriented garment factories that hired many women, though the effect is not statistically significant. Column 2 presents the effect on a parental attitude toward women working in factories. The treatment group is 14 percentage points more likely to be positive about women working in factories, which corresponds to a 53% increase of the endline control mean. Column 3 presents the effect on a parental attitude toward his or her daughter working in factories. The treatment group is 6.2 percentage points more likely to be positive about their daughter working in factories. The positive change in attitudes pertaining to allowing daughters to work in factories with respect to the endline control mean is even larger than that concerning women in general, but a caveat must be noted in its interpretation because the number of respondents who were positive about their daughter working in factories is very small at baseline. In fact, there is no significant change in adjusted reservation wage (Column 5), which means that there is no change in the minimum acceptable wages for the respondents to allow their daughters to work in the factories. The effect on the index of the parental attitudes toward WWOH in general presented in Column 4 is significant at the 0.1 level. The estimation results are robust to the multiple hypothesis test adjustment.

[Insert Table 3 here]

Panel B of Table 3 presents the ANCOVA estimation results that control for baseline outcome variables. The intervention was effective in making parents more knowledgeable

about factories and more positive about their daughter and women in general working in factories and WWOH (columns 1 to 4 of Panel B). The difference from the single difference estimation (Panel A) is the significance level in the effect on parental knowledge about factories. This makes sense because parents in the control group were more knowledgeable at baseline at the 0.1 level, and Panel B controls for the baseline outcome measure, while Panel A does not. Given that the endline control mean is 0.43, the effect is an increase of 38%. This effect seems considerable because the RCT was implemented in relatively uneducated people and the intervention was delivered via a single session a year earlier. The estimation results concerning the effects on parental knowledge about factories and attitude toward women working in factories are robust to the multiple hypothesis test adjustment.

The estimation is repeated by controlling for socioeconomic characteristics of households at baseline that are associated with WWOH in the survey area based on the qualitative interviews (Makino 2014; 2021). They are age and education levels of the father and the mother, household size, caste, size of agricultural land held, value of livestock, value of the residence, wealth index, living condition index, and number of female relatives and friends working outside for pay. The estimation results concerning the treatment effects are robust to the inclusion of household controls (Panel C).

The DID estimation results are presented in Panel D of Table 3. Panel D presents the estimation results controlling for household characteristics. Those without them are not substantially different and are available upon request. The estimated effects of providing parents with information about working conditions and environments offered by garment factories that hire a substantial number of women workers are more or less consistent with those estimated by the single difference and the ANCOVA estimator. In particular, the effect on parental attitudes toward women working in factories is consistently significant and is

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robust to the multiple hypothesis test adjustment, though the effects on their attitude toward their daughter working in factories and WWOH in general becomes insignificant. This outcome supports the general belief that it is more difficult to motivate parents to permit their daughters to work outside the home than to accept the idea of women in general working outside the home, which is reported by Haque (2009). This also suggests that the two measures—parental attitudes toward women working in factories and those toward their own daughters working in factories—convey different information, and that it is important to distinguish both in empirical studies. For example, the general opinion about WWOH which is asked in Bursztyn, Gonzalez, and Yanagizawa-Drott (2020) may be different from their attitude toward their own wives working outside the home.

Overall, these outcomes suggest that providing pertinent information is effective in changing parental attitude toward women working in factories. This finding supports the idea that a lack of information is one of the key components preventing WWOH. Moreover, the single difference and the ANCOVA estimation results show that providing information on working conditions and environments of export-oriented garment factories that hire many women positively affects the parental attitudes toward WWOH in general. This is an encouraging result in promoting WWOH because it suggests that even a small and weakly relevant piece of information can have a large effect in correcting people's beliefs and overcoming stigma against WWOH. Because the outcome measures in this study are subjective due to a very limited number of girls working outside the home, the possibility of the observer-expectancy effect cannot be denied, that is, respondents answer to conform to the experimenters' expectations about the study outcomes. However, the variation in the significance level and the magnitude across outcome variables may suggest that parents simply responded according to their own interests without any intention to conform to the

experimenters' expectations of ideal answers.

Also examined is the associations between the socioeconomic characteristics of the households and the outcome variables (Appendix Table A3). A significantly positive association is found between household size and parental attitudes toward WWOH in general, and a negative association is found between household size and adjusted reservation wages. For households with a larger number of members, there is a natural inclination toward increasing the number of working members in the household, including women. A positive association is observed between lower caste and respondents' attitudes toward WWOH. There is a negative association between attitudes toward WWOH and the value of livestock. These effects are also expected because women working in factories are observed more in households that are economically worse off and of socially lower status in South Asia (Klasen and Pieters 2015; Pradhan, Singh, and Mitra 2015; Andres et al. 2017; Sundaram and Vanneman 2008; Mehrotra and Parida 2017; Joshi, Kochhar, and Rao 2018). From this perspective, it is counterintuitive to observe the significantly positive association between parental attitudes toward WWOH and size of agricultural land. This outcome may have occurred because in rural Punjab, the practice of extended family[12] is still observed in which brothers live together after marriage, and such households tend to have larger residences and agricultural land to accommodate two or more core households. In fact, the main

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[12]Members are considered to belong to the same household if they share a kitchen and expenditures. For example, two married brothers are regarded as members of the same household comprising an extended family if they share the same kitchen and household expenditures. Two married brothers residing on the same premises does not necessarily imply that they belong to the same household.

motivation behind maintaining extended family is believed to be not fragmenting ancestral land. The estimation is repeated by replacing the size of the household, the value of the residence, and the size of agricultural land with the per-capita value of residence and the per-capita size of agricultural land. As expected, the coefficient estimates of the per-capita value of the residence and per-capita size of agricultural land becomes insignificant. Interestingly, the father's highest education level (i.e., above matric) is positively associated with their attitudes toward WWOH. The negative association between mother's knowledge of garment factories and the highest education level (i.e., matric and above) may be counterintuitive, but it may be explained by their stigma against working in factories given that women whose education level is matric and above work as teachers, which are only socially acceptable occupation in the survey area. The positive association between parental attitudes toward WWOH and the living condition index is also counterintuitive; however, investigating the reason for this is beyond the scope of this study.

The positive association is observed between the number of female relatives and friends working outside for pay and parental attitudes toward WWOH. This outcome may reflect the effect of some unobserved household characteristics shared by households of friends and relatives on the parental attitudes. Other possibilities include that having some female role models within the community may affect parental attitudes toward WWOH. Some recent studies have shown that the presence of female role models within the community may encourage women to work in a non-traditional sector or male-dominated field (Lafortune, Riutort, and Tessada 2018; Kofoed and McGovney 2019; Porter and Serra 2020). The impact of a present role model on WWOH, especially in a conservative society such as rural Pakistan, is certainly an interesting research topic that should be explored in the future.

5.2 Gender heterogeneity

Because both the triple difference and ANCOVA estimations with and without covariates have similar implications for the effects of intervention, only the ANCOVA estimation results without covariates are reported on hereafter to avoid redundancy. Other estimation results are available upon request. To examine whether the treatment effect differs by gender, the ANCOVA estimation equation with an interaction term is used as follows:

$$WWOH_{ij2} = \alpha T_{ij} \times Fa_j + \beta T_{ij} + \gamma Fa_j + \rho WWOH_{ij1} + \varepsilon_{ij} \tag{1},$$

where T_{ij} is an indicator variable that takes a value of 1 if household i in village j is treated, and 0 otherwise. $WWOH_{ij1}$ and $WWOH_{ij2}$ are outcome variables at baseline, and endline, respectively. Fa_j is an indicator variable that takes a value of 1 if fathers are assigned as respondents at the village level j and 0 if mothers are assigned.

The ANCOVA estimation results are presented in Table 4. Overall, the treatment effects are not substantially different according to whether the intervention respondent is the father or mother. The only exception pertains to the effect on the adjusted reservation wage, that is, the premium that the respondent expects in order to send their daughter to work in a factory above what is believed to be the minimum wage. The reservation wage for mothers in the treatment group is significantly lower than that for the control group. Interestingly, the reservation wage tends to increase for fathers in the treatment group. Although examining the reason for this is beyond the scope of this study, fathers may tend to expect higher wages after gaining knowledge on the actual wages offered by formal factories because these figures are usually higher than their original uninformed estimates. The results

also suggest that mothers are more easily convinced to allow their daughters to work in factories. However, the impact on actual outcomes may be limited because fathers have the greatest decision-making power over their daughter's labor force participation in 85% of the households in our study sample.

[Insert Table 4 here]

5.3 Spillover effects

The RCT design makes it possible to estimate the spillover effects by the extent to which neighbors received the treatment. As noted above, the number of treated households was randomly determined at the village level: either zero, four, six or 10. Therefore, the controlled households would have zero, four, or six neighbor households that received the treatment. In villages where 10 households were treated, there was no controlled household. The estimation equation is given as follows:

$$WWOH_{ij2} = \alpha_1 T_{ij} \times Pct40_j + \alpha_2 T_{ij} \times Pct60_j + \beta_1 Pct40_j + \beta_2 Pct60_j + \beta_3 Pct100_j$$

$$+\rho WWOH_{ij1} + \varepsilon_{ij} \quad\quad\quad (2),$$

where $Pct40_j$, $Pct60_j$, and $Pct100_j$ are village-level variables taking the value of 1 if the number of treated households out of the ten households in village j are 4, 6, and 10, respectively, and the other variables are the same as those in equation (1). Because there was no controlled household in the villages with $Pct100_j$ taking the value of 1, β_3 captures the treatment effect in 100% treated villages. Coefficients α_1 and α_2 capture any difference

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between the treated and controlled households within 40% and 60% treated villages, respectively. And thus, the coefficient estimates β_1 and β_2 can be interpreted as spillover effects on the controlled households in 40%, and 60% treated villages, respectively.[13]

Table 5 presents the estimation results. Spillover effects are present concerning parental attitudes toward women working in factories (Column 2), though the effects do not seem to be affected by the number of treated households in the village.

[Insert Table 5 here]

5.4 Group and individual effects

Another factor incorporated into the RCT design was the individual and group sessions randomized at the village level. To examine whether the treatment effect differs by whether the treated households were assigned to individual or group sessions, I estimate the following ANCOVA estimation equation:

$$WWOH_{ij2} = \alpha TGroup_{ij} + \beta TIndiv_{ij} + \rho WWOH_{ij1} + \varepsilon_{ij} \qquad (3),$$

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[13]Alternatively, the spillover effects are estimated by replacing $Pct40_j$, $Pct60_j$, and $Pct100_j$ with the continuous variable measuring the percentage of treated households out of all those eligible in the village. Notably, this alternative variable probably attenuates the spillover effects as the village grows in size. Also, the spillover effects may be further weakened in larger villages because a negative association is observed between village size and parental attitudes toward daughters working in factories. As expected, the spillover effects including knowledge dissemination are not present with this alternative variable. These estimation results are available upon request.

where $TGroup_{ij}$ and $TIndiv_{ij}$ are indicator variables that take a value of 1 if household i is treated in village j assigned to group and individual sessions, respectively. The other variables are the same as those in equation (1).

