Willing but Unable:
Social Norms and Costs of Female Hiring in Pakistan*

Sakina Shibuya Zunia Tirmazee Hana Zahir

March 22, 2025

Abstract

Despite 74% of employers in the garment manufacturing industry in Punjab, Pakistan believing women are as capable as men at on-site production jobs, few hire women on factory floors. While much research has been conducted into the constraints women face in obtaining out-of-home employment, this paper instead investigates: What deters firms from hiring women? We use unique firm and worker survey data, complemented by behavioral experiments to measure willingness to comply with gender norms and estimate the impact of economic costs on hiring decisions. We find that top managers exhibit low willingness to comply with segregation norms and do not expect resistance from male workers. However, economic costs, particularly the cost of providing safe transportation, significantly constrain female hiring, reducing the likelihood by 15%. These findings indicate that reducing economic burdens, such as transportation costs, could effectively increase female employment, highlighting the need for targeted policy interventions.

*Shibuya: University of Wisconsin-Madison. Corresponding author. sshibuya2@wisc.edu. Tirmazee: Lahore School of Economics. zuniatirmazee@gmail.com. Zahir: Lahore University of Management Science. hanazahir@gmail.com. We thank Laura Schechter and Naved Hamid for their continuous feedback, suggestion, and fieldwork support. We also thank Jessica Goldberg, Nancy Qian and other participants at the graduate student workshop at the NBER Summer Institute on gender for their comments. We appreciate research assistance by Ahmed Hassan, Fatima Jamil, Ahmed Nazif, and Mrijan Rimal, and survey support from Kashif Abid and his team at RCons. We thank International Growth Centre (PAK-22075) and Private Enterprise Development in Low-Income Countries (PEDL) for their generous financial support. This document is an output from the research initiative, PEDL, a programme funded jointly by the Centre for Economic Policy Research (CEPR) and the Foreign, Commonwealth and Develpoment Office (FCDO), contract reference PEDL_LOA_8897_Shibuya. The views expressed are not necessarily those of CEPR or FCDO. Shibuya also thanks the Center for Research in Economics and Business (CREB), the UW-Madison Graduate School, and SurveyCTO for their financial and in-kind support. We received IRB approval from UW-Madison (2022-0635). AEA Registry 0009222 and 0014344. All errors are our own.

1 Introduction

Pakistan's female labor force participation substantially lags behind the rest of the world and its neighboring countries in South Asia. In 2019, the country's female labor force participation rate for women ages 15 to 64 was 22.6% which is significantly lower than the world average of 52.6% and even low compared to the South Asian average of 25.2% (World Bank Data Bank, 2021). The social norms of physical gender segregation, prevalent in some Islamic countries, makes entering the formal labor market difficult for Pakistani women, but they can also affect Pakistani employers' decisions to hire women, as evidence from Saudi Arabia suggests (Miller et al., 2019; Eger et al., 2022).

Even in this social norm environment unfriendly to formal female employment, some Pakistani employers are seemingly willing to hire women, and think women are viable job candidates. Our survey of garment manufacturing firms in the Punjab province in Pakistan shows 74% of the interviewed employers think women are at least as good as, if not better than, men at on-site production jobs. This descriptive evidence is supported by the previous study that uses the data from a job platform and shows that even Pakistani firms with no existing female employees seek female job candidates (Delcuvellerie et al., 2019).

This project, therefore, asks: What deters firms from hiring women in Pakistan? Despite decades of research on female labor force participation, little is known about the role of employers in shaping women's access to jobs. Most existing studies focus on the constraints women face in entering the workforce, yet the decisions made by employers, who ultimately determine hiring outcomes, remain largely understudied. This paper fills that gap by providing rare, direct evidence on employer hiring behavior through a combination of surveys and behavioral experiments with garment manufacturing firms in Punjab, Pakistan. The primary goal of this study is to examine the economic and non-economic costs of hiring women, particularly those shaped by gender-related social norms.

This study conceptualizes the costs associated with hiring women in Pakistan's garment manufacturing industry as either economic or non-economic, both of which are shaped by prevailing social norms around gender. Economic costs are those that require firms to allocate monetary or in-kind resources. These include expenses for creating safe physical workspaces, providing safe transportation, additional management burdens to address harassment or disputes, supplementary training to bridge the education gender gap, and compensation for household and care responsibilities. These costs stem from social norms influencing women's perceived and actual safety, mobility, and educational opportunities. For example, concerns about women's security in public spaces necessitate investments in separate workspaces or safe commuting options, increasing operational costs for employers. Consequently, these

economic burdens directly affect firms' profit functions and influence hiring decisions.

Non-economic costs, on the other hand, encompass internal and reputational pressures associated with deviating from social norms that enforce physical gender segregation. These costs do not require direct monetary expenditure but can influence managerial decision-making through concerns about social perception and personal discomfort. For instance, top managers may fear reputational damage among peers, family, or community members if they are perceived as violating gender norms by hiring women. Unlike economic costs, these non-economic costs can persist even when financial incentives or subsidies are provided. This distinction is crucial, as it suggests that economic interventions alone may not suffice to increase female employment if non-economic barriers rooted in social norms remain unaddressed.

To answer our research question, we collected data from two sources in Punjab, Pakistan: top managers of garment manufacturing firms and production workers. The primary aim was to investigate how social norms around physical gender segregation influence hiring decisions and workplace dynamics.

Top Manager Survey. We surveyed 238 top managers from garment manufacturing firms, of which 197 completed all survey components. Respondents included owners, executives, and hiring managers with decision-making authority over hiring policies. The survey employed two experimental methods:

The *marble sorting game* experiment used the Becker-Degroot-Marschak (BDM) mechanism to measure top managers' willingness to comply with social norms of gender segregation (Becker et al., 1964). Managers participated in a marble sorting task where they could choose to work alone or with a helper. In the second round, they were randomly assigned either a male or female helper. To capture the cost of norm compliance, managers were asked to report the lowest wage rate at which they would be willing to work alongside the assigned helper. This willingness-to-comply (WTC) measure revealed the premium managers placed on maintaining gender segregation. To ensure truthful reporting, a random rate was drawn to determine if the helper would join the task, thus leveraging the incentive-compatible design of the BDM mechanism. By comparing WTC rates for male and female helpers, the experiment isolated the impact of gender norms.

The *hypothetical choice* experiment investigated how norm-related economic costs influence female hiring decisions. Managers were presented with a profile of a hypothetical firm tasked with filling ten sewing positions. They were shown 16 different scenarios, each varying the economic costs associated with hiring women, including safe transportation, separate workspaces, and additional management burdens. For each scenario, they were asked to report the probability of hiring women for all ten positions. The scenarios were systematically

designed to identify the impact of each cost type on hiring decisions. This approach allowed us to estimate how specific economic constraints, influenced by social norms, affect the likelihood of female employment.

Worker Survey. We also surveyed 618 male production workers with at least three months of experience in the garment manufacturing industry. To measure their willingness to comply with gender segregation norms, we used a Modified Marble Sorting Game with a multiple price list (MPL) method. This version was adapted to match workers' literacy and numeracy levels. Workers were offered a male or female helper in the second round and asked to accept or reject five different wage rates for the helper's contribution. The lowest accepted rate represented their WTC. This method preserved the truth-telling property of the BDM mechanism while simplifying the decision-making process. By comparing WTC rates for male and female helpers, the experiment captured workers' cost of norm compliance.

These experimental methods, combined with detailed survey data on demographic and firm characteristics, provided comprehensive insights into how economic and non-economic costs shaped by social norms influence hiring practices and workplace interactions in Pakistan's garment manufacturing industry.

This study reveals that top managers in Pakistan's garment manufacturing industry exhibit low willingness to comply with social norms of physical gender segregation. They also do not expect male workers to strongly adhere to these norms or resist working alongside female colleagues. However, managers express concern about male workers' behavior toward female coworkers when interactions occur outside public view. These findings challenge the idea that social norms are a direct barrier to female hiring. Additionally, the data do not support the hypotheses that managers prefer working alone or that social desirability bias drives down stated willingness to comply with gender norms.

Instead, the study highlights that economic costs related to accommodating social norms significantly constrain female hiring. Among then, the cost of providing safe transportation has the largest magnitude. When firms are required to bear this cost, the likelihood of hiring women decreases by 15% relative to the mean. This indicates that economic burdens, rather than social norms themselves, are a key obstacle to increasing female employment in this industry.

Our findings suggest that while adherence to gender norms is not absolute, these firms continue to hire women for only a small fraction of their workforce. Addressing economic barriers, such as transportation costs, could effectively promote female participation. This aligns with evidence from (Field and Vyborny, 2022), which shows that a lack of safe transportation reduces women's job-seeking behavior. Our study extends this by demonstrating that employers also face constraints when unable to provide safe transportation options.

It is important to note that the study sample consists of relatively large companies, whereas the garment manufacturing industry in Pakistan predominantly comprises smaller firms. Further research is needed to determine whether smaller firms encounter similar constraints and if social norms influence their hiring decisions to the same extent. This would provide a more comprehensive understanding of the barriers to female employment and inform more effective policy interventions.

This paper investigates the constraints firms face in hiring women and makes three contributions. First, our paper adds a new perspective to the existing literature on female labor force participation, which primarily focuses on women's constraints, by instead investigating firms' disincentives in hiring female workers. While women's constraints in the labor market have received much attention, the general literature on female labor force participation lacks an understanding of why firms may also be constrained to hire women, especially in a context like Pakistan, in which strict norms dictate the behaviors of men and women. The extensive literature on female labor force participation has identified several determining factors including gender differentials in human capital accumulation, and preference-based and statistical discrimination (Altonji and Blank, 1999); behavioral and psychological gender differences and identity (Fortin, 2005; Fernández, 2008; Fernández and Fogli, 2009; Bertrand, 2011; Fernández, 2013; Campos-Vazquez and Velez-Grajales, 2014; Olivetti et al., 2020; Bursztyn et al., 2020); and technological change (Albanesi and Olivetti, 2007). Furthermore, recent Pakistan-specific studies on this topic have identified 1) the burden of household chores and care work (Amir et al., 2018); 2) severely restricted mobility (Field and Vyborny, 2022; Cheema et al., 2020); and 3) fear of harassment at work (Makino, 2019) as salient women's constraints in participating in the formal labor market. Since the labor market consists of people who want jobs and others who want workers, a closer look at why employers cannot hire a large share of the country's working-age population may help solve the low female labor force participation problem.

Second, our study complements recent studies by Miller et al. (2019) and Eger et al. (2022) which demonstrate that firms can be deterred from hiring women by fixed integration costs in the context of Saudi Arabia, where cultural norms idealize physical gender segregation, similarly to Pakistan. The latter study, in particular, provides a more granular understanding on different types of costs associated with hiring women with correlational evidence on the relationship between various costs and female hiring. Our paper complements the previous two studies, while it substantially differs in two critical way. First, our study provides behavioral evidence on the role of monetary incentives in changing social norm compliance. To our knowledge, this is the first paper to provide such evidence, particularly among employers. Second, this paper provide more causal evidence of the effects of different

types of women-related hiring costs.

The next section provides contextual information on the garment manufacturing industry in Pakistan in Section 2, followed by the conceptual framework of norm-related costs in Section 3. We then characterize the study sample with descriptive statistics in Section 4, and describe our data collection and experimental methods in Section 5 and the estimation strategy in Section 6. The findings are presented in Section 7, followed by a discussion of implications. The paper concludes with policy recommendations and suggestions for future research in Section 8.

2 Background: Female Employment in the Garment Manufacturing Industry

This section provides contextual information about the garment manufacturing industry in Punjab, Pakistan, and justifies this paper's focus on the costs of hiring women. It describes the current state of female labor force participation in the industry and identifies contributing factors to its low rate. These factors are linked to prevailing social norms that emphasize the physical separation of the sexes.

Female labor force participation in Punjab's garment industry is low, reflecting the general pattern at the national level. Table 1 shows the share of firms with female employees surveyed in the 2010-2011 Census of the Manufacturing Industry (CMI). The share of garment manufacturing companies with any female employees was 18.1% in 2006 and 12.1% in 2011. These values are on par with the share of female-hiring companies among all manufacturing firms in Punjab. Among garment-producing firms with female employees, the average share of female employees in their workforce was 2.4% in 2006 and 1.6% in 2011. The mean share of female workers in the garment manufacturing industry is much lower than the average in the entire private sector, which was 7.5% according to the 2013 Enterprise Survey (World Bank, 2015). Moreover, the garment industry's mean share of female employees is driven by high outliers, as the median values indicate that the majority of garment manufacturers do not hire women. manufacturers do not hire women. These statistics stand in stark contrast to those in Bangladesh, another Muslim-majority country in the region. Estimates of the female share of the workforce in Bangladesh's garment industry range from 50% to 90%. Even at the lower end of this range, female representation in Bangladesh's garment sector is significantly higher than in Pakistan (Heath and Mushfiq Mobarak, 2015; Matsuura and Teng, 2020).

The garment manufacturing industry in Punjab consists of a mix of small, family-owned

businesses and larger export-oriented factories catering to international markets. These firms engage in various stages of garment production, including cutting, sewing, embroidery, dyeing, finishing, quality control, and packing. The industry remains largely labor-intensive, with most jobs offered on daily-wage or piece-rate contracts. Shift structures vary, and job availability fluctuates with domestic and international market demand.

Factory conditions differ significantly. Small firms may operate out of residential spaces, with "factories" set up in living rooms, whereas large exporters typically run multiple large factories, handling most of the garment production process in-house. Working conditions in some of these factories can be harsh and even abusive, regardless of gender. While Pakistan's labor laws guarantee freedom of association and union rights, employers often suppress unionization—sometimes through force and in collaboration with authorities, as labor rights activists informed us during fieldwork. Export-oriented factories tend to maintain better working conditions, as international clients require compliance with labor standards. These firms are also more likely to hire women, partly due to client-imposed female hiring quotas.[1]

Hiring decisions in these firms are usually made by factory owners, senior managers, or dedicated human resource departments, depending on the company's size and structure. Many medium- and large-sized factories also rely on intermediaries who supply workers. Across all firm sizes, informal recruitment through referrals and networks remains common. Women's employment in the sector is particularly rare in on-premise production roles, where men dominate. In some cases—especially among exporters—factories accommodate female workers by offering pick-and-drop services for safe commuting, childcare facilities, separate female toilets and prayer rooms, and dedicated workspaces (JICA, 2018). In extreme cases, an exporter may dedicate an entire factory to female workers to ensure gender segregation. However, such measures are not universal and typically depend on the financial incentives for hiring women. Many exporters find it profitable to comply with international clients' demands for female employment, as these orders are more lucrative. Nevertheless, concerns about workplace harassment and the perceived need for additional managerial oversight contribute to employers' reluctance to hire women, reinforcing the industry's male-dominated structure.

The extensive literature on female labor force participation provides a range of potential explanations for the low female labor force participation and female hiring in Punjab's garment manufacturing industry. Globally, researchers have documented barriers such as gender differentials in human capital accumulation, preference-based and statistical discrimination

[1]Germany recently passed a law requiring importers to ensure labor rights compliance throughout their supply chains (Donovan, 2024). However, conversations with factory owners and managers during our fieldwork reveal that even without such legal frameworks, many international clients already enforce labor protection regulations and female hiring quotas.

(Altonji and Blank, 1999), as well as behavioral and psychological gender differences (Fortin, 2005; Fernández, 2008; Fernández and Fogli, 2009; Bertrand, 2011; Fernández, 2013; Campos-Vazquez and Velez-Grajales, 2014; Olivetti et al., 2020; Bursztyn et al., 2020). Technological change has also contributed to shifting gender employment patterns in various industries (Albanesi and Olivetti, 2007).

In Pakistan, several country-specific constraints further limit women's ability to work. Studies have identified household responsibilities, where women are expected to perform the bulk of unpaid domestic and care work, restricting their ability to seek formal employment (Amir et al., 2018); restricted mobility, as women's ability to travel independently is severely limited due to social norms and concerns about safety (Field and Vyborny, 2022; Cheema et al., 2020); and workplace harassment, where fear of harassment or inappropriate interactions in mixed-gender workplaces deters many women and their families from considering factory employment (Makino, 2019).

Many of the above-mentioned potential reasons stem from social norms governing how women and men[2] are expected to behave and interact. Data from the World Value Survey (WVS) between 1997 and 2018 consistently show that both women and men in Punjab adhere to strict gender norms that define women's roles in society (WVS, 2020). For instance, 58% of men and 53% of women in Punjab in 2001 responded that coed classes are in violation with Islam.[3]

In this study, we define social norms as a "motivational mechanism," shared by members of a community, that shapes individual behaviors through "feelings of embarrassment, anxiety, guilt, and shame" and, in some cases, through social ostracism, borrowing from the characterization by Elster (1991).

In Pakistan, a collection of social norms governs interactions between women and men. Two norms particularly relevant to this paper are *purdah* and *izzat*.[4] Purdah, which translates to "curtain," is a set of rules that physically and figuratively separate women and men to maintain purity, while izzat, meaning honor or dignity, represents a sense of family pride to be protected (Papanek, 1973). These two concepts are heavily intertwined. For example, izzat can be damaged if a female family member fails to comply with purdah, such as by obtaining out-of-home employment or coming into close asexual contact with a man outside her immediate family, even in a professional setting (Syed, 2010; Masood, 2019).

While much of the research on female labor force participation focuses on women's con-

[2]While we recognize that gender and sex are non-binary, we focus on these two categories as gender is largely considered binary in the context of this study.

[3]Table A3 provides the descriptive statistics on values related to gender religion from the WVS.

[4]These concepts are multifaceted. We recognize that they are both social norms and religious and cultural values. However, we consider their functioning as social norms in this paper to maintain focus.

straints, less attention has been paid to how these same social norms affect employers' hiring decisions. Employers play a crucial role in shaping labor market outcomes, and their perceptions of gender norms, whether held personally or assumed to be held by workers and society, can influence hiring behavior. Recent studies have theoretically and empirically demonstrated the existence of costs associated with integrating female workers into an all-male work environment due to norms of gender segregation (Eger et al., 2022; Miller et al., 2022a,b). In the next subsection, we discuss how social norms manifest as costs of hiring women faced by employers.

3 Conceptual Framework: Costs of Hiring Women

We describe how social norms in Pakistan, as discussed in the previous section, can manifest as costs that potentially influence employers' decisions to hire women. We broadly categorize these costs into "economic" and "non-economic" costs. We define these categories below, highlighting this distinction's significance for informing future interventions.

3.1 Economic Costs

Economic costs of hiring women are those that require firms to allocate monetary or in-kind resources. Our fieldwork and literature review reveal the following burdens: investment in providing safe physical workspaces (Makino, 2019); the cost of providing safe transportation (Field and Vyborny, 2022; Cheema et al., 2020); additional management burdens to mitigate and resolve harassment and disputes; the cost of providing additional training due to the underlying educational gender gap (Minardi et al., 2021); and compensating for household and care work (Amir et al., 2018).[5]

All of these costs are linked to gender norms in Pakistan, which generate these costs by influencing women's actual and perceived security, as well as their access to education and economic roles. Women's security and safe mobility are significant issues in Pakistan, as women in public spaces (e.g., commuter buses, work sites) face risks of harassment and assault. A report shows that 78% of female respondents in Karachi indicated that they had experienced harassment or felt uncomfortable on public transit in the past year (Asian Development Bank, 2015). Perceived security also plays a critical role. Makino (2019) shows that parents of unmarried women are particularly concerned about their daughters' safety at factories.

[5]Our characterization of potential economic costs also overlaps with that of Eger et al. (2022), which examines barriers to hiring women in Saudi Arabia, where similar norms prevail.

Concerns over women's security in public spaces also worry employers, as indicated by our conversations with factory owners and managers. Their uneasiness ranges from the costs of providing safe workspaces separate from the existing male workforce and safe transportation to the potential challenges of managing security incidents during transit or at the workplace. For instance, employers are also concerned about their ability to deter male workers from harassing female workers. Some expressed that they would need to build new women-only bathrooms, eliminate blind spots on the factory floor, and potentially install security cameras to better monitor male workers' behavior before they could introduce female workers at their factories. They believe that failing to ensure female workers' safety could either hinder recruitment efforts or require additional management resources to address harassment incidents.

Social norms around gender in Pakistan also affect women's access to education and their roles in society. In fact, only 86 girls are in school for every 100 boys (Minardi et al., 2021). Employers interested in hiring women may perceive this educational disparity as an additional cost, as they might need to provide extra training to compensate for the relative lack of education.[6] Furthermore, women are expected to stay home to perform household chores and care for dependents, and 86% of female respondents reported that their caregiving responsibilities are a major deterrent to labor force participation (Amir et al., 2018). Our conversations with employers indicate that they are concerned about the financial and logistical burdens of providing care services during work hours.

All of these economic costs, if incurred, directly affect a firm's profit function and reduce its profit, assuming perfect competition, profit maximization, and constant marginal revenue.[7] For example, building a separate women-only bathroom to accommodate female workers requires a one-time investment, which increases the firm's average total cost.

3.2 Non-economic Costs

Non-economic costs of hiring women are those that do not require immediate monetary investments. These include the internal psychological cost of breaking away from social norms that promote physical segregation between women and men, as well as the reputational cost

[6]Our survey shows that 74% of interviewed managers believe women are at least as capable as men in performing tasks such as knitting, dyeing, cutting, embroidery, and stitching (Figure 1). This suggests that the educational gender gap does not necessarily influence employers' perceptions of women's skills, at least in the garment manufacturing industry. Many managers also noted that women tend to have better soft skills (e.g., punctuality, sense of responsibility, perseverance), which are crucial for producing high-quality garments. This may indicate that employers perceive gender differences more in soft skills than in hard skills in garment production.

[7]Some types of costs are variable, while others are fixed. Although this distinction is important, this study focuses on understanding whether these costs influence firms' behaviors.

of violating such norms (Bernhardt et al., 2018). These costs may not directly impact the firm's profit function as clearly as economic costs. However, they can influence the firm's top manager, whose adherence to norms—whether intentional or unintentional—may shape managerial decisions. For instance, the top manager may believe that deviating from norms and hiring women would damage his reputation among business peers, family members, and friends. If he perceives the reputational cost to be greater than the expected benefit of hiring women, he may decide to hire only men.

The distinction between economic and non-economic costs is important not only because they affect firms' profit functions and hiring decisions differently, but also because they imply different policy interventions. For example, if a firm is constrained by its inability to absorb the cost of building a women-only bathroom, it may be incentivized to hire women if this cost is covered by an external source. However, the firm may still decide not to hire women even after receiving the subsidy if its top manager adheres to norms out of concern for his reputation. Addressing the latter constraint requires an entirely different set of interventions.

4 Descriptive Statistics

To understand how economic and non-economic costs influence employers' willingness to hire women, we begin by describing the key characteristics of the firms, top managers, and production workers in our sample. This descriptive analysis provides important context for the experimental design and the experimental results that follow. Specifically, it helps clarify the types of firms operating in Punjab's garment industry, the profile of decision-makers who control hiring, and the broader workforce's attitudes toward women's employment. These descriptive patterns not only illustrate the structural and normative environment in which hiring decisions are made, but also underscore the relevance of both cost categories discussed in the previous section.

Firm and Top Manager Characteristics

Table 2 presents the characteristics of the garment manufacturing firms in our analysis sample. The first notable observation is that these firms tend to be well-established. Most are located in non-residential areas, have production spaces spanning several floors, and employ a large number of workers at any given time. On average, firms had 386 on-premise employees in the past 30 days, while the median was 200. Although the distribution of firm size is quite spread out, the high median value indicates that the sampled companies are generally large. Additionally, the average and median number of years in operation are

26 and 22, respectively, further demonstrating that the firms in the sample are relatively well-established.

Second, 95% of the sampled firms are exporters, as we used the membership lists of trade associations dedicated to apparel exporters. Garment exporters are generally subject to different criteria for quality control and labor and environmental standards, often set by international clients based in advanced economies. Our data reflect this trend: 90% of the firms have at least one international certification related to social audits, environmental standards, or product quality.

Third, the most common form of employment among the sampled firms is on-premise contractual production positions. While the average share of this employment type is 88%, the median is 100%, indicating that the majority of firms hire factory workers on a contractual basis. This finding is consistent with the labor-intensive nature of garment manufacturing and mirrors hiring practices in other major garment-exporting countries, including India (International Labour Office, 2015).

Fourth, most of the sampled firms hire men for on-premise positions. The average share of male workers in full-time and contractual on-premise positions in the past 30 days is 82%, while the median values are 90% and 95%, respectively. In stark contrast, the average and median shares of male workers in off-premise contractual positions are 6% and 0%, respectively. This indicates that off-premise jobs, which typically involve small take-home tasks such as trimming loose threads from finished products, are predominantly held by women.

These statistics suggest that costs are associated with hiring women for on-premise positions. Most firms are clearly willing to hire women for off-premise work, where they do not have to manage the potential challenges of female and male employees sharing the same physical space. To clarify, this paper investigates the costs of hiring women for on-premise positions.

Lastly, 63% of the firms reported that their factory space required women and men to share work areas. However, surprisingly, over 95% of these firms have separate bathrooms and prayer rooms for women in their factories.

Table 3 presents the characteristics of the top managers of the sampled firms. The average top manager in our analysis is 39 years old, has 13 years of industry experience, and has worked at the current firm for about 9 years. The top managers in our sample are highly educated: 88% have at least a bachelor's degree or equivalent, and over half hold a master's degree or equivalent. Most are also married and live with their spouses.

As mentioned earlier, we identified and interviewed top managers who had control over their firms' hiring policies. The data confirm our sample selection. Roughly 79% of the

top managers were human resource (HR) managers, and 77% reported that their primary responsibility was HR management.

Table 4 presents the top managers' views on women and employment. The top managers in our sample were generally open to the idea of women working outside the home. Eighty-five percent believed that it was acceptable for women to work outside the home and for garment manufacturing firms to hire women for both managerial and non-managerial positions. When asked about women's competency in common garment manufacturing tasks compared to men's, nearly 50% responded that women always or sometimes outperform men in cutting, sewing, and finishing. Only 22% to 25% believed that women underperform in these tasks compared to men.

Table 5 reports top managers' perceived constraints in hiring women by occupation type. For non-managerial positions, the most commonly reported constraint was the perception of women as a potential disruption at work, followed by concerns about women's family commitments. For managerial positions, the most frequently cited constraint was the lack of women with management experience.

Worker Characteristics

Table 6 presents the characteristics of the sampled workers. By design, all of the workers sampled are adult males. The mean and median ages are 30 years old, respectively. Most have at least 8 years of experience as production workers in the garment manufacturing industry. The majority of the sample has at least a primary-level education, with 23% completing primary school (grades 1-5) and 35% completing middle school (grades 6-8). Nine percent of the workers have never received formal education. In terms of marital status, 58% of workers are married, 35% are single, 6% are engaged, and 1% are widowed[8]. Among those who are married, only 6% have spouses who are employed outside the home.

Table 7 presents the workers' views on women and employment. The sampled workers generally do not accept women's employment outside the home, with 34% strongly disagreeing with the statement, "It is acceptable for women to work outside the home." They also tend to believe that men outperform women in garment manufacturing tasks. When asked

[8]The share of engaged individuals may appear high, but this is consistent with marital customs in Pakistan. Once a marriage is agreed upon, both families begin financial preparations, not only for the wedding ceremony but also for setting up a new household. It is customary for the bride's family to prepare furniture, household utensils, and other essentials, while the groom's family typically provides gold and arranges a new residence. Additional negotiations often take place to determine how expenses will be shared. As a result, it is common for engaged couples and their families to take one to two years before the marriage occurs. Therefore, it is not surprising to see a relatively high percentage of individuals who are engaged.

about performance in cutting and sewing fabric, as well as finishing products, 41% and 39%, respectively, stated that female workers never outperform male workers.

Our descriptive analysis reveals a stark contrast between top managers and workers in the garment manufacturing industry regarding education and views on female employment and ability. While top managers are highly educated and generally believe that women are not necessarily less skilled workers, they also report acceptance of female employment within the industry and in other sectors. In contrast, workers are less educated and are more likely to be intolerant of female employment and to believe that women are less skilled workers.

5 Data Collection

The data collection for this project consists of two key components: a survey of top managers and a survey of production workers in Punjab's garment manufacturing industry. The central goal of these surveys is to understand how social norms around physical gender segregation influence behaviors in hiring and workplace collaboration. To capture these behaviors, we rely on behavioral experiments, which offer a more accurate measure of norm compliance than self-reported data. This section begins by explaining the rationale for using behavioral experiments before describing the survey samples, instruments, and specific experimental designs for both employers and workers.

5.1 Justification for Using Behavioral Experiments

If one is to measure the effects of social norms on hiring decisions and top managers' willingness to comply with social norms, there are three main ways. The first and perhaps most straightforward method is to ask respondents direct questions about whether they factor social norms in hiring decisions and how willing they are to obey or disobey social norms. Unfortunately, while this method is advantageous in its relative ease of execution, a few problems can lead to lower measurement quality.

First, the method of direct questioning is prone to self-reporting bias. In our context, we are particularly concerned about the potential influence that the gender of an enumerator may have on the respondent's responses. The direction of this so-called social desirability bias in our context can depend on the respondent's belief about social norms. For instance, the respondent may be compelled to show a higher willingness to comply with social norms because he wants to signal to a male enumerator that he is a norm-abiding member of society. Therefore, the direct questioning method does not offer an intuitive way to extract the "truth" away from this bias, especially when questions regard rather sensitive social and

cultural norms.

Second, direct questioning also suffers from the potential disconnect between self-reported responses and actual behaviors. What respondents verbally report may not align with their actual behavior, which we cannot observe in this method. Thus, again, this method does not offer a way to reveal respondents' behaviors.

The direct questioning method is not our preferred method of collecting data on top managers' behaviors regarding social norms, although we still implement it in module 6 so that we can compare the direct questioning data to the data from the other methods.

The second method is to observe whether each company has hired women workers. Such data certainly tell us whether its top manager has broken away from norms; however, this cannot tell us whether there is a trade-off between the benefits attached to hiring women and its costs. Additionally, the circumstance under which each company and its top manager decide to hire women varies. This variation makes it challenging to use this information to measure willingness to comply with social norms. To mitigate this concern, we use a hypothetical choice method to observe top managers' hiring decisions under hypothetical situations.

The third method is to create a lab-like environment in the field and use a game to record respondents' behavior rather than self-reported responses. This is our most preferred method of measuring the willingness to comply with social norms for a few reasons. First, the lab game method measures respondents' willingness by revealing their behaviors rather than verbal reporting. We believe that this reduces the risk of social desirability bias, mainly because misreporting through behavior is more costly for respondents than verbal misreporting. In other words, if a respondent wants to misreport his true willingness, he must act on it, which can potentially be unpleasant. Meanwhile, lying is much easier and requires no action. Secondly, this method allows us to link behavior and willingness much more concretely. Third, this method buys us more control over the environment where respondents' behaviors are revealed.

This behavioral game method is certainly not without weakness. Namely, there is a trade-off between the control granted to the research team and the extent to which the lab environment mimics the reality of top managers. Since we are interested in understanding the association between top managers' norm compliance and their hiring of women, the lab environment we create must not be entirely far off from their daily reality. To mitigate this trade-off, we consider some variations of the basic game, which further try to replicate the real world.

5.2 Top Manager Survey

We surveyed 238 top managers of garment manufacturing firms in Punjab, Pakistan, in collaboration with trade associations in the sector. Specifically, we partnered with the Pakistan Knitwear Training Institute (PKTI), managed by the Pakistan Hosiery Manufacturers and Exporters Association (PHMA), and the Pakistan Readymade Garments Manufacturers & Exporters Association (PRGMEA). Of the total interviews conducted, 197 respondents completed all components of the survey and constitute our analysis sample. Our respondents were top managers of member companies, defined as individuals who (i) hold a managerial position within a company and (ii) have decision-making authority over the company's hiring policy. A top manager, for instance, could be a company owner, executive, or hiring manager. The survey instrument included two experiments in addition to questions about firm and top manager characteristics. Table A1 summarizes the questions related to firm and manager characteristics.

Marble Sorting Game Experiment

The marble sorting game was designed to measure top managers' willingness to comply (WTC) with social norms that dictate strict physical separation of the sexes, using the Becker-Degroot-Marschak (BDM) mechanism (Becker et al., 1964). The experiment presented managers with a trade-off between maximizing earnings and complying with gender segregation norms. The English translation of the game script is presented in Box 1.

The game consisted of two rounds. In Round 1, each top manager sorted a bowl of mixed marbles by color for one minute, without any helper. This served as a practice run and established a baseline for individual earnings. In Round 2, the top manager was randomly assigned either a female helper (90% of the sample) or a male helper (10%), with all other procedures held constant. The manager was informed that their total prize would depend on the combined quantity sorted by them and the helper, multiplied by fixed rates. The variation in the helper's gender allowed us to isolate the impact of gender norms on WTC, while the male helper group served as a control to account for any helper-related effects unrelated to gender. To ensure accurate reporting, respondents answered comprehension questions before proceeding to Round 2. Only those who demonstrated a clear understanding continued.

To elicit WTC, managers were asked to report the lowest per-gram rate at which they would be willing to work with the helper. This reported rate represents their cost of deviating from gender segregation norms. A higher rate suggests a stronger preference for maintaining gender segregation (i.e., a higher WTC), while a lower (but non-zero) rate implies greater willingness to trade off norms for monetary gain.

Truth-telling was incentivized through the BDM mechanism: after the manager reported their minimum acceptable rate, a rate was randomly drawn from a uniform distribution over possible values. If the random rate was greater than or equal to the reported WTC, the manager worked with the helper at that random rate. If the random rate was lower than the reported WTC, the manager worked alone. Because the outcome was determined by the random draw, not the reported value, this mechanism encouraged truthful revelation of the manager's true minimum acceptable rate.

WTC reflects managers' willingness to comply with social norms of gender segregation, and consequently, their willingness to work with women. Therefore, a higher WTC indicates greater adherence to gender segregation norms, while a lower (non-zero) WTC suggests a willingness to deviate from these norms for monetary gain. This trade-off between economic incentives and social norms reveals the cost of norm compliance.

Hypothetical Choice Method Experiment

The second experiment employed the hypothetical choice method to collect firms' reported probabilities of hiring women under varying economic cost scenarios. The primary objective was to understand how economic costs associated with hiring women influence top managers' hiring decisions. The English translation of the prompt given to the respondents is shown in Box 2.

Respondents were asked to assume the role of the top manager at a hypothetical company, referred to as Company A. They were tasked with filling ten sewing positions and presented with 16 scenarios, each varying in the economic costs associated with hiring women. These scenarios included the five types of economic costs described in Section 3: costs of creating separate, safe work areas; expenses related to providing secure commuting options; additional resources required for addressing harassment or disputes; costs for bridging the educational gender gap; and expenses related to providing care services during work hours. In each scenario, some of these costs were covered by a hypothetical lottery, while others had to be borne by Company A. This variation allowed us to isolate the impact of each cost type on the probability of hiring women.

An example of one of the scenarios presented to respondents is shown in Figure 4. The costs borne by Company A were highlighted in black, allowing the respondent to easily distinguish which ones to consider when evaluating the hiring decision. In each situation, the respondent was asked, "How likely are you to hire the group of 10 women in each of the following situations?" The 16 scenarios were generated using the *dcreate* command in Stata to optimize variation in the cost burdens faced by Company A, allowing us to estimate the individual effects of each cost type on hiring decisions (Hole, 2017).

After reviewing each scenario, respondents reported their probability of hiring 10 women instead of men on a scale from 0% to 100%. A reported probability of 0% implied a 100% likelihood of hiring men for all positions. This approach measured the trade-offs managers made between the economic costs and their willingness to hire women.

To enhance realism and minimize omitted variable bias, respondents were shown a detailed profile of Company A, partially based on real-world statistics. The profile, shown in Figure 3, included average revenue, profit, and workforce size for a typical garment manufacturing firm in Punjab, based on 2021 data (Bureau of Statistics, 2022). This contextual information was designed to create a relatable and realistic decision-making environment. The hypothetical profile helped standardize firm characteristics, ensuring that differences in hiring probabilities were attributed to cost variations rather than other confounding factors.

A major advantage of using a hypothetical company profile is that it homogenizes firm characteristics that may be correlated with constraints to hiring women. However, this identification strategy relies on respondents fully "buying in" to the hypothetical situations and not bringing in their real-world considerations. To mitigate this risk, we thoroughly piloted the instrument and trained our enumerators to encourage engagement with the scenarios.

5.3 Worker Survey

We surveyed 618 adult male workers with at least three months of experience as production workers in the garment manufacturing industry in Punjab.[9] To be eligible, respondents needed to have at least some experience working on the factory floor, as opposed to doing piecework from home. We define adults as individuals aged 18 or older. In this context, a production worker is someone involved in knitting, dyeing, cutting, embroidery, stitching, finishing, packing, laundry, or washing.

We recruited respondents from key manufacturing hubs in Punjab and surrounding villages. The survey instrument included one behavioral experiment in addition to questions about worker characteristics. Table A2 provides an overview of the variables collected in the worker survey.

Modified Marble Sorting Game

This experiment quantifies workers' willingness to comply with social norms that idealize strict physical separation of the sexes using a simplified version of the BDM mechanism.

[9]We attempted to revisit the companies interviewed in the firm survey but found it too disruptive to their business operations. Consequently, we could not match the firm and worker survey data. We also did not ask workers to name the factories they had worked in, as we anticipated that matching would not be feasible.

Unlike the managers' sorting game, this version is adapted to better match workers' literacy and numeracy levels. We applied the multiple price list (MPL) method, a variation of the traditional BDM mechanism, to elicit workers' WTC. The MPL method asks respondents to accept or reject different prices instead of naming their minimum acceptable price, simplifying the decision-making process.

The modified marble sorting game also consisted of two rounds. Just as in the managers' sorting game, in round 1, each worker sorted marbles alone for a short period to establish a baseline for individual productivity and earnings. The prize was determined by the quantity sorted within the time limit, multiplied by a fixed rate. In round 2, the worker was offered a helper who could assist in sorting more marbles, increasing his potential earnings.

In this experiment, 50% of workers were offered a female helper, while the other half was offered a male helper, creating a comparison group. If the helper joined, her sorted quantity was multiplied by a different fixed rate and added to the worker's earnings. The total prize was the sum of the worker's own and the helper's contributions. This design, again, created a trade-off between maximizing earnings and adhering to social norms around gender segregation.

To measure WTC, we asked workers if they would work with the helper at each of the five rates (2, 4, 6, 8 10 rupees), instead of asking them to report the lowest rate at which they are willing to sort the marbles with the helper. The lowest accepted rate is reported as the WTC.[10] The interpretation remains the same as the continuous WTC we measured for managers. A higher WTC indicated stronger adherence to gender norms, while a lower (non-zero) WTC suggested a willingness to deviate from norms for monetary gain.

As before, the BDM mechanism ensured truth-telling through a random draw. After the worker's lowest willing rate was revealed, a random rate was drawn from a uniform distribution of the five rates. If the random rate was greater than or equal to WTC, the worker played the game with the helper at the random rate. If the random rate was strictly less than WTC, the worker played alone.

The other 50% of workers offered a male helper created a comparison group to isolate the influence of gender norms on WTC. By comparing WTC between the female and male helper groups, the experiment identified the social norm cost associated with working alongside women. This comparison allowed us to examine the influence of attributes other than the

[10]In some cases, workers gave non-monotonic responses—for example, accepting a lower rate (e.g., 2 rupees) but rejecting a higher one (e.g., 4 rupees). These inconsistencies were typically limited to a single deviation and are likely attributable to mistakes. For these cases, we continued to use the lowest accepted rate as the worker's WTC. When the randomly drawn rate fell above the reported WTC but below the rejected higher rate, we treated the response as valid and included the helper, consistent with the BDM framework.

helper's gender on the norm compliance price point. The design also controlled for other potential biases, such as productivity expectations or social desirability.

6 Estimation Strategy

The goal of this analysis is to investigates the role of the social norms of physical gender segregation in hiring decisions. We first analyze the relationship between norm-related costs and female hiring using behavioral measures and experimental data. We then explore several alternative explanations for low female employment, including worker resistance, managerial preferences, and norm-related economic costs.

Norm costs and hiring decisions. We begin by examining whether top managers can be incentivized to deviate from gender segregation norms. Using data from the marble sorting experiment, we test whether managers are willing to forgo earnings to avoid working alongside a female helper. Specifically, we expect that the average willingness to comply (WTC) will be higher for managers randomly assigned a female helper compared to those assigned a male helper. This difference would indicate adherence to segregation norms.

Next, we explore how WTC correlates with firm and manager characteristics by estimating the following regression with OLS:

$$WTC_i = X_i'\beta_1 + Z_i'\beta_2 + W_i'\beta_3 + \eta_i$$

where WTC_i is the lowest wage rate at which manager i is willing to work with a female helper; X_i' is a vector of firm characteristics; Z_i' includes manager characteristics; and W_i' includes controls such as the social desirability index and the helper's gender. Standard errors are robust to heteroskedasticity. Firm characteristics include size, export status, certification, and contract type; manager characteristics include age, education, work experience, marital status, and whether the manager's wife works outside the home.

To examine whether WTC predicts actual hiring behavior, we estimate:

$$y_i = \delta_1 WTC_i + X_i'\delta_2 + Z_i'\delta_3 + W_i'\beta_3 + \mu_i$$

where y_i denotes firm-level hiring outcomes such as whether the firm has ever hired women for non-managerial or managerial roles, whether location or commute factors into hiring decisions, whether teams are mixed-gender, and the gender composition of the workforce.

Alternative explanations. To better understand the gap between low norm compliance (as measured by WTC) and limited female hiring, we examine five additional possibilities. First, managers may expect workers to comply with norms, even if they personally do not.

Second, managers may be concerned that male workers will resist working with women. Third, some managers may simply prefer working alone. Fourth, social desirability bias may influence how they report their WTC in the experiment. Lastly, norm-related economic costs—such as those associated with transportation or facility upgrades—may deter hiring women.

We investigate the first two channels using hypothetical vignettes, where managers report their willingness for a male worker to work with male or female helpers under varying conditions of observability and decision-making authority. We also compare these responses to managers' guesses about workers' own WTC. To examine the third and fourth channels, we analyze post-experiment questions where managers reflect on their preferences and the reasons behind their responses, and we correlate WTC with a social desirability index.

To explore the fifth factor, we use the data from the hypothetical choice experiment with top managers, and estimate the following with OLS:

$$y_{ij} = \sum_{k=1}^{K=5} \gamma_{1k} A_{ijk} + \zeta_i + \lambda_{ij}$$

where y_{ij} is the reported probability of hiring women for ten sewing positions by manager i in scenario j; A_{ijk} is a binary indicator for whether cost k is present in that scenario; and ζ_i captures manager fixed effects. The coefficients of interest are γ_{1k}, which represent the effects of each of the five economic costs associated with hiring women. We expect each of these costs to negatively affect the probability of hiring women.

7 Experiment Results

In this section, we present the results from the experiments. First, we show the findings from the experiments conducted with top managers and examine the relationship between managers' norm compliance, norm-related economic costs, and female hiring. Next, we explore other norm-related factors that may influence the decision to hire women.

7.1 Norm Costs and Hiring Decisions

We first present the results from the marble sorting game and hypothetical choice experiment conducted with top managers. We also investigate whether top managers' WTC is correlated with the actual hiring of female workers.

The marble sorting game reveals that top managers do not seem to place much importance on complying with social norms of physical gender segregation. Figure 5 presents the results

from the marble sorting game experiment and plots the willingness to comply with social norms of gender segregation (WTC) for the group of top managers who were assigned a female helper. The mean WTC is 41 Pakistani rupees, which is close to the median. Given that the base wage for managers in the game was fixed at 60 rupees per 10 grams, this implies that, on average, managers were willing to forgo a potential bonus equivalent to two-thirds of their own earning rate to avoid working alongside a female helper. Although managers have different thresholds for working with the helper, the gender of the helper does not appear to influence their decisions. A comparison of the distributions of managers' reported lowest willing rates across the groups assigned a female or male helper shows no statistically significant difference between the means of these groups.

Meanwhile, managers' WTC varies across firm and personal characteristics. Figure 6 shows the correlation between various firm and top manager characteristics and WTC. The analysis reveals that WTC is negatively correlated with years in operation, and positively correlated with the size of production facilities, specifically when they occupy one or more entire buildings, and if the company has at least one international certification on social audits, environmental standards, or product quality. This implies that the longer a firm is in operation, the less willing its top manager is to adhere to gender segregation norms, that larger the production site is and more likely the firm has an international certificate, the more willing its top manager is to adhere to the norms.Additionally, top managers' marital status is positively correlated with WTC, suggesting that being married is associated with a higher willingness to comply with social norms of physical gender segregation.

We now examine whether top managers' WTC is related to the actual hiring of female workers and find no statistically significant relationship. Table 9 presents the correlation between WTC and firms' female hiring practices. Specifically, we investigate whether a company has ever hired women for non-managerial or managerial positions, whether it considers female job candidates' residence in the same city and their means of transportation, and the male share in on-premise and off-premise contractual production positions. We find no statistically significant relationships between managers' WTC and any of these outcomes.

In sum, we find that top managers are not concerned with adhering to the social norms of gender segregation, and their willingly to comply are not related to firms' hiring of women.

7.2 Alternative Explanations

The experimental results suggest that social norms of physical gender segregation may not play a central role in shaping managers' own willingness to work alongside women. Yet, most of the firms in our sample hire few or no female workers. *Why does this apparent indif-*

ference to gender norms not translate into greater female hiring? We explore five potential explanations for this disconnect. First, managers may personally disregard these norms but expect workers to follow them. Second, managers may be concerned that workers will resist having female colleagues. Third, managers may simply prefer to work alone in the experimental context. Fourth, social desirability bias may influence managers' reported willingness to comply with social norms. Finally, norm-related economic costs associated with hiring women may impose constraints.

Managers Want Workers to Comply with Social Norms

Managers may prefer that workers adhere to social norms of gender segregation, even if they do not apply the same standards to themselves. For instance, highly educated managers in our sample may perceive that less educated workers are more likely to behave inappropriately toward women, leading them to believe that men and women should be physically separated in the workplace. If this is the case, we would expect managers' WTC for the hypothetical male worker to be higher than their own.[11]

To investigate the possibility, we asked a subset of managers (40 in total) to report the lowest wage rate at which they would be willing for a hypothetical male worker to work alongside either a male or female helper, under four different scenarios. These scenarios vary along two dimensions: who is responsible for assigning the helper (either the manager himself or the research team), and whether the male worker's behavior would be publicly visible or occur in a private setting. By randomizing the order of the helper and systematically altering these contextual factors, the design allows for a clear examination of the roles that gender, observability, and responsibility for the worker's actions may play.

However, managers do not report higher WTC for the hypothetical male worker. Figure 7 shows managers' WTC for the hypothetical male worker under the four scenarios. The results indicate that managers' WTC for the hypothetical male worker is generally lower than their own WTC, suggesting that managers may actually prefer the male worker to work with the female helper. Additionally, there is no significant difference across the four scenarios, indicating that managers may not perceive themselves as subject to social norm standards.

[11] During our conversations with factory owners and managers, many expressed concern about male workers' behavior toward female colleagues. They frequently mentioned a perceived negative correlation between education and behavior toward women and noted that workers often have a very different mindset toward women compared to themselves.

Managers Worry about Workers' Resistance to Having Female Colleagues

Managers may not be concerned about their own adherence to social norms of gender segregation; however, they may believe that workers have a higher willingness to comply with these norms, perceiving them as more resistant to working alongside female colleagues. To explore this possibility, we compare managers' estimates of the hypothetical male worker's WTC with their own WTC that we obtained from the same scenario vignettes described above.

Figure 8 shows the guessed WTC of the hypothetical worker and the managers' own WTC under the four different hypothetical scenarios. First, the results indicate that the guessed worker's WTC is generally lower than the managers' own WTC, suggesting that top managers believe workers are more willing to work with the female helper than they are themselves. Second, the distributions of managers' WTC and the guessed worker's WTC are very similar across the hypothetical scenarios, implying that the visibility of the male worker's actions and who bears responsibility do not significantly influence their estimates.

Figure 9 shows the distribution of managers' WTC for the male worker (orange line) and the male worker's WTC as guessed by managers (blue line), compared to managers' WTC obtained in the marble sorting game (gray dotted line). First, managers' own WTC is the highest on average across all four scenarios, suggesting that they are more willing to comply with norms for themselves than for their male factory workers. Second, managers' WTC for the male worker is lower than their own WTC but higher than their guess of the worker's WTC. This may indicate that managers either perceive workers as having lower norm compliance costs or believe that workers have a higher opportunity cost associated with forgone prize earnings.

We further examine the influence of helper gender and the visibility of the male worker's actions within each scenario. Figure 10 shows the difference in the share of managers who expressed concern about the male worker's behavior toward the female or male helper under the four scenarios. Surprisingly, when the male worker's actions are observable, no managers expressed concern about his behavior toward the female helper. However, this share increases by nearly 8 percentage points when the worker's actions are not observable.

What does workers' WTC actually look like? We now turn to the data from the modified marble sorting game conducted with workers. Figure 11 shows the distribution of workers' WTC. The results indicate that the vast majority of workers assigned to the female helper reported low willingness to comply with social norms at 2 rupees. Additionally, there is no statistically significant difference in WTC across helper gender.

First, this finding suggests that managers' perception that workers have lower WTC than themselves is accurate. The distribution of workers' WTC is more concentrated at the

lower end compared to that of managers, although the two distributions are not perfectly comparable.[12] This implies that workers are more willing to work with either a female or male helper than managers. Second, the gender of the helper appears to be statistically irrelevant for workers, as there is no meaningful difference in mean WTC across helper gender.

Managers Prefer to Work Alone

To investigate this channel, we asked managers to report the most important factor influencing their lowest willing rate after the marble sorting game (Table 8).[13] Only 15% of managers reported a preference for working alone.

Role of Social Desirability Bias

Both managers and workers may exhibit low WTC and a high inclination to work with the female helper due to a desire to conform to what they perceive as socially desirable behavior. In this context, "socially desirable" could mean complying with traditional norms that idealize gender segregation, or alternatively, appearing progressive and supportive of gender integration, especially when speaking to external observers. We are particularly concerned about the latter possibility, given that respondents were informed that this study was conducted by researchers affiliated with a university in the United States. This disclosure may have led some participants to believe that the "right" answer was to appear open to working with women, potentially biasing their responses toward lower WTC. If this social desirability mechanism is at play, we would expect to see a negative correlation between WTC and social desirability scores – that is, individuals who are more concerned with being viewed positively by outsiders might report lower willingness to comply with gender segregation norms, regardless of their true preferences.

We measured social desirability using a shortened version of the Crowne-Marlowe Social Desirability Scale, a widely used instrument designed to assess a person's tendency to present themselves in a favorable light, especially when asked sensitive questions (Crowne and Marlowe, 1960). The original scale includes 33 true/false items that capture behaviors or attitudes most people would consider socially approved but are unlikely to be entirely true for everyone, such as "I never hesitate to go out of my way to help someone in trouble." Due to practical constraints[14], we selected three items from the full scale that were contextually

[12]The modified version of the marble sorting game for workers used a price list to accommodate their numeracy and literacy levels.

[13]The number of observations is lower in this table than in the rest of the study because some interviewees were not asked these questions due to a coding error in the survey instrument.

[14]The survey already averaged 60 to 90 minutes and included several modules directly tied to our primary research questions.

relevant and could serve as a proxy for respondents' concern with self-presentation. Tables 11 and 12 present descriptive statistics for the resulting index, as well as for each of the three included items. On average, managers scored higher on this index than workers.

Turning to the association between social desirability and WTC, we find no strong relationship between these factors. Table 13 presents the regression results for managers, showing no statistically significant correlation. Table 14 presents the results for workers, revealing no significant relationship except for the perception of themselves as good listeners. This finding suggests that the more workers perceive themselves as good listeners, the higher their willingness to comply with social norms of gender segregation.

Role of Norm-related Economic Costs

We now turn to the results from the hypothetical choice experiment to examine the role of various norm-related economic costs on female hiring. Table 10 presents the estimated effect of each of the five economic costs associated with hiring women. All five costs reduce the likelihood of hiring women. Among them, the cost of providing transportation has the largest impact, decreasing the probability of hiring women by 9 percentage points, which implies a 15% reduction compared to the dependent variable mean. In contrast, the cost of additional assistance to manage workplace issues has the smallest effect, reducing the likelihood by 6 percentage points, which is about a 10% reduction. One reason transportation stands out may be that it represents a recurring operational cost, rather than a one-time capital investment like building a separate restroom or modifying workspace layout. Providing daily transportation for female workers requires consistent coordination, logistical planning, and financial outlays, particularly in areas with limited public transit infrastructure or safety concerns. In contrast, costs related to managerial oversight or infrastructure upgrades may be perceived as more manageable or short-term. The prominence of transportation as a constraint aligns with broader findings from research in Pakistan (e.g. (Field and Vyborny, 2022)), which consistently highlight limited mobility and concerns over women's safety in public spaces as major barriers to women's labor force participation.

To conclude our discussion on the potential mechanisms, we find that managers do not necessarily want male workers to comply with social norms and do not anticipate resistance from male workers if female workers are introduced. However, they are concerned about male workers' behavior toward female colleagues when these interactions are not visible. Additionally, the data do not support the hypothesis that managers prefer to work alone. Social desirability bias also does not appear to play a significant role in the low WTC reported by both managers and workers. Instead, the primary barrier to female hiring seems to be the norm-related economic costs, particularly the expenses associated with providing safe

transportation for female workers.

8 Conclusion

This paper combines the standard survey and behavioral experiments to explore the relationship between social norms and low female hiring in the garment manufacturing industry in Pakistan. We find that top managers report a low willingness to comply with these norms and do not necessarily expect male workers to adhere to them either. Additionally, managers do not anticipate significant resistance from male workers if women are introduced into the workforce. However, concerns about male workers' behavior toward female colleagues arise when interactions occur outside of public view. Furthermore, our data do not support the hypotheses that managers prefer to work alone or that social desirability bias significantly lowers managers' and workers' stated willingness to comply with gender norms.

Nevertheless, the study highlights that norm-related economic costs are significant constraints to female hiring. While costs of additional management, providing separate space, child care, and training are all negatively associated with female hiring with statistical significance, providing safe transportation for female workers has the largest magnitude. We find that the probability of hiring women decreases by 15% relative to the mean when firms are required to bear transportation costs. This suggests that the economic implications of accommodating social norms, rather than the norms themselves, are a key barrier to increasing female employment in this industry.

Our findings demonstrate that even in a context where gender norms are deeply embedded, adherence to these norms is not absolute. However, despite this flexibility, women continue to constitute only a small fraction of the workforce in these firms. This suggests that addressing economic barriers, such as transportation costs, could be an effective strategy to encourage greater female participation. Supporting this, our results align with the experimental evidence from Field and Vyborny (2022), which shows that the lack of safe transportation reduces women's job-seeking behavior. Our study extends this finding by showing that employers also face constraints in hiring women when they cannot provide safe transportation options.

It is important to note that our study sample is limited to relatively large companies, while the garment manufacturing industry in Pakistan is predominantly composed of smaller firms. Future research should explore whether smaller firms face similar constraints and whether social norms hold the same significance for their top managers. This would provide a more comprehensive understanding of the barriers to female employment and inform more effective policy interventions.

References

Albanesi, S. and Olivetti, C. (2007). Gender roles and technological progress NBER working paper series 13179.

Altonji, J. G. and Blank, R. M. (1999). Race and gender in the labour market. *Handbook of Labor Economics, Volume 3*, 3:3143–3259.

Amir, S., Kotikula, A., Pande, R. P., Bossavie, L. L. Y., and Khadka, U. (2018). Female labor force participation in pakistan. Technical report, World Bank.

Asian Development Bank (2015). Asian development bank policy brief: A safe public transportation environment for women and girls. Technical report, Asian Development Bank.

Becker, G. M., DeGroot, M. H., and Marschak, J. (1964). Measuring utility by a single-response sequential method. *Behav. Sci.*, 9(3):226–232.

Bernhardt, A., Field, E., Pande, R., Rigol, N., Schaner, S., and Troyer-Moore, C. (2018). Male social status and women's work. *American Economic Association (AEA) Papers and Proceedings*, 108:363–367.

Bertrand, M. (2011). New perspectives on gender. In *Handbook of Labor Economics*, volume 4, pages 1543–1590. Elsevier B.V.

Bureau of Statistics (2022). Punjab development statistics 2022. Technical report, Bureau of Statistics Planning & Development Board Government of the Punjab.

Bursztyn, L., González, A. L., and Yanagizawa-Drott, D. (2020). Misperceived social norms: Women working outside the home in saudi arabia. *Am. Econ. Rev.*, 110(10):2997–3029.

Campos-Vazquez, R. M. and Velez-Grajales, R. (2014). Female labour supply and intergenerational preference formation: Evidence for mexico. *Oxford Development Studies*, 42(4):553–569.

Cheema, A., Khwaja, A. I., Naseer, M. F., and Shapiro, J. N. (2020). Glass walls: Experimental evidence on access constraints faced by women (unpublished working paper).

Crowne, D. P. and Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *J. Consult. Psychol.*, 24:349–354.

Delcuvellerie, C., Ali, N. A., Vyborny, K., Field, E., and Garlick, R. (2019). Women want to work and employers want to hire women - where

is the disconnect? https://devpakblog.wordpress.com/2019/10/16/women-want-to-work-and-employers-want-to-hire-women-where-is-the-disconnect/.

Donovan, L. (2024). New hope for pakistan's mistreated workers. https://foreignpolicy.com/2024/04/02/workers-human-rights-supply-chain-pakistan-labor-textile-industry-fashion-brands-esg/ Accessed: 2025-3-20.

Eger, C., Fetzer, T., Peck, J., and Alodayni, S. (2022). Organizational, economic or cultural? firm-side barriers to employing women in saudi arabia. *World Dev.*, 160:106058.

Elster, J. (1991). Rationality and social norms. *Arch. Eur. Sociol.*, 32(1):109–129.

Fernández, R. (2008). Alfred marshall lecture: Women, work, and culture. *J. Eur. Econ. Assoc.*, 6(2-3):295–320.

Fernández, R. (2013). Cultural change as learning: The evolution of female labor force participation over a century. *Am. Econ. Rev.*, 103(1):472–500.

Fernández, R. and Fogli, A. (2009). Culture: An empirical investigation of beliefs, work, and fertility. *American Economic Journal: Macroeconomics*, 1(1):146–177.

Field, E. and Vyborny, K. (2022). Women's mobility and labor supply experimental evidence from pakistan. (655).

Fortin, N. M. (2005). Gender role attitudes and the labour-market outcomes of women across OECD countries. *Oxford Review of Economic Policy*, 21(3):416–438.

Heath, R. and Mushfiq Mobarak, A. (2015). Manufacturing growth and the lives of bangladeshi women. *J. Dev. Econ.*, 115:1–15.

Hole, A. R. (2017). DCREATE: Stata module to create efficient designs for discrete choice experiments. *Statistical Software Components*.

International Labour Office (2015). Insights into working conditions in india's garment industry. Technical report, International Labour Organization.

JICA (2018). Social and gender survey report JICA project for skills development and market diversification (PSDMD) of garment industry. Technical report.

Makino, M. (2019). Labor market information and parental attitudes toward the labor force participation of their daughters: Experimental evidence from rural pakistan IDE-JETRO discussion paper 826.

Masood, A. (2019). Doing gender, modestly: Conceptualizing workplace experiences of pakistani women doctors. *Gend. Work Organ.*, 26(2):214–228.

Matsuura, A. and Teng, C. (2020). Understanding the gender composition and experience of Ready-Made garment (RMG) workers in bangladesh. Technical report, International Labour Organization.

Miller, C., Peck, J., and Seflek, M. (2019). Integration costs and missing women in firms.

Miller, C., Peck, J., and Seflek, M. (2022a). Integration costs and missing women in firms around the world. *AEA Papers and Proceedings*, 112:578–582.

Miller, C., Peck, J., and Seflek, M. (2022b). Missing women, integration costs, and big push policies in the saudi labor market. *Am. Econ. J. Appl. Econ.*, 14(2):51–77.

Minardi, A. L., Akmal, M., Crawfurd, L., and Hares, S. (2021). CGD blog: Promoting gender equality in pakistan means tackling both real and misperceived gender norms. `https://www.cgdev.org/blog/promoting-gender-equality-pakistan-means-tackling-both-real-and-misperceived-gender-n`

Olivetti, C., Patacchini, E., and Zenou, Y. (2020). Mothers, peers, and gender-role identity. *J. Eur. Econ. Assoc.*, 18(1):266–301.

Pakistan Bureau of Statistics (2006). Census of manufacturing industries 2006 punjab.

Pakistan Bureau of Statistics (2011). Census of manufacturing industries 2011 punjab. `https://www.pbs.gov.pkcontent/industry`.

Papanek, H. (1973). Purdah: Separate worlds and symbolic shelter. *Comp. Stud. Soc. Hist.*, 15(3):289–325.

Syed, J. (2010). An historical perspective on islamic modesty and its implications for female employment. *Equality, Diversity and Inclusion: An International Journal*, 29(2):150–166.

World Bank (2015). Enterprise survey 2013 - pakistan.

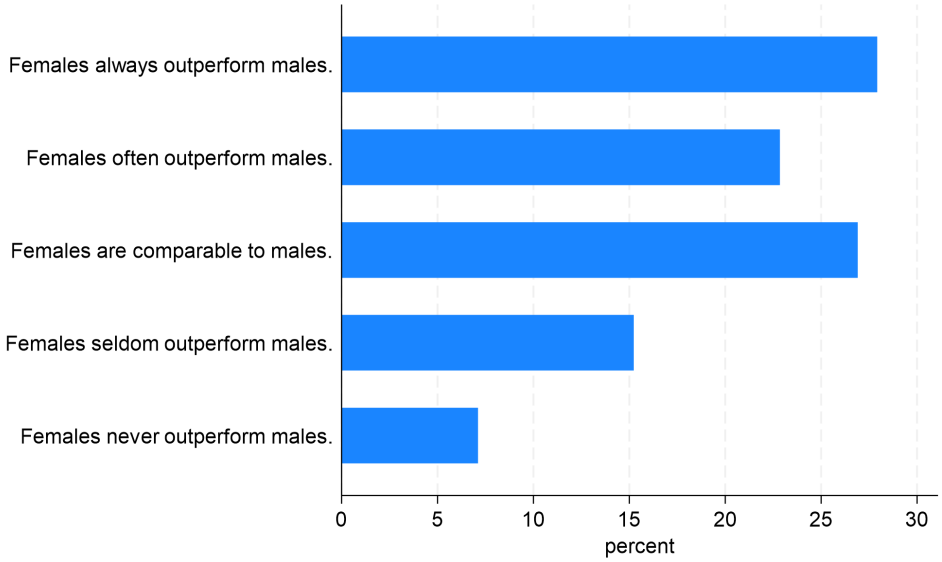
World Bank Data Bank (2021). Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate) - pakistan. `https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=PK`.

WVS (2020). World values survey (WVS) wave 3, 4, 6, and 7 (1995-1998, 2000-2004, 2010-2014, 2017-2020) pakistan.

9 Graphs

Figure 1: Employers' Perception of Relative Female Job Performance

With which of the statements do you most agree, with respect to non-finishing production positions?



Notes: Non-finishing production positions were defined in the survey as factory positions in which people work on tasks such as knitting, dyeing, cutting, embroidery, and stitching. There is no statistically significant correlation between employers' positive beliefs about women's relative performance and their social desirability bias.

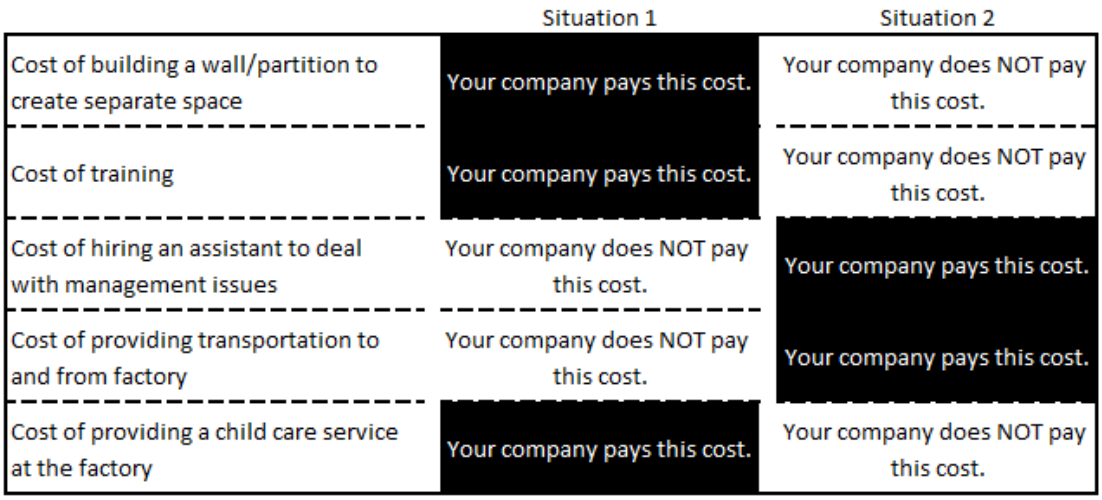
Figure 2: Distribution of Share of Male Workers at Factory by Employment Types

Figure 3: Profile of Hypothetical Company A

Company A Profile	
Revenue	6,280 lakh Rs.
Profit	1,667 lakh Rs.
Average daily persons engaged during a year	286
Number of female employees	None
Main product	Garments for export
Factory environment	- Currently no separate workspace for women - no transportation service for women - no child care facility - no maternity leave
Position you are hiring for	Sewing positions

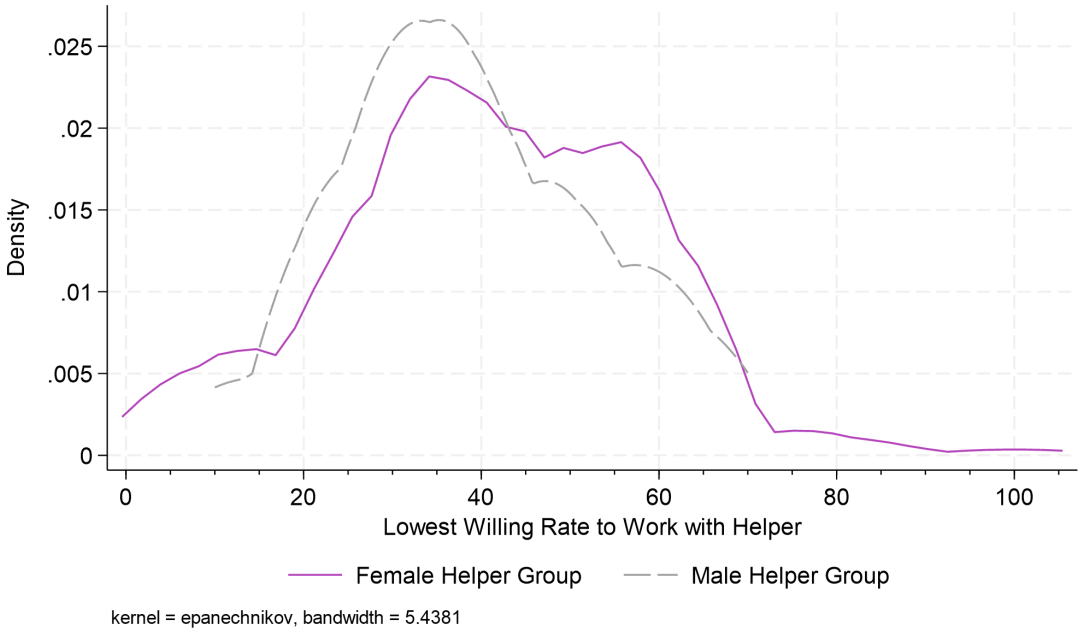
Notes: The values of revenue, profit, and average daily persons engaged during a year are the industry means obtained from the 2022 Punjab Development Statistics (Bureau of Statistics, 2022).

Figure 4: Example Situations



Notes: Respondents were asked: *How likely are you to hire the group of 10 women in each of the following situation? Please recall that you must fill 10 sewing positions, and must hire 10 people. This means that if you say your likelihood of hiring women is 0, then your likelihood of hiring 10 men for the sewing positions is 100.*

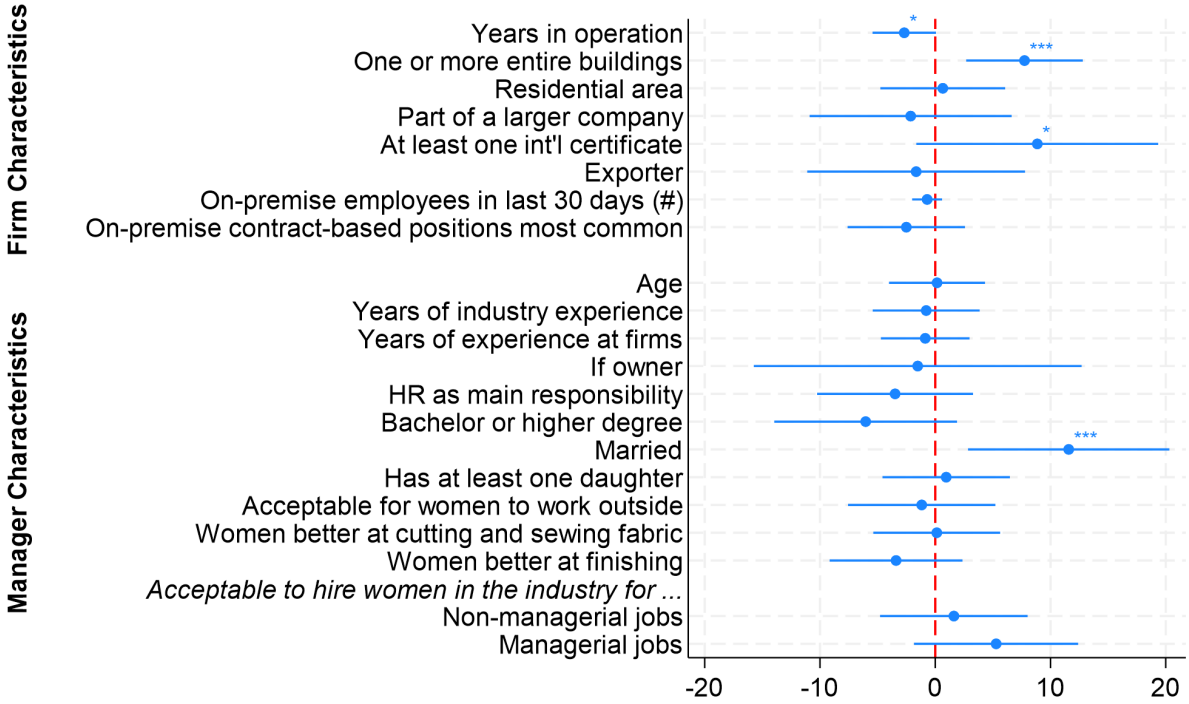
Figure 5: Top Managers' Willingness to Comply with Social Norms



	Mean	Median	SD	Min	Max	Obs
Assigned female helper	40.99	40.00	16.94	5	100	173
Assigned male helper	38.33	37.50	15.00	10	70	24
Difference	2.66					
p-value	0.47					

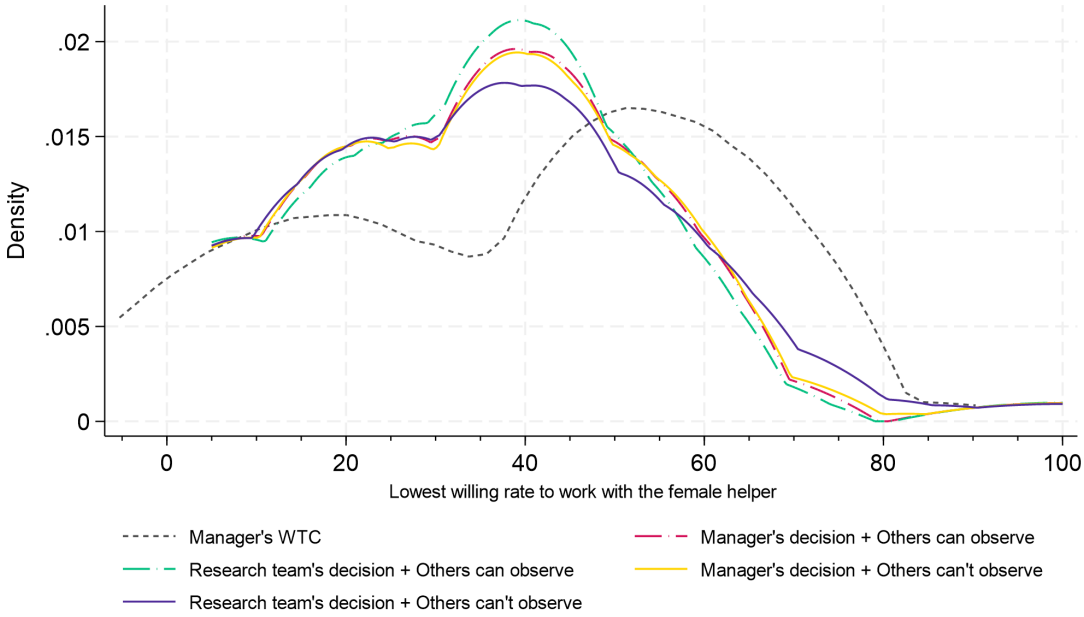
Note: The graph shows the distribution the lowest willing rate to work with the helper obtained in the marble sorting game with top managers. In this game, 10% of the top managers were assigned to the male helper for comparison. The difference in the table is between the means of the groups assigned the female and male helpers. The p-value indicates the statistical significance of the difference.

Figure 6: Correlates of Willingness to Comply with Social Norms



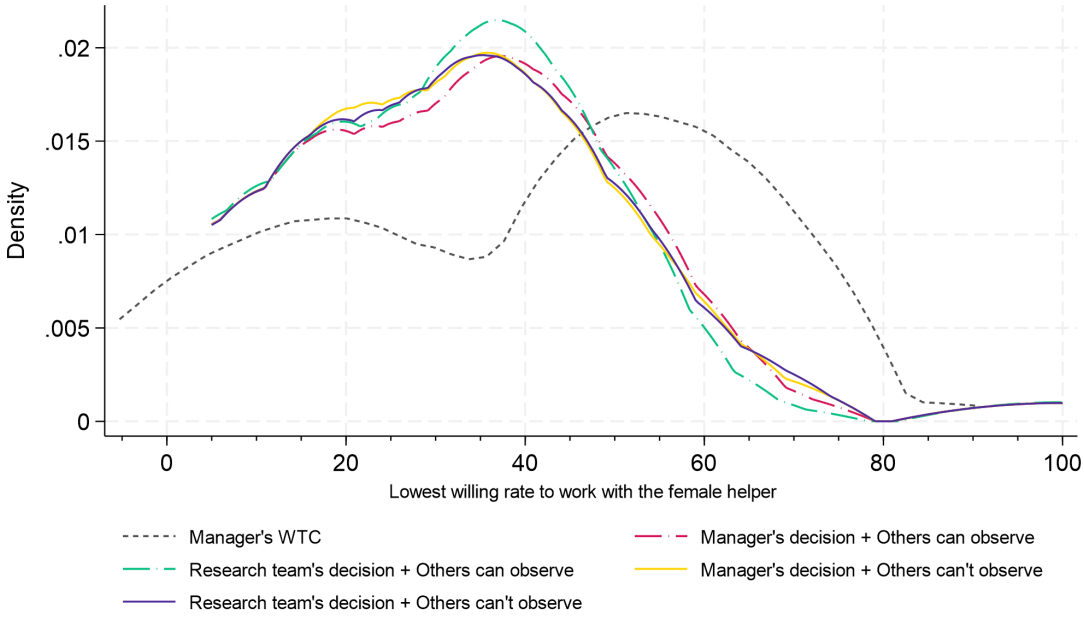
Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Robust standard errors. Each bar represents the 95% confidence intervals. The estimation controls for social desirability index and the gender of the helper offered during the margble sorting game. *Years in operation*, *on-premise employees in last 30 days(#)*, *age*, *years of industry experience*, and *years of experience at firms* are continuous variables that have been standardized for easier comparison of point estimates.

Figure 7: Managers' WTC for the Hypothetical Male Worker



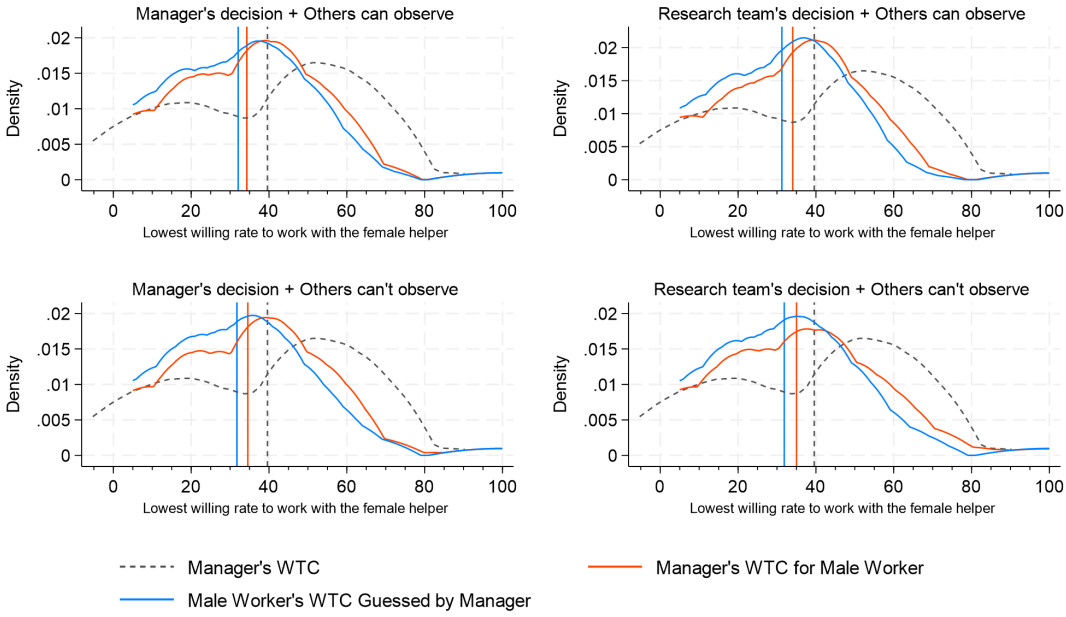
Note: The number of observations is 40. *Manager's WTC for the hypothetical male worker to work with a female helper* was reported by top managers under the four different hypothetical situations which vary whose authority under which the hypothetical male worker work with the female helper (research team or top managers), and visibility of the hypothetical male worker's actions.

Figure 8: Hypothetical Worker's WTC Guessed by Managers



Note: The number of observations is 40. *Male worker's WTC to work with the female helper guessed by managers* were reported by top managers under the four different hypothetical situations which vary whose authority under which the hypothetical male worker work with the female helper (research team or top managers), and visibility of the hypothetical male worker's actions.

Figure 9: Manager's WTC for Male Worker vs WTC Guessed by Manager

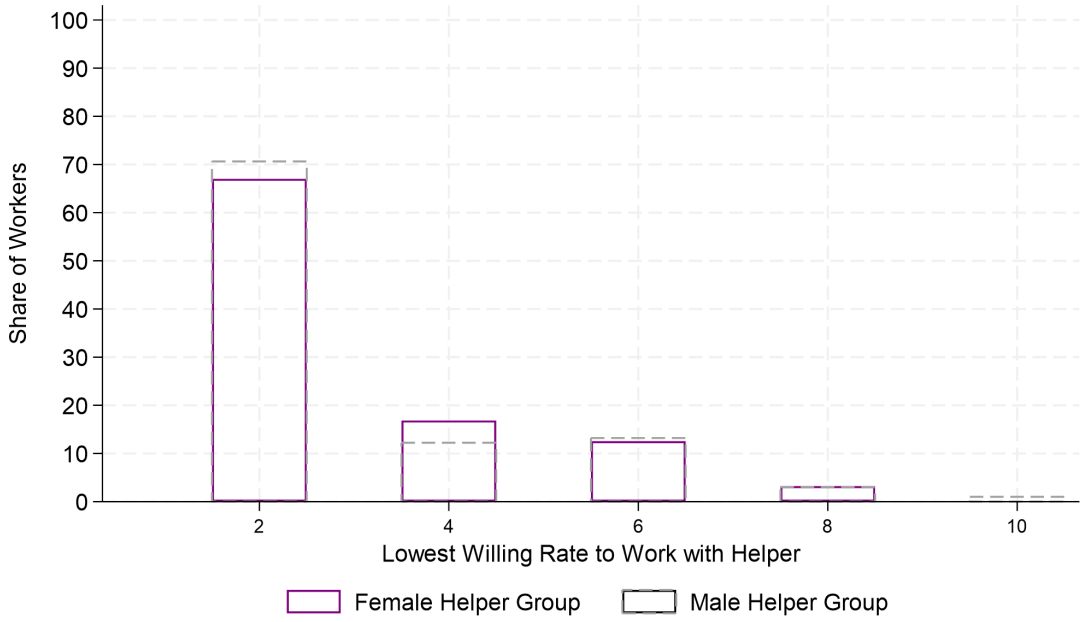


Note: The number of observations is 40. *Manager's WTC* was recoded in the marble sorting game. *Manager's WTC for Male Workers* and *Male Worker's WTC Guessed by Manager* were reported by top managers under the four different hypothetical situations.

Figure 10: Managers' Concerns for Male Workers' Behavior toward Women

Note: The number of observations for this analysis is 40 as the relevant questions were asked for only this subset of the whole sample. Manager's worries for misbehavior by the hypothetical male worker toward the fe/male helper are managers' responses to the question, *Do you worry if your male factory worker misbehaves toward the fe/male helper?* under four hypothetical situations where a hypothetical male factory worker who works for the manager would sort marbles with the fe/male helper. The situtations vary in two dimensions: 1) if the decision to sort marbles with the helper has been made by the manager or the research team; and 2) if other people can observe the male worker is working with the helper.

Figure 11: Workers' Willingness to Comply with Social Norms



	Mean	Median	SD	Min	Max	Obs
Assigned female helper	3.06	2.00	1.72	2	10	279
Assigned male helper	3.03	2.00	1.80	2	10	303
Difference	0.03					
p-value	0.83					

Note: The graph plots the lowest willing rate to work with the helper obtained in the marble sorting game with workers. In this game, 50% of the workers were assigned to the male helper for comparison. Each bar represents the share of workers who reported one of the five values to be the lowest willing rate to work with the assigned feamel or male helper. The difference in the table is between the means of the groups assigned the female and male helpers. The p-value indicates the statistical significance of the difference.

10 Tables

Table 1: Female Employees in Punjab's Garment Manufacturing Industry

	Share of Firms with Female Employees (%)	Share of Female Employees within Firm (%)					
		Mean	Median	SD	Min	Max	N
2006	18.1	2.42	0	10.3	0	100	1,385
2011	12.4	1.5	0	7.27	0	100	4,499
Conditional on having at least one female employee							
2006	100	13.3	4.62	21.1	0	100	250
2011	100	12.1	5.26	17.3	0	100	558

Data Source: Census of Manufacturing Industries (Pakistan Bureau of Statistics, 2006, 2011)

Table 2: Basic Company Characteristics

	Mean	Median	SD	Min	Max	Obs
Company location						
Residential area	0.30			0	1	197
Commercial area	0.17			0	1	197
Industrial area	0.51			0	1	197
Industrial park	0.02			0	1	197
Production space						
One room/ shop	0.01			0	1	197
One floor in a building	0.08			0	1	197
Several floors in a building	0.48			0	1	197
An entire building	0.24			0	1	197
Several buildings	0.20			0	1	197
Part of a larger company	0.06			0	1	197
International certificate						
Has social certification	0.78			0	1	197
Has audit certification	0.83			0	1	197
Has environmental certification	0.79			0	1	197
Has product certification	0.85			0	1	197
At least one int'l certificate	0.89			0	1	197
Years in operation	25.88	23.00	14.38	3	84	194
# on-premise employees in last 30 days	529.53	200.00	1914.81	6	26,000	197
Employee shares by contract types (%)						
Full-time on-premise production workers	65.56	70.00	24.12	0	100	197
Full-time on-premise non-production workers	34.44	30.00	24.12	0	100	197
Contractual on-premise production workers	86.84	100.00	32.25	0	100	197
Contractual on-premise non-production workers	2.50	0.00	11.67	0	100	197
Contractual off-premise production workers	12.49	0.00	32.88	0	100	197
Contractual off-premise non-production workers	1.73	0.00	12.37	0	100	197
Employee shares by gender (%)						
Male in full-time on-premise jobs	82.92	90.00	24.88	0	100	197
Male in contractual on-premise jobs	80.20	95.00	32.78	0	100	197
Male in contractual off-premise jobs	6.39	0.00	22.99	0	100	197
Exporter	0.94			0	1	197

Table 3: Basic Top Manager Characteristics

	Mean	Median	SD	Min	Max	Obs
If male	0.98			0	1	197
Age	39.33	38.00	10.54	22	73	197
Industry experience (years)	13.41	11.00	9.05	1	50	197
Firm experience (years)	9.14			1	45	197
Education						
Primary school	0.01			0	1	197
Middle school	0.01			0	1	197
Matriculation	0.03			0	1	197
Intermediate	0.08			0	1	197
Bachelor degree or equivalent	0.42			0	1	197
Masters degree or more	0.46			0	1	197
Marital status						
Married (Living together)	0.86			0	1	197
Single	0.12			0	1	197
Engaged	0.02			0	1	197
Position within firm						
Owner	0.10			0	1	197
HR manager	0.79			0	1	197
Factory manager	0.05			0	1	197
Other	0.06			0	1	197
Primary responsibility within firm						
Financial management	0.16			0	1	197
HR	0.77			0	1	197
Sales	0.02			0	1	197
Production management	0.01			0	1	197
Other	0.06			0	1	197

Table 4: Managers' Views on Women and Employment

	Share
Acceptable for women to work outside the home	
Strongly agree	0.57
Somewhat agree	0.29
Neutral	0.04
Somewhat disagree	0.04
Strongly disagree	0.06
Views on performance on cutting and sewing fabric	
Female workers always outperform male workers.	0.28
Female workers sometimes outperform male workers.	0.23
Female workers are comparable to male workers.	0.27
Female workers seldom outperform male workers.	0.15
Female workers never outperform male workers	0.07
Views on performance on finishing [a]	
Female workers always outperform male workers.	0.25
Female workers sometimes outperform male workers.	0.23
Female workers are comparable to male workers.	0.27
Female workers seldom outperform male workers.	0.16
Female workers never outperform male workers	0.09
Acceptable for a firm in the garment industry to hire women for non-managerial positions	
Strongly agree	0.37
Somewhat agree	0.44
Neutral	0.09
Somewhat disagree	0.04
Strongly disagree	0.07
Acceptable for a firm in the garment industry to hire women for managerial positions	
Strongly agree	0.41
Somewhat agree	0.44
Neutral	0.08
Somewhat disagree	0.04
Strongly disagree	0.04
Obs	197

[a] Finishing in the garment manufacturing involves cutting loose threads, washing, ironing, and packing of products.

Table 5: Perceived Constraints in Hiring Women

	Share
Feel constrained in hiring women for production	0.17
For non-managerial jobs	
Women's family commitments	0.26
Gov't regulations	0.16
Disruption at work	0.30
Expenses related to hiring women	0.13
Other	0.43
For managerial jobs	
Unavailability of women with mgnt experience	0.21
Women's family commitments	0.19
Gov't regulations	0.11
Disruption at work	0.21
Expenses related to hiring women	0.09
Other	0.47
Obs	197

Table 6: Basic Worker Characteristics

	Mean	Median	SD	Min	Max	Obs
If male	1.00			1	1	618
Age	30.11	28.00	9.43	18	70	618
Length of experience as a production worker (years)	9.94	8.00	7.79	0	35	618
Education						
Primary school	0.23			0	1	618
Middle school	0.35			0	1	618
Matriculation	0.25			0	1	618
Intermediate	0.06			0	1	618
Bachelor degree or equivalent	0.01			0	1	618
Masters degree or more	0.00			0	1	618
Never had formal education	0.09			0	1	618
Marital status						
Married (Living together)	0.56			0	1	618
Married (Living separately)	0.02			0	1	618
Single	0.35			0	1	618
Widowed	0.01			0	1	618
Engaged	0.06			0	1	618
Wife works	0.06			0	1	398

Table 7: Workers' Views on Women and Employment

	Share
Acceptable for women to work outside the home	
Strongly agree	0.21
Somewhat agree	0.32
Neutral	0.02
Somewhat disagree	0.11
Strongly disagree	0.34
Views on performance on cutting and sewing fabric	
Female workers always outperform male workers.	0.15
Female workers sometimes outperform male workers.	0.09
Female workers are comparable to male workers.	0.19
Female workers seldom outperform male workers.	0.17
Female workers never outperform male workers	0.41
Views on performance on finishing [a]	
Female workers always outperform male workers.	0.19
Female workers sometimes outperform male workers.	0.08
Female workers are comparable to male workers.	0.20
Female workers seldom outperform male workers.	0.14
Female workers never outperform male workers	0.39
Acceptable for a firm in the garment industry to hire women for non-managerial positions	
Strongly agree	0.34
Somewhat agree	0.35
Neutral	0.02
Somewhat disagree	0.07
Strongly disagree	0.23
Acceptable for a firm in the garment industry to hire women for managerial positions	
Strongly agree	0.27
Somewhat agree	0.32
Neutral	0.02
Somewhat disagree	0.11
Strongly disagree	0.28
Obs	618

[a] Finishing in the garment manufacturing involves cutting loose threads, washing, ironing, and packing of products.

Table 8: Managers' Decision Making Process during the Sorting Game

	Share	Obs
Most important factor in determining lowest rate		
Concerned about COVID19	0.04	172
Prefer to work alone	0.15	172
The helper's gender	0.02	172
Enumerator (male) knows one's decision	0.17	172
Game is played at one's workplace	0.05	172
Other people may observe one's decision	0.40	172
Other	0.17	172
Why concern about the helper's gender [a]		
Concerned about helper's ability due to gender	1.00	3

[a] Responses of those who reported that the helper's gender as the most important factor

Table 9: Relationship of WTC to Female Hiring
Indep. Var: Willingness to Comply

Dependent Variables	Coeff	R-squared	Obs	D.V. Mean (%)
If ever hired women: non-managerial production	0.074	0.225	194	81.73
	(0.188)			
If ever hired women: managerial production	0.082	0.185	194	53.81
	(0.230)			
If consider if female living in the same city	0.029	0.049	194	4.06
	(0.097)			
If consider female's transportations	0.021	0.127	194	4.57
	(0.052)			
If team has mixed gender	−0.247	0.088	194	25.89
	(0.192)			
Male share in on-premise full-time production jobs	0.122	0.197	194	82.92
	(0.108)			
Male share in on-premise contractual production jobs	0.130	0.201	194	80.20
	(0.137)			
Male share in off-premise contractual production jobs	−0.035	0.123	194	6.39
	(0.104)			

Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Covariates included are managers' characteristics including age, education, marital status, if they have daughters, experience, position within the firm, and main responsibility, and firm characteristics including years in operations, size of production workforce, premise size, location, if part of a larger company, international certification, commonly used contract type, exporter status, social desirability index, and the gender of the helper during the marble sorting game. The binary dependent variables are scaled by 100 for easier interpretation.

Table 10: Effects of Economic Costs of Hiring Women

	Dependent var.: Reported probability of hiring 10 women					
	(1)	(2)	(3)	(4)	(5)	(6)
Cost of additional assistant	-5.854***					-5.854***
	(0.642)					(0.643)
Cost of wall/partition		-6.655***				-6.655***
		(0.773)				(0.774)
Cost of child care			-8.118***			-8.118***
			(0.853)			(0.853)
Cost of training				-7.208***		-7.208***
				(0.768)		(0.769)
Cost of transportation					-9.007***	-9.007***
					(0.830)	(0.831)
Obs.	2768	2768	2768	2768	2768	2768
Manager FE	✓	✓	✓	✓	✓	✓
Dep var mean	60.34	60.34	60.34	60.34	60.34	60.34

Note: Robust standard errors in parentheses clustered at the firm level. *** p < 0.01, ** p < 0.05, * p < 0.1

Table 11: Summary Statistics: Top Managers' Social Desirability Bias

	Mean	Median	SD	Min	Max	Obs
Social desirability index[a]	0.62	0.67	0.24	0	1	197
Individual questions						
If thinks himself as a good listener[b]	0.98					197
If never insisted on having things his own way[c]	0.28					197
If never irked by people with different ideas[d]	0.59					197

[a] Social desirability index is the sum of the scores on the three social desirability questions below divided by three. Thus, the index ranges from 0 to 1 with 1 indicating the greatest sign of social desirability. The questions and scoring method are based on Crowne and Marlowe (1960). In each question, a top manager was asked if each statement was true or false. If the top manager's response on a particular question matches the one determined by the authors to show social disirability, a score of 1 is assigned.

[b] *No matter who I'm talking to, I'm always a good listener. (True)*

[c] *At times I have really insisted on having things my own way. (False)*

[d] *I have never been irked when people expressed ideas very different from my own. (True)*

Table 12: Summary Statistics: Workers' Social Desirability Bias

	Mean	Median	SD	Min	Max	Obs
Social desirability index[a]	0.56	0.67	0.22	0	1	618
Individual questions						
If thinks himself as a good listener[b]	0.97					618
If never insisted on having things his own way[c]	0.15					618
If never irked by people with different ideas[d]	0.56					618

[a] Social desirability index is the sum of the scores on the three social desirability questions below divided by three. Thus, the index ranges from 0 to 1 with 1 indicating the greatest sign of social desirability. The questions and scoring method are based on Crowne and Marlowe (1960). In each question, a top manager was asked if each statement was true or false. If the top manager's response on a particular question matches the one determined by the authors to show social disirability, a score of 1 is assigned.

[b] *No matter who I'm talking to, I'm always a good listener. (True)*

[c] *At times I have really insisted on having things my own way. (False)*

[d] *I have never been irked when people expressed ideas very different from my own. (True)*

Table 13: Managers' WTC and Social Desirability

	Dependent var.: Managers' WTC			
	(1)	(2)	(3)	(4)
Social desirability index	4.277			
	(5.298)			
If thinks himself as a good listener		9.067		
		(7.911)		
If never insisted on having things his own way			-0.570	
			(2.624)	
If never irked by people with different ideas				2.750
				(2.494)
Obs.	197	197	197	197

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The mean of the dependent variable is 40.88.

Table 14: Workers' WTC and Social Desirability

	Dependent var.: Workers' WTC			
	(1)	(2)	(3)	(4)
Social desirability index	0.523			
	(0.353)			
If thinks himself as a good listener		0.591**		
		(0.275)		
If never insisted on having things his own way			0.366	
			(0.239)	
If never irked by people with different ideas				0.051
				(0.149)
Obs.	582	582	582	582

Note: Robust standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1. The mean of the dependent variable is 3.04.

A Appendix

A.1 Questionnaires

Table A1: Summary of the Questionnaire

Module		Description
1	Top manager characteristics	• Gender, age, education, and marital status • Origin and family's origin • Years of experience in the firm and garment industry • Beliefs about women's general ability compared to men • Beliefs about women's out-of-home employment • If his wife works • Daughters' education • Crowne-Marlowe social desirability questions
2	General firm characteristics	• Legal status and ownership by gender • Year of establishment and registration • Number of employees by occupation • Share of female employees by occupation • Internationally-recognized certification status • If located in an industrial park • If access to finance an obstacle
3	Production	• Type of manufacturing and products • Annual sales (export vs domestic) • Export destination country
4	General hiring practice	• Type of position most frequently hired for • Frequency of hiring • Mode of worker acquisition • Challenges in hiring • Preferred skills and characteristics of workers
5	Hiring women	• Experience hiring women (now or in the past) • Reasons for hiring/not hiring women • Consequences on hiring women on reputation • Constraints in hiring women

Table A2: Summary of the Questionnaire

Module	Description
Worker characteristics	• Gender, age, education, and marital status • Origin and family's origin • Years of experience in the firm and garment industry • Beliefs about women's general ability compared to men • Beliefs about women's out-of-home employment • If his wife works • Daughters' education • Crowne-Marlowe social desirability questions

A.2 Experiment Flows and Scripts

Box 1: Marble Sorting Game Script

Introduction

READ:

- *In this part, we want you to sort marbles as fast as you can for a monetary prize and take a very short survey at the end.*
- *There will be two rounds of the marble sorting game.*
- *You will be paid the prize after the short survey.*

Round 1

READ:

- *In your first round, you will sort a bowl of mixed marbles by yourself.*
- *You will sort the marbles for 1 minute.*
- *Your prize is determined by how much you sort in the given time.*
- *The per 10 gram rate is 60 rupees.*
- *So, for example, if you sort 100 grams in 1 minute, your prize is 600 rupees (100 grams divided by 10 grams times 60 rupees).*

ENUMERATOR: After the respondent finishes his first round, please weigh the sorted marbles with your scale and input the sorted quantity in the survey form on your tablet. The survey form will calculate the respondent's prize.
READ: *You sorted [Total Quantity Sorted] grams, and earned [Prize] rupees.*

Round 2

Enumerator: Before you start this round, please make sure there is no one else other than you and your respondent in the room.
READ:

- *Now, you will sort a bowl of mixed marbles for 1 minute again.*

- *However, this time, we want to offer you a [randomly assigned gender] helper to help you sort marbles and earn a larger prize.*
- *If you decide to work with the helper, you and the helper sort marbles for 1 minute together in this room. Otherwise, you sort alone.*
- *If you work with the helper, your prize is calculated based on the sum of the quantity you sort and the quantity the helper sorts.*
- *Your per 10 gram rate is 60 rupees, the same rate as your first round.*
- *The helper' per gram rate is not yet decided. It will be determined by chance after you tell us if you want to work with the helper. I'll explain how the rate is decided shortly in detail.*
- *The helper is someone that the research team has hired. They are paid an hourly wage to be part of this event and also are paid the game prize.*

Enumerator: Please ask your respondent "Do you have any questions so far?"

READ:

- *Now let me explain how the helper's per gram rate is decided for this round.*
- *I will ask you to tell me the lowest per gram rate at which you are willing to play with a [randomly assigned gender] helper. The per gram rate you name is the rate for the helper.*
- *In this bag, I have many different balls with different numbers on them.*
- *Each number represents a potential per gram rate for the helper.*
- *After you tell me your lowest willing per gram rate, I will ask you to pick a ball from the bag, and we will look at the number together.*
- *If the number you draw is greater than or equal to the willing rate that you name for the helper, you will sort marbles with a [randomly assigned gender] helper in this room. You will play at the per 10 gram rate of 60 rupees, the same rate as before. The helper will play at the randomly drawn rate.*

- *If the number you draw is less than your willing rate, you will sort marbles alone at the same rate at which you played in the first round.*
- *After the helper's per gram rate for this round is decided, I will bring in the helper to this room.*
- *You cannot change your mind after you draw a number from the bag.*
- *It is best if you name the lowest per gram rate at which you are actually willing to play the marble sorting game with the helper.*
- *When you are deciding to accept or reject the helper offer, you can think about how much you were able to sort by yourself in the first round, and think of how much contribution another person can bring to your prize earning.*

Enumerator: Please ask your respondent "Do you have any questions?"

ENUMERATOR: Remember that we want the respondent to state the LOWEST per gram rate at which they are WILLING to sort marbles with the helper.

READ:

- *Let us begin the second round.*
- *What is the lowest per gram rate at which you are willing to sort marbles with a [randomly assigned gender] helper?*

Note: The respondent's lowest per gram rate is noted as X in the following.

$\star$

- *Now, if you draw a number from the bag that is greater than or equal to X, you will sort marbles with a [randomly assigned gender] helper. If you draw a number from the bag that is less than X, you will sort marbles alone, even if you are willing to sort at a lower rate. You cannot change your stated per gram rate for the helper after you draw a number from the bag. Do you understand?*
- *Please, tell me: if you draw [X+1 rupees] from the bag now, will you work alone or with the helper?*

1. *I will work alone.*
2. *I will work with the helper.*

- *Please tell me: if you draw [X+1 rupees] from the bag now, which per gram rate will be applied to you?*
  1. *The per gram rate used in the first round*
  2. *The per gram rate of [X+1 rupees]*
- *Please tell me: if you draw [X+1 rupees] from the bag now, which per gram rate will be applied to the helper?*
  1. *The per gram rate used in the first round*
  2. *The per gram rate of [X+1 rupees]*

ENUMERATOR: If the respondent does not give the correct answer, explain the rules again and then ask the question again.

- *Please, tell me: if you draw [X-1 rupees] from the bag now, will you work alone or with the helper?*
  1. *I will work alone.*
  2. *I will work with the helper.*
- *Please tell me: if you draw [X-1 rupees] from the bag now, which per gram rate will be applied to you?*
  1. *The per gram rate used in the first round*
  2. *The per gram rate of [X-1 rupees]*
- *Please tell me: if you draw [X-1 rupees] from the bag now, which per gram rate will be applied to the helper?*
  1. *The per gram rate used in the first round*
  2. *The per gram rate of [X-1 rupees]*

ENUMERATOR: If the respondent does not give the correct answer, explain the rules again and then ask the question again.

- *If you draw [X-1] from the bag, will you want to play with the helper for [X-1]?*
    1. *Yes*
    2. *No*
- *Do you want to change your bid to [X-1]?*
    1. *If YES: Go to $\star$ and use [X-1] instead of X*
    2. *If NO: Go to the next question*
- *Is X truly the lowest rate at which you are willing to sort marbles with the helper?*
    1. *If YES: Proceed*
    2. *If NO: Go back to $\star$*

Note: The respondent's lowest per gram rate is noted as X and the randomly drawn rate is noted as Y in the following.

READ:

- *Now, you will randomly draw a number. You will do so by clicking a button on my tablet which starts a lottery.*
- *If you draw a number that is greater than or equal to X, you will sort marbles with a [randomly assigned gender] helper.*
- *If you draw a number that is less than X, you will sort marbles alone.*
- *Are you ready to draw?*
- *Please push the Next button to draw a number.*
- *Your drawn rate for this round is Y.*

Case 1: If the randomly drawn rate (Y) > the respondent's lowest willing rate (X)

READ:

- *Your drawn rate is Y, which is greater than or equal to X, the rate at which you said you would be willing to play with the helper.*
- *You will sort marbles with your helper.*

- *The helper's per 10 gram rate is Y.*

ENUMERATOR: Please bring in the helper and set up the sorting game now. After sorting, please record the quantity sorted by the respondent and helper separately in your tablet.

Case 2: If the randomly drawn rate (Y) ≤ the respondent's lowest willing rate (X)

READ:

- *Your drawn rate is Y, which is less than X, the rate at which you said you would be willing to play with the helper.*
- *You will sort marbles alone.*

ENUMERATOR: Please set up the sorting game now. After sorting, please record the quantity sorted by the respondent in your tablet.

Box 2: Hypothetical Choice Method Prompt

As the top manager of Company A, one of your main responsibilities is to hire workers for Company A's factory. You are currently tasked to fill 10 sewing positions. In the following, we will ask you to provide the probabilities of hiring 10 people under different scenarios. Please think of yourself strictly as the top manager of company A during this exercise.

You will encounters 8 scenarios.
In each scenario, you will see 2 situations in which you are asked to hire 10 people for sewing positions. Your company really needs to fill 10 sewing positions. Therefore, you must hire 10 men or women to fill these positions.

You cannot chose not to hire.
We ask you to tell us the percent chance (or chances out of 100) of hiring women in each of the situations. The chance of each situation should be a number between 0 and 100.

This means if you say your likelihood of hiring women in a certain situation is 0, your likelihood of hiring men is 100.

In each situation, types of costs of hiring workers that your company must pay varies. In some case, your company wins a special lottery that covers a particular type of cost indefinitely.

Box 3: Post-game Hypothetical Question Prompt

I want to ask you some more hypothetical questions.

Recall Round 2 of the game you just played.

Imagine that one of your male factory workers who work on the factory floor will play the same game in your stead with the gender helper.

If your male factory worker sorts alone, he earns a prize calculated based on the quantity he sorts, and the per 10-gram rate of Rs. 60. And you will also earn the same prize.

*For example, if your male factory worker sorts 100 grams. He receives Rs. 600 (= 100/10*60). And you will also receive Rs. 600.*

If your male factory worker sorts with the gender helper, he AND you each earn the sum of your male factory worker's contribution and the gender helper's contribution.

*For example, suppose that your male factory worker and the gender helper each sort 100 grams. Assume for the sake of demonstration, that the gender helper's per 10-gram rate is also Rs. 60. Then, your male factory worker earns Rs 1,200 (=100/10*60 + 100/10*60). You also earn Rs 1,200.*

The gender helper is part of the research team and is paid hourly. Your male factory worker is told that the helper is paid, and you also receive a prize.

When your male factory worker sorts with the gender helper, each of them will be given a large bowl of mixed marbles, and five smaller bowls to sort out marbles by color. They will be sharing the same table.

Similarly to Round 2, we want you to tell us the lowest rate at which you are willing to allow your male factory worker to work with the gender helper under the following conditions.

As in Round 2, the lowest willing rate you tell us will be used to convert the helper's contribution to a monetary prize.

A.3 Tables

Table A3: Beliefs about Gender and Religion in Punjab, Pakistan

	Male		Female	
	Share	Obs.	Share	Obs.
Beating wife justifiable				
2012	.18	299	.13	305
2018	.21	569	.23	570
Men make better politicians than women				
1997	.72	372	.52	361
2001	.54	508	.58	652
2012	.74	299	.67	305
2018	.85	569	.78	570
Coed classes are violation of Islam				
2001	.58	508	.53	652
Islam requires women dress modestly but not veil faces				
2001	.5	508	.46	652
Wife earning more than husband is problematic				
1997	.63	372	.38	361
2012	.4	299	.31	305
2018	.79	569	.77	570
Wife and husband should both contribute to income				
1997	.44	372	.75	361
2001	.65	508	.66	652
Men deserve jobs more than women when jobs are scarce				
1997	.8	372	.73	361
2001	.64	508	.65	652
2012	.76	299	.69	305
2018	.9	569	.9	570
Wife must obey				
2001	.46	508	.44	652
Religion is important in life				
1997	.98	372	.89	361
2001	.92	508	.92	652
2012	.99	299	.95	305
2018	.99	569	.98	570
Consider self as religious person				
2001	.79	508	.81	652
2012	.99	299	1	305
2018	.94	569	.98	570

Data source: World Value Survey 3, 4, 6, and 7