Does Identity Affect Labor Supply?

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Abstract

Does identity—one's concept of self—influence economic behavior in the labor market? I investigate this question in rural India, focusing on the effect of caste identity on labor supply. In a field experiment, casual laborers belonging to different castes choose whether to take up various real job offers. All offers involve working on a default manufacturing task and an additional task. The additional task changes across offers, is performed in private, and differs in its association with specific castes. Workers' average take-up rate of offers is 23 percentage points lower if offers involve working on tasks that are associated with castes other than their own. This gap increases to 47 pp if the castes associated with the relevant offers rank lower than workers' own in the caste hierarchy. Responses to job offers are invariant to whether or not workers' choices are publicized, suggesting that the role of identity itself—rather than social image—is paramount. Using a supplementary experiment, I show that 43% of workers refuse to spend ten minutes working on tasks associated with other castes, even when offered ten times their daily wage. This paper's findings indicate that identity may be an important constraint on labor supply, contributing to misallocation of talent in the economy.

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1 Introduction

People care about "who they are," both in their own view (identity) and in the perception of others (social image). These distinct but related concepts arise from social categories (e.g. men, women, high caste) and the behavioral prescriptions attached to them (Akerlof and Kranton 2000). A nascent literature in economics, as well as long-standing ones in other social sciences, investigates how concerns about identity and social image—image concerns—influence individual behaviors and market outcomes.[1] Findings in these literatures suggest that people may avoid otherwise desirable opportunities that evoke worries about upholding their identity or social image.[2]

However, the extent to which—and how—identity and social image affect economic behaviors in the labor market is not well understood. While image concerns could plausibly cause some groups to prefer certain occupations, groups tend to differ from others along many dimensions, including training and outside options. For this reason, it is difficult to establish the effects of image concerns from observational or survey data alone. It is also difficult, however, to isolate the effect in an experiment because researchers cannot randomly assign ingrained identities or radically change existing perceptions about specific occupations.

I address these challenges by exploiting unique features of the Indian caste system and provide the first experimental test of how identity and social image affect job-specific labor supply. Offering real jobs to casual laborers in rural Odisha, India, I show that image concerns have a large negative impact on workers' willingness to take up certain jobs. Workers are 23 percentage points (pp) more likely to turn down job offers that involve spending as little as ten minutes on tasks (out of five hours of total working time) if the tasks are associated with castes other than their own. The take-up rate gap increases to 47 pp when the castes associated with the relevant job offers are perceived as having lower social status than the individuals' own. These effects are invariant to whether or not

[1] For overviews of identity theories from psychology and sociology, see Burke and Stets (2009), Stryker and Burke (2000), Hogg, Terry, and White (1995), and Owens, Robinson, and Smith-Lovin (2010), for example. For reviews in economics, see Hoff and Stiglitz (2016) and Bursztyn and Jensen (2017).

[2] For example, Gottfredson (1981), West and Zimmerman (1987) and Cejka and Eagly (1999) discuss how gendered perceptions of jobs affect occupational preference.

workers' decisions are publicized, suggesting that identity—rather than social image—is the main driver of these effects.[3]

Social theories of identity suggest that performing tasks associated with other social groups may constitute a violation of identity. Concerns about such violations may be greater if the groups associated with the tasks have lower status (Tajfel and Turner 1979). In India, caste constitutes a central part of people's identity, and the social hierarchy of castes is commonly recognized. In addition, castes have historical links to specific occupations, which often extend to simple tasks associated with those occupations. Hence, these features allow me to construct job offers that involve working on such tasks and develop predictions of whether the offers involve conflicts of caste identity.

To obtain concrete information on caste-task associations and the caste hierarchy, I conduct two surveys separately from the experiment. The first survey allows me to identify a set of manual tasks to be used in the experiment, and document their associations with specific castes. The second survey is used to establish the ranking of castes selected for the experiment.