The estimation results are presented in Table 6. Overall, groups sessions have consistently larger impacts. In particular, only groups session have impacts on parental attitude toward WWOH in general and the adjusted reservation wage. Parental attitude toward WWOH in general is significantly more positive and the reservation wage is significantly lower in the households that received intervention via group sessions than via individual session. The reasons for this differential impact between group and individual sessions are beyond the scope of this study. A possible explanation may be the peer effect: individuals are more likely to be positive about daughters working in factories if they observe that their neighbors are also positive, which is in line with Bursztyn, Gonzalez, and Yanagizawa-Drott (2020). Further study is clearly needed to explore the effects of social pressure in a manner that is differentiated from personal attitude, which are described in Section 2.

[Insert Table 6 here]

6. Conclusion

The poor in rural Punjab are not very aware of the available income earning opportunities that are socially acceptable for women and within commuting distance from their home. This lack of knowledge is not surprising given the low educational attainment level of this population and, in particular, the prevalence of strong stigma against WWOH for pay. This

study conducted an RCT in which parents in treated households were provided with information about the female-friendly working conditions and environments of factories within commuting distance that hire many women. The information that was provided imitated the recruitment workshops provided by those garment factories that preferentially hire young women. Parents of young women were targeted for treatment because the decision about whether women in the family may work outside for pay is almost exclusively made by parents in rural Punjab in Pakistan.

Even though only a single intervention session to provide the information was offered, the assimilation of the content was found to be effective when measured a year later, and parents in the treated households became more knowledgeable about working conditions and environments of factories that preferentially hire women. The estimation results reveal that the provision of information is effective in changing parental attitudes toward women working in factories. The reservation wages deemed acceptable for allowing daughters to work in factories significantly decreased when mothers received intervention, suggesting that mothers are more likely to agree to their daughters working outside the home than fathers. The effects were more effective when the information was disseminated in group sessions than provided individually. Overall, the results indicate that poor rural households are likely to positively change their attitudes toward allowing their daughters and women in general to work for pay outside the home as long as the parents are informed about socially acceptable income earning opportunities for young women. Paucity of information seems to be an important factor preventing young unmarried women in poor households in rural Pakistan from working outside the home. This finding is encouraging because information provision may be one of the cheapest ways among the range of measures that promote WWOH. Because even one single provision of information was effective, that with repeated sessions

may be more effective.

It must be noted that the results of the present study do not necessarily imply that disseminating information will be effective in actually enhancing WWOH in rural Punjab. In particular, the extent to which social pressure prevents parents from permitting their daughters to work outside the home remains unclear. However, given the strong stigma that exists against WWOH, especially in factories, the positive change in attitudes toward women working in factories is encouraging. This change is a prerequisite and encouraging first step to achieving actual enhancement of WWOH.

Declaration of Interest

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Table 1: Balance Test on Household Characteristics at Baseline

	Treated (=236)		Controlled (=164)		T-test: p-value
	Mean	Std.dev	Mean	Std.dev	
Father's education	1.98	1.58	2.07	1.61	0.586
Mother's education	1.20	0.74	1.19	0.72	0.847
Father's age	49.41	6.00	49.49	5.77	0.893
Mother's age	46.07	6.48	46.13	6.00	0.917
Number of household members	6.44	1.93	6.38	1.90	0.772
Kammee (lower caste)	0.449	0.499	0.470	0.501	0.689
Land (acre)	1.29	1.32	1.24	1.34	0.692
Livestock (PKR)	306,759	324,480	290,188	347,872	0.626
Value of residence (PKR)	531,377	210,609	545,677	225,084	0.517
Wealth index	0.059	0.793	-0.085	0.825	0.081
Living condition index	0.010	0.772	-0.014	0.778	0.767
Number of female relatives and friends working outside the home for pay	2.50	1.82	2.31	2.32	0.358
Unmarried daughter's age	16.51	4.90	16.82	4.80	0.350
Unmarried daughter's enrollment status	0.55	0.50	0.57	0.50	0.464
Unmarried daughter's education (among those completed education)	2.73	1.55	2.59	1.64	0.400

Education is a categorical variable: 1= No education; 2= Below primary (less than 5 yrs.); 3= Primary completed (5 yrs.); 4= Middle completed (8 yrs.); 5= Matric completed (10 yrs.): 6= Intermediate completed (12yrs.); 7= Graduate or Post-graduate degree

Table 2: Balance Test on Outcome Variables at Baseline

	Treated (=236)		Controlled (=164)		T-test: p-value
	Mean	Std.dev	Mean	Std.dev	
Knowledge of factories (binary)	0.258	0.439	0.348	0.478	0.055
Attitude toward women working in factories (binary)	0.127	0.334	0.159	0.366	0.374
Attitude toward daughter working in factories (binary)	0.047	0.211	0.018	0.134	0.130
Attitude toward women working before marriage (1-5 likert)	2.780	1.249	2.652	1.313	0.327
Attitude toward women working after marriage (1-5 likert)	2.644	1.245	2.549	1.274	0.456
Attitude toward women working as teachers before marriage (1-5 likert)	3.572	0.967	3.506	1.071	0.522
Attitude toward women working as teachers after marriage (1-5 likert)	3.123	1.106	2.866	1.211	0.029
Attitude toward FLFP index	0.043	0.876	-0.061	0.930	0.255
Minimum wage (subjective)	12,822	828	12,790	820	0.700
Reservation wage for daughter to work in factories	13,690	1,265	13,878	1,341	0.155
Reservation wage minus (subjective) minimum wage	934	972	1,084	1,134	0.157

Table 3: Treatment Effects on Knowledge of/Attitude toward WWOH

	(1) Knowledge of factories	(2) Attitude toward women working in factories	(3) Attitude toward daughter working in factories	(4) Attitude toward WWOH index	(5) Reservation wage (adjusted)
Panel A. No controls					
Treated	0.103	0.140**	0.0622**	0.208*	-185.1
	(0.0673)	(0.0627)	(0.0270)	(0.113)	(244.4)
Control mean	0.427	0.262	0.018	-0.123	3495
Cluster-robust p-value	0.135	0.031	0.026	0.072	0.454
Romano-Wolf stepdown adjusted p-value	0.084	0.044	0.044	0.049	0.319
Observations	400	400	400	400	400
R-squared	0.010	0.021	0.018	0.013	0.003
Panel B. Controlling for baseline outcome (ANCOVA)					
Treated	0.157***	0.176***	0.0452*	0.166**	-279.2
	(0.0436)	(0.0522)	(0.0249)	(0.0685)	(190.8)
Cluster-robust p-value	0.072	0.024	0.210	0.079	0.149
Romano-Wolf stepdown adjusted p-value	0.098	0.058	0.058	0.098	0.116
Observations	399	399	399	399	399
R-squared	0.431	0.378	0.562	0.649	0.149
Panel C. Controlling for baseline outcome and household characteristics (ANCOVA)					
Treated	0.164***	0.165***	0.0368*	0.126*	-182.7
	(0.0422)	(0.0524)	(0.0210)	(0.0687)	(234.9)
Cluster-robust p-value	0.000	0.003	0.087	0.074	0.441
Romano-Wolf stepdown adjusted p-value	0.029	0.046	0.139	0.139	0.298
Observations	400	400	400	400	400
R-squared	0.396	0.338	0.539	0.616	0.003
Panel D. Difference-in-Differences (DID)					
Treated×End year	0.199***	0.170***	0.0339	0.0943	-12.51
	(0.0498)	(0.0526)	(0.0208)	(0.0734)	(331.6)
Control mean	0.387	0.210	0.018	-0.092	2289
Cluster-robust p-value	0.000	0.003	0.112	0.111	0.899
Romano-Wolf stepdown adjusted p-value	0.022	0.028	0.190	0.190	0.861
Observations	796	796	796	796	796
R-squared	0.168	0.157	0.101	0.296	0.463

Cluster (village)-robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4: Treatment Effects of Knowledge of/Attitude toward WWOH By Who was Treated (ANCOVA)

	(1)	(2)	(3)	(4)	(5)
	Knowledge of factories	Attitude toward women working in factories	Attitude toward daughter working in factories	Attitude toward WWOH index	Reservation wage (adjusted)
Treated	0.167**	0.161*	0.0493	0.133	-769.5***
	(0.0693)	(0.0871)	(0.0387)	(0.103)	(277.4)
Father	-0.0041	-0.0530	0.0040	-0.0062	-338.1
	(0.0613)	(0.0582)	(0.0032)	(0.0868)	(367.0)
Treated ×Father	-0.0056	0.0108	-0.0245	-0.0138	1,169**
	(0.0881)	(0.105)	(0.0424)	(0.133)	(448.4)
Base year outcome variable	0.683***	0.772***	0.896***	0.790***	0.0388
	(0.0484)	(0.0374)	(0.0723)	(0.0301)	(0.123)
Constant	0.191***	0.165***	0.0000	-0.0714	3,613***
	(0.0622)	(0.0540)	(0.0000)	(0.0572)	(260.3)
Control mean	0.427	0.262	0.018	-0.123	3495
Observations	400	400	400	400	400
R-squared	0.396	0.340	0.540	0.616	0.039

Cluster (village)-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5: Spillover Effects of Knowledge of/Attitude toward WWOH (ANCOVA)

	(1)	(2)	(3)	(4)	(5)
	Knowledge of factories	Attitude toward women working in factories	Attitude toward daughter working in factories	Attitude toward WWOH index	Reservation wage (adjusted)
40% treated in the village	0.0868	0.122**	0.0015	0.0774	269.6
	(0.0684)	(0.0472)	(0.0017)	(0.0824)	(590.0)
60% treated in the village	0.0484	0.109*	0.0028	-0.0039	-775.5
	(0.0725)	(0.0541)	(0.0027)	(0.0748)	(483.3)
100% treated in the village	0.235**	0.227**	0.0588	0.171*	-285.1
	(0.0880)	(0.0929)	(0.0483)	(0.0975)	(607.1)
40% treated in the village ×Treated	0.0687	0.106	0.0073	0.211	-263.0
	(0.0644)	(0.0772)	(0.0067)	(0.142)	(272.4)
60% treated in the village ×Treated	0.184***	0.192**	0.0304	0.0904	104.8
	(0.0556)	(0.0729)	(0.0217)	(0.104)	(244.4)
Base year outcome variable	0.690***	0.780***	0.903***	0.783***	0.0051
	(0.0476)	(0.0374)	(0.0752)	(0.0335)	(0.126)
Constant	0.132**	0.0441**	0.0000	-0.104***	3,702***
	(0.0578)	(0.0185)	(0.0000)	(0.0224)	(475.7)
Control mean	0.427	0.262	0.018	-0.123	3495
Observations	400	400	400	400	400
R-squared	0.400	0.345	0.543	0.621	0.046

Cluster (village)-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Treatment Effects of Knowledge of/Attitude toward WWOH By Group or Individual Sessions (ANCOVA)

	(1) Knowledge of factories	(2) Attitude toward women working in factories	(3) Attitude toward daughter working in factories	(4) Attitude toward WWOH index	(5) Reservation wage (adjusted)
Group Treated	0.176***	0.187***	0.0345	0.176**	-705.8***
	(0.0590)	(0.0668)	(0.0243)	(0.0655)	(208.2)
Individual Treated	0.150**	0.140*	0.0393	0.0721	393.2
	(0.0641)	(0.0770)	(0.0352)	(0.0984)	(364.9)
Base year outcome variable	0.687***	0.777***	0.898***	0.786***	0.00518
	(0.0466)	(0.0382)	(0.0725)	(0.0328)	(0.119)
Constant	0.188***	0.139***	0.0019	-0.0746*	3,489***
	(0.0404)	(0.0332)	(0.0015)	(0.0426)	(179.0)
Control mean	0.427	0.262	0.018	-0.123	3495
Observations	400	400	400	400	400
R-squared	0.396	0.339	0.539	0.618	0.059

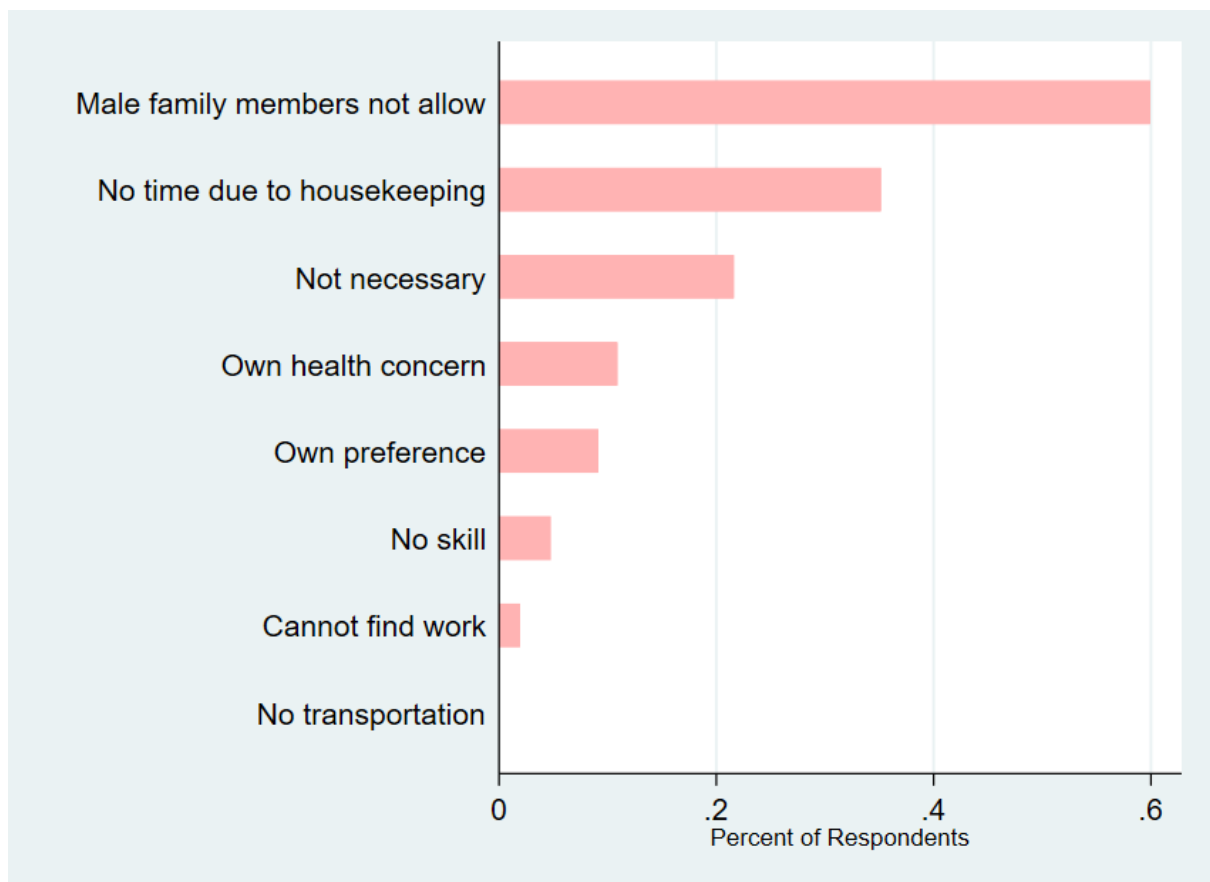Cluster (village)-robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Why women do not work outside the home (N= 293, multiple answers)

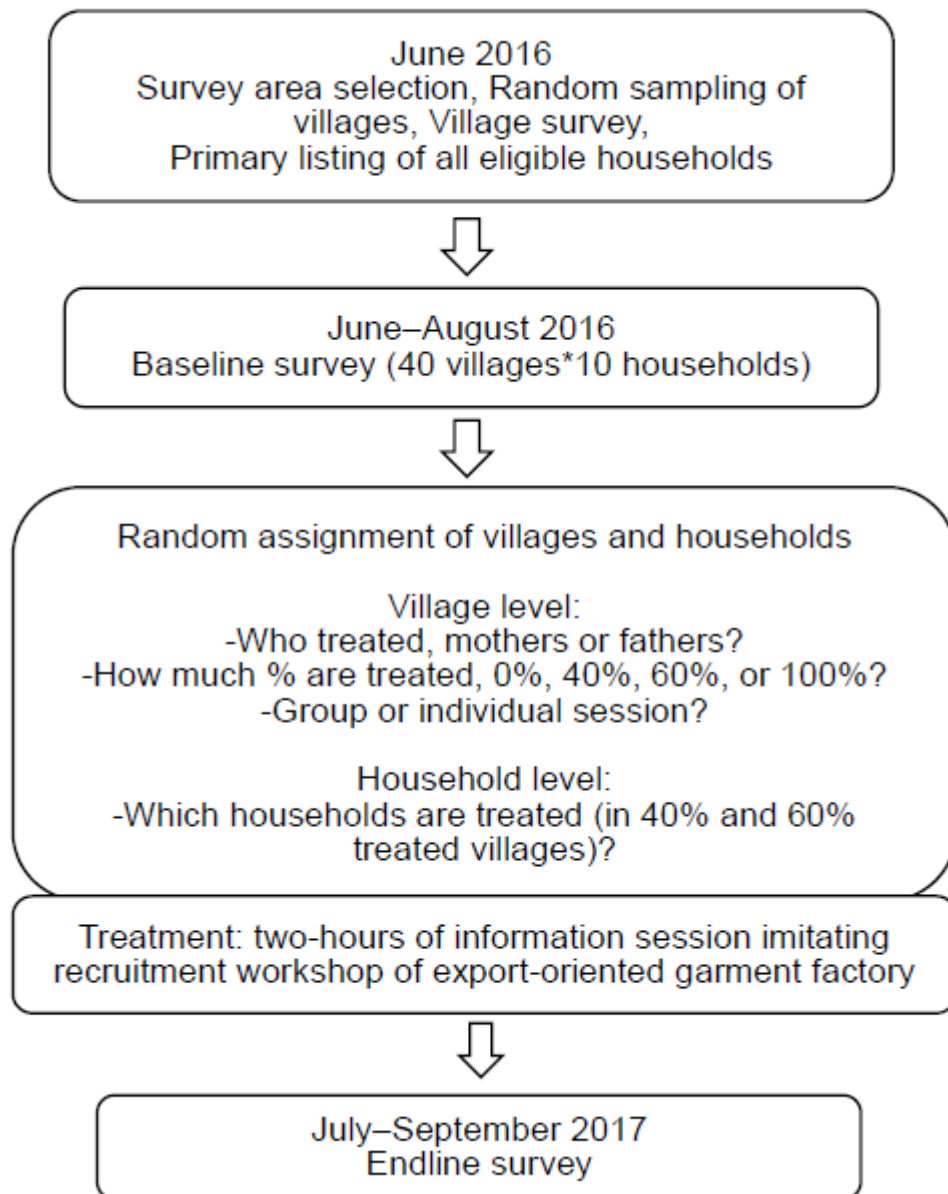Source: Author's survey in 2012
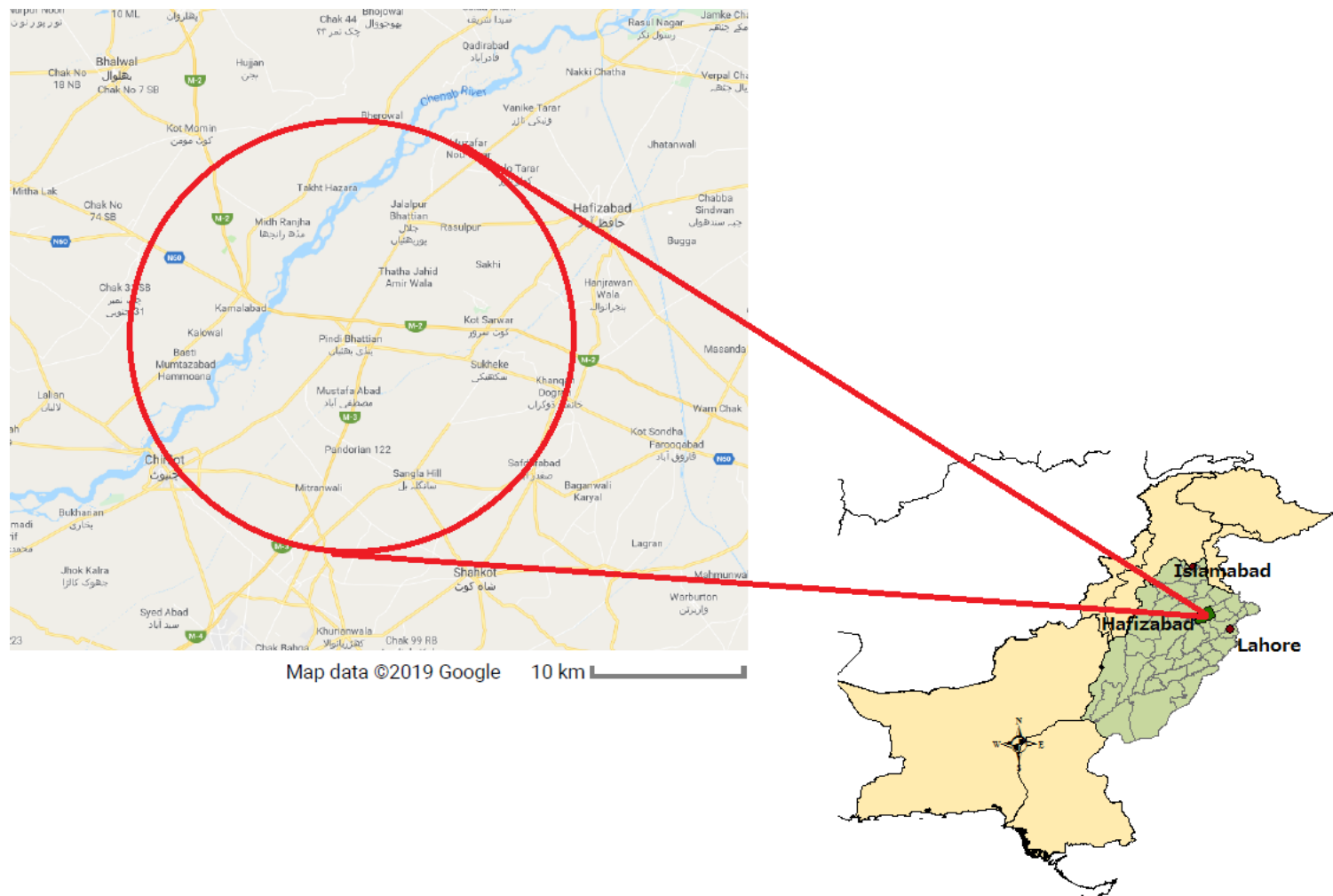
Figure 2: Timeline of intervention and surveys

Figure 3: The survey area was within commuting distances from export-oriented garment factories that were interested in hiring many young women
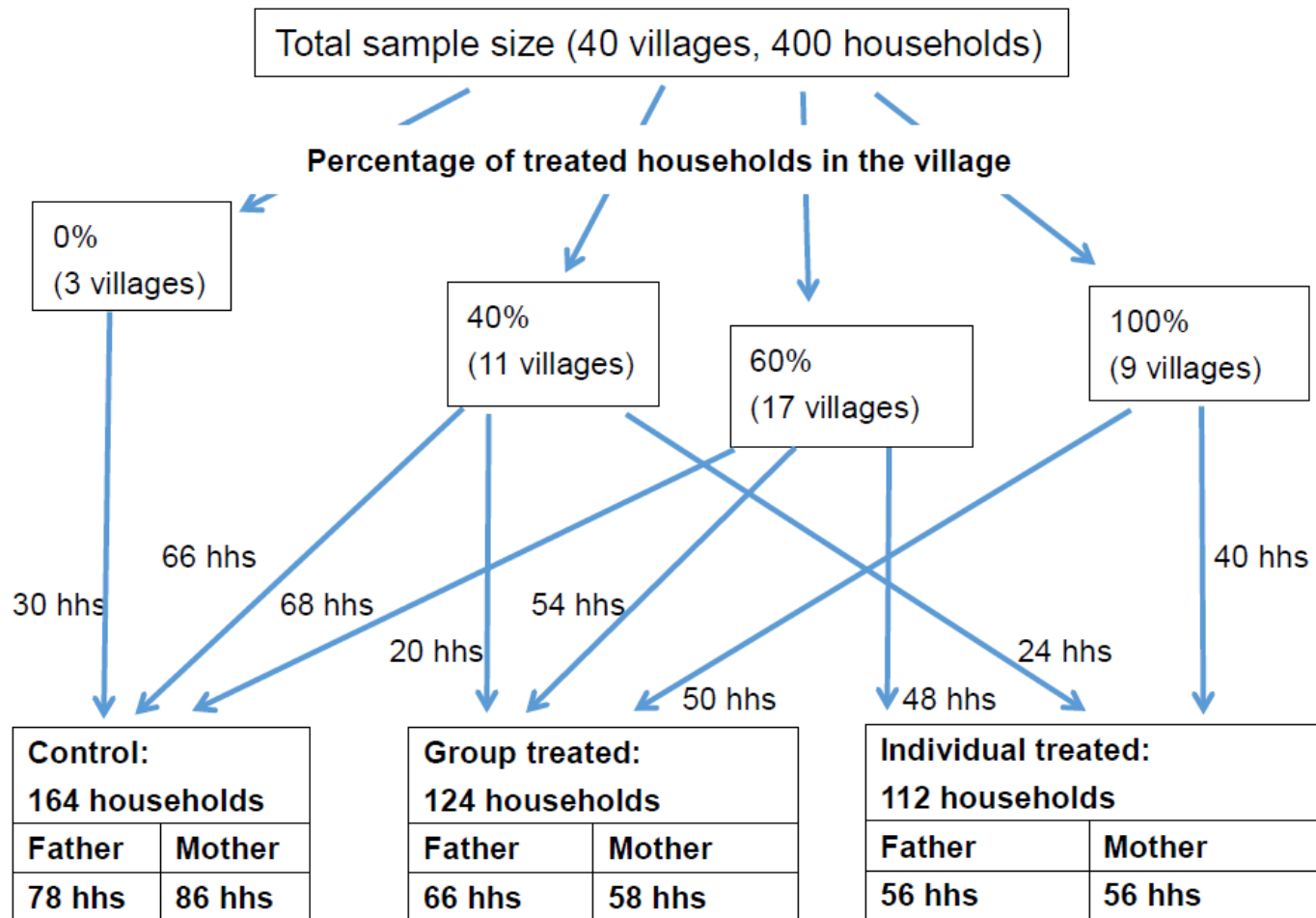
Figure 4: Village- and household-level randomization

Appendix

A1. Description of variables

Knowledge of/attitude toward women working in factories

This ordinal variable is constructed based on Likert scale (1–5) answers to the following question: Have you ever heard of working opportunities, other than teaching, that seem suitable for unmarried women such as those at Crescent Bahuman Limited (CBL) or Masood Textile Mills (MTM)? 1 = No idea what they are; 2 = Yes, heard of them, but have no idea how women work there; 3 = Yes, but have a bad idea of women working there (e.g., lack of safety); 4 = Yes, and know that the working environment is suitable for women (i.e., many women work there) at least in one of these factories, but am still against my daughter working there; 5 = Yes, and know that the working environment is suitable for women at least in one of these factories, and am positive about my daughter working there.

Knowledge of factories

This binary variable takes a value of 1 if a respondent answers "3," "4," or "5" to the question about *Knowledge of/attitude toward women working in factories* above.

Attitude toward women working in factories

This binary variable takes a value of 1 if a respondent answers "4" or "5" to the question about *Knowledge of/attitude toward women working in factories* above.

Attitude toward daughter working in factories

This binary variable takes a value of 1 if a respondent answers "5" to the question about *Knowledge of/attitude toward women working in factories* above.

Attitude toward FLFP index

This variable is constructed by principal component analysis based on Likert scale answers to the following question that queries about FLFP in general: How strongly do you agree with the following statements? (1) It is good for women to work outside the home for payment (any job in general) before marriage; (2) It is good for women to work outside the home for payment (any job in general) after marriage but before having children; (3) It is good for women to work as teachers in private schools before marriage; (4) It is good for women to work as teachers in private schools after marriage but before having children. The corresponding Likert scale answers are: 1 = strongly disagree; 2 = disagree; 3 = neutral: 4 = agree; 5 = strongly agree.

Reservation wage

This variable comprises the answer to the question: What is the minimum wage at which you are ready to send your daughter to work in a factory?

Table A1: Variables Making the Wealth Index: Household's Ownership of Durable Goods

	Mean	Std. Dev.
Bicycle	0.474	0.500
Motorbike	0.724	0.447
Car	0.003	0.050
Washing machine	0.554	0.497
Sewing machine	0.896	0.305
Generator	0.093	0.290
TV	0.894	0.308
Air conditioner	0.011	0.106
Mobile phone	0.979	0.144
Refrigerator	0.681	0.466

Table A2: Variables Making the Living Condition Index

	Mean	Std.Dev.	Percent
Wall type	2.169	0.584	
Mud, unburnt bricks, =1			0.038
Bunt bricks, =2			0.819
Stone, =3			0.081
Cement, concrete, =4			0.063
Roof type	2.090	0.849	
Wood, =1			0.295
Brick, =2			0.343
Tile, =3			0.338
Concrete, =4			0.024
Floor type	2.428	0.793	
Mud, =1			0.145
Brick, =2			0.320
Cement, =3			0.503
Stone, =4			0.024
Tile, =5			0.008

Table A3: Treatment Effects on Knowledge of/Attitude toward WWOH (Single Difference)

	(1) Knowledge of factories	(2) Attitude toward women working in factories	(3) Attitude toward daughter working in factories	(4) Attitude toward WWOH index	(5) Reservation wage (adjusted)
Treated	0.0997	0.149**	0.0670**	0.220**	-259.5
	(0.0636)	(0.0633)	(0.0308)	(0.0959)	(222.4)
Father primary completed	-0.157*	-0.0668	0.0510	0.109	-96.96
	(0.0781)	(0.0772)	(0.0510)	(0.162)	(339.3)
Father matric completed	-0.0200	-0.0649	0.0623	0.0397	511.5*
	(0.0609)	(0.0563)	(0.0370)	(0.109)	(288.6)
Father above matric	0.0415	0.305***	0.0449	0.362**	108.4
	(0.133)	(0.111)	(0.0753)	(0.165)	(487.3)
	0.0215	0.0430	0.0406	0.299	-40.32
Mother primary completed	(0.116)	(0.122)	(0.0976)	(0.292)	(405.5)
Mother matric and above	-0.212*	-0.209	-0.0351	0.0307	1,737*
	(0.117)	(0.129)	(0.101)	(0.289)	(951.7)
Father's age	0.0061	-0.0105	0.0051	-0.0124	43.50
	(0.0113)	(0.0089)	(0.0048)	(0.0156)	(36.95)
Mother's age	-0.0089	0.0036	-0.0065	-0.0054	-45.60
	(0.0103)	(0.0079)	(0.0048)	(0.0142)	(37.54)
Household size	0.0022	0.0199	-0.0020	0.0584**	-92.41**
	(0.0133)	(0.0123)	(0.0043)	(0.0245)	(44.51)
Kammee	0.315***	0.218***	0.116***	-0.326**	-633.5**
	(0.0842)	(0.0726)	(0.0427)	(0.121)	(294.6)
Agricultural land (acres)	0.0852**	0.0731**	0.0369**	-0.138***	-164.0
	(0.0337)	(0.0322)	(0.0175)	(0.0446)	(104.9)
Value of livestock (PKR 10,000)	-0.0008	-0.0010	-0.0010**	-0.0034**	7.885**
	(0.0009)	(0.0009)	(0.0004)	(0.0017)	(3.811)
Value of residence (PKR 10,000)	0.0013	0.0010	0.0004	0.0010	-7.761
	(0.0018)	(0.0016)	(0.0010)	(0.0033)	(7.213)
Wealth index	0.0428	-0.0306	-0.0055	-0.150**	168.1
	(0.0455)	(0.0353)	(0.0221)	(0.0615)	(180.9)
Living condition index	0.126***	0.0592*	-0.0014	0.0592	-2.107
	(0.0427)	(0.0332)	(0.0203)	(0.0685)	(159.0)
Number of female relatives and friends working outside the home for pay	0.0123	0.0198*	0.0100	0.144***	50.26
	(0.0154)	(0.0112)	(0.0071)	(0.0227)	(51.35)
Constant	0.227	0.237	-0.0555	0.346	4,506***
	(0.255)	(0.227)	(0.160)	(0.489)	(921.5)
Observations	399	399	399	399	399
R-squared	0.096	0.088	0.082	0.232	0.103

Cluster (village)-robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1