The experiment elicits 630 workers' willingness to take up job offers that involve spending some time on different manual tasks. All potential job offers involve working on a common default task of producing paper bags, which is not associated with any caste. The offers also entail working privately on an additional task. The offers are constructed to vary only in two dimensions—the type of extra task and the share of total time required to work on it. The job offers are the same in all other aspects, including the fixed daily wage, employer, worksite location, total working time of five hours, and other characteristics.[4] I can therefore side-step the concern that worker preferences for these attributes may vary across castes, which has been difficult to address in existing research.

To truthfully elicit worker preference for job offers, workers are asked to participate in a choice exercise based on the Becker-DeGroot-Marschak (BDM) procedure. Each worker is presented with a set of potential job offers and is asked to indicate whether he

[3]The tasks that may involve caste associations are always performed in private.

[4]No task requires formal training or prior experience. Workers are also explicitly told that the offers are one-time offers and they will not influence their future job prospects.

would take up or decline each one.[5] In addition, he is explicitly encouraged to consider them separately, and decide over each one as if it were a single, take-it-or-leave-it offer. After the worker indicates all decisions, one offer is randomly selected and his choice for this offer is implemented.

I assess how workers' willingness to take up job offers varies depending on the caste association of the extra task included. I hone in on the effect of spending only a brief time on the task, exploiting the across-offer variation in the time allotted to it. This allotment can be as much as ninety minutes, or as little as ten minutes. The fall in take-up from working on the extra task can be decomposed into changes at the intensive and extensive margin, i.e. due to spending longer time vs. spending any time at all on the task. Identity is expected to have a large effect on the latter, since spending any amount of time would still imply breaking one's internal rule of behavior (Akerlof and Kranton 2000). Hence, the discrete drops in take-up due to spending any time on caste-specific tasks instead of others would point to the effects of identity.

The resulting experimental data show that workers' willingness to take up job offers decreases significantly when they are predicted to involve conflicts of identity. I compare the take-up rates of offers involving "identity tasks" (tasks associated with specific castes, such as washing clothes) to those involving control tasks (similar to above but without any caste associations, such as washing farming tools). Among workers whose castes are closely associated with identity tasks, the take-up rates are similar across both task categories. Among the other workers, the take-up rate of offers involving identity tasks is much lower. The estimated take-up gap is 23 pp when the castes associated with identity tasks rank higher than the workers' own. The gap increases by an additional 24 pp when those castes rank lower. This second effect is larger for those who are caste-sensitive, i.e. those who express strong support for observing caste norms in a follow-up survey.

Notably, the large and statistically significant changes in take-up are present when workers are required to spend only ten minutes on extra tasks and vary little with any additional time. This indicates that the effects are due to the costs of engaging at all in

[5]Only male workers participate in the experiment due to practical difficulties. Many female workers are averse to traveling to work sites without male family members.

identity tasks—consistent with the predicted effects of identity violations. It is unlikely that these patterns are driven by differential effort costs across tasks, which are expected to cause a continuous change in the take-up rate with the time spent.

This design provides a novel strategy for estimating the impact of identity on labor supply separate from the effect of social image. To distinguish the additional effect of social image, I randomize whether or not worker decisions are publicized; and I find similar effects across these privacy treatments. This suggests that many workers are intrinsically motivated to behave in ways that are deemed appropriate for their castes. Because workers are already strongly motivated by identity, concerns for social image—even if present—may have little additional effect on take-up decisions, an explanation that is supported by the follow-up survey answers.

It is difficult to find an alternate explanation for the constellation of findings. Any explanation would need to address why 1) take-up rates appear to drop as soon as workers spend any time on extra tasks, but vary little with additional time; 2) such falls are larger when tasks are associated with castes different from the workers' own, even compared to other tasks that involve similar skills; and 3) such decreases are larger when the associated castes have relatively lower social status. Workers' intrinsic desire to behave consistently with their caste identity can explain these findings.

I run a supplementary experiment to directly quantify the wage workers are willing to forego in order to avoid engaging in tasks associated with other castes. A new set of 106 workers are hired for a one-day job of producing paper bags, the default task.[6] Then they are unexpectedly given a chance to switch to a different task for part of the remaining working time. As in the main experiment, each worker is asked to evaluate many switching offers, which involve similar variations in the type of extra task and the time required to work on it. A key difference is that the switching offers might provide a bonus payment (varying from Rs. 30 to Rs. 3000) on top of the default daily wage of Rs. 300. The largest bonus is ten times their daily wage, and is close to a whole month's earnings in the agricultural lean seasons during which the experiment takes place. As in the main

[6]The focus of the supplementary experiment was not to verify the result with relative caste status variations so a smaller sample with two caste groups was used.

experiment, one of the switching offers is randomly selected, and the worker's choice for it is implemented.

I find that 43% of workers are willing to forego as much as Rs. 3000 in order to avoid spending ten minutes on tasks associated with other castes in private. This is 29 pp greater compared to the take-up rate of offers involving control tasks, which do not have any caste association. Again, this difference is invariant to whether or not worker decisions are publicized. These findings suggest that identity can motivate workers to completely avoid certain jobs even at large economic costs.

This paper builds on and contributes to three literatures. First, my findings add to the literature on occupational choice by establishing the role of identity and social image.[7] These channels have been largely overlooked in economics, despite a large literature in sociology and psychology discussing their potential importance (e.g. Gottfredson 1981; West and Zimmerman 1987; Cejka and Eagly 1999). A number of theoretical studies (Akerlof and Kranton 2000; Bénabou and Tirole 2006, 2011) that espouse the need to account for these factors in economic decision making motivate the experiment.

Second, the study highlights identity as a channel that could contribute to the misallocation of talent in the economy. My findings suggest that some people may fail to pursue certain careers despite their potential aptitude due to concerns about identity. In addition to its direct impact on labor supply, identity-based occupational preferences could also interact with other well-studied channels of misallocation, such as discrimination.[8] The existing models on allocation of talent that do not take these mechanisms into account, such as that of Hsieh et al. (2013), may over-attribute changes in aggregate productivity to certain channels.[9]

More broadly, this study is part of a rapidly growing strand of work in economics which focuses on how culture and social contexts affect individual decision making (Hoff

[7] E.g. Topel and Ward (1992); Acemoglu and Autor (2011); Goldin (2014); Adda, Dustmann, and Stevens (2017).

[8] For example, existing studies show that some groups, such as high caste groups or men in occupations where they are over-represented, discriminate against other social groups that try to enter into their occupations (Schultz 1998; Padavic 1991; and Goldin (1990). One motivation behind this behavior may be the desire to reduce competition for the jobs that their own group members prefer due to identity reasons.

[9] Other studies that focus on different sources of misallocation include Erosa et al. (2017), Bell et al. (2019), and Goraya (2019).

and Stiglitz 2016). Related studies show that norms and expectations surrounding social categories affect decision making in the lab as well as in field settings.[10] This paper is closely related to the studies that use field experiments to examine the role of social image and norms in the labor market (Bursztyn, Gonzalez, and Yanagizawa-Drott 2018; Breza, Kaur, and Krishnaswamy 2019). To my knowledge, it is the first study to provide empirical evidence on the effect of identity on labor supply.

The rest of the paper is organized as follows. Section 2 presents some key ideas from theories of identity and builds a simple theoretical framework, which informs the experimental design. Section 3 describes the surveys which collect information on castes and tasks used in the experiment. Section 4 explains the empirical strategy for identifying identity effects. Section 5 describes the sample and procedures of the job take-up experiment, and Section 6 discusses the results. Section 7 presents the supplementary experiment design and findings. Section 8 concludes.

2 Conceptualizing identity

2.1 Theories of identity and social image

Psychologists and sociologists posit that identity and social image are powerful motivators of human behavior. While they have been discussed considerably less in economics, a number of theoretical studies suggest how to incorporate insights from other disciplines into economic models (Akerlof and Kranton 2000; Bénabou and Tirole 2006, 2011). The two concepts are often discussed together: people care about their own conception of "who they are" (variously referred to as identity, self-image, self-identity, and intrinsic motivations) as well as other people's perception of them (referred to as social image, reputation, and social identity). As previously mentioned, I refer to the former as identity, and the

[10]For example, these studies examine outcomes such as cognitive performance (Hoff and Pandey 2006, 2014), dishonesty (Cohn, Fehr, and Maréchal 2014), contributions (Bursztyn et al. 2017a; Benjamin, Choi, and Fisher 2016), investment in education (Fryer and Torelli 2010; Austen-Smith and Fryer 2005), and women's labor marker outcomes (Alesina, Giuliano, and Nunn 2013; Bertrand, Kamenica, and Pan 2015; Bursztyn, Fujiwara, and Pallais 2017b). Focusing on the role of identity, a large number of studies show that interventions changing identity salience affect decision making in the lab, e.g. Benjamin, Choi, and Strickland (2010). A few studies use other experimental techniques to study identity effects, e.g. Bursztyn et al. (2017a) and Falk (2017). However, little is known about identity effects on any field outcome.

latter as social image.[11]

On the one hand, people are intrinsically motivated to uphold their identity. Bénabou and Tirole (2006) describe this as "a strong need to maintain conformity between actions or even feelings and ... identities they seek to uphold." In their model, individuals infer their own values (types) from their past actions, and hence are motivated to take actions consistent with their identities for their future selves. Akerlof and Kranton (2000) emphasize that people abide by the prescriptions because failing to do so "evokes anxiety and discomfort in oneself." Both studies suggest the ways in which identity can curtail behavior, even in private settings.[12]

On the other hand, people seek to maintain a positive social image in front of others such as family, friends, and neighbors. The value of social-image can be material (e.g. social sanctions, loss of reputation decreasing future payoffs) and/or purely affective (e.g. social esteem or shame as a hedonic good).[13] A number of recent empirical studies examine the role of social image in economic decision making.[14] For example, some studies show that people behave differently depending on whether their actions are observable (e.g. Jakiela and Ozier 2016; Breza et al. 2019). Another study shows that correcting people's misconceptions about others' values changes their behaviors (Bursztyn et al. 2018).

I now discuss two ideas from social theories that are particularly important for establishing identity effects in field settings. Although existing literature describes a number of potential ways of studying social image, they are largely silent on identity. The theoretical ideas below suggest how identity can affect decision making in the labor market, motivating some potential strategies for capturing its effects using an experiment.

First, those belonging to a social group may be averse to adopting the characteristics and practices of other groups, particularly if the other groups have lower social

[11]There are extensive discussions in social psychology on the complex ways in which identity and social image affect behaviors, such as those relating to multiple identities, desire for conformity vs. individuality, etc. Here I only focus on the most fundamental and relevant ideas.

[12]For example, Bursztyn et al. (2017a) show that some Pakistani men are willing to forgo one-fifth of a day's wage in an anonymous and private setting to uphold their Anti-American political identity.

[13]Similarly, the reasons why people care about other people's observance of behavioral prescriptions can be material or affective. Dominant groups may strive to maintain the status quo system of prescribed behaviors that benefits them (Tajfel and Turner 1979). Akerlof and Kranton (2000) describe how seeing other people's violation of prescriptions can cause negative emotions in oneself.

[14]Bursztyn and Jensen (2017) provide a review of the literature on social-image.

status.[15] Tajfel and Turner (1979) theorize that the utility people derive from identifying with a social category increases with its status.[16] This implies that in the labor market, workers may be averse to engaging in tasks associated with other groups as this conflicts with their identity; this aversion may be especially strong if they perceive their groups to be of higher status than those associated with the tasks.

Second, the concept of violation is central to understanding how identity affects behavior. People care about whether their internal rules of behavior have been breached at all—not just whether there have been persistent deviations or complete abandonment of identity. The literature on personality development emphasizes the negative emotions one experiences when internal rules of behavior are broken. Motivated by this, Akerlof and Kranton (2000) build a model of identity in which any violation of such rules results in a loss in utility. In the model by Bénabou and Tirole (2011), an individual inferring her type from past actions may remember whether she contemplated violating her rules of behavior, and this memory can serve as a negative signal about her type. This could compel her to avoid even the mere thought of breaking such rules, making them "priceless", i.e. they become what one "would never do" regardless of any pecuniary benefits. These models imply that those facing identity concerns regarding specific jobs would avoid engaging in them even for a short time. Furthermore, they may refuse to put a price on undertaking them, i.e. avoid them regardless of the offered wage.

The two ideas above suggest potential strategies for establishing identity effects. One could focus on capturing the effects of identity violations, i.e. examine worker preference for jobs that require spending very little time on tasks that involve conflicts of identity. Such tasks should have associations with different social groups whose status can be clearly measured. These strategies motivate the framework below.

[15]Consistent with this idea, Atkin et al. (2019) show that in India, when the status of a religious group increases, more households adopt food consumption patterns that are characteristic of the group.

[16]For a related review, see Bettencourt et al. (2001). This way, the literature on identity and social image is also tied to that on status and social norms. Bernheim (1994), Akerlof (1980), and Jones (1984) describe models in which desire for status, reputation or conformity leads to the development of social norms.

2.2 Worker's job take-up decision

I present a simple conceptual framework for a worker's decision problem of job take-up. The worker considers whether to take up a one-day job, which involves working on two tasks. As in a standard economic model, the worker's utility depends on wage, total working time, and task-specific costs of effort. The novel feature is that it also factors in the costs of engaging at all in each task, which can vary depending on the worker's social category. Suppose the worker expects the working conditions as well as the take-up decisions to be private information.

Worker preferences are described by:

$$U(c_i, w, \mathbf{n}, \mathbf{t}, \boldsymbol{\alpha}, \boldsymbol{\beta}) = \underbrace{M_i(w)}_{\text{Money}} + \underbrace{L_i(1-T)}_{\text{Leisure}} - \sum_{p=j,k} [\underbrace{V_p(n_{ip}, t_p)}_{\text{Variable Cost}} + \mathbb{1}[t_p > 0] \cdot \underbrace{F_p(n_{ip})}_{\text{Fixed Cost}}], \tag{1}$$

where the utility costs of working on task k (and similarly for task j) are given by

$$\begin{aligned} V_k(n_{ik}, c_i, t_k) &= [v_k(n_{ik}) + \alpha_k^d \cdot I^d(k, c_i) + \alpha_k^l \cdot I^l(k, c_i) \cdot I^d(k, c_i)] \cdot t_k \\ F_k(n_{ik}, c_i) &= \ f_k(n_{ik}) + \beta_k^d \cdot I^d(k, c_i) + \beta_k^l \cdot I^l(k, c_i) \cdot I^d(k, c_i). \end{aligned} \tag{2}$$

An individual worker, indexed by i and belonging to social category c_i, considers a job offer that involves working on two tasks—a default task j and an extra task k.[17] The worker expects to spend fraction t_k (and t_j) of his day working on task k (and j), and thus spend a total fraction $T = t_k + t_j$ working. $M_i(w)$ indicates worker i's utility from the daily wage w, and $L_i(1-T)$ indicates the utility from leisure, which is a function of the total non-working time. The utilities from wage and leisure are offset by the sum of the utility costs from working on each task involved in the job.

The utility costs of working on task k are of two types: $V_k(n_{ik}, c_i, t_k)$, which describes the variable effort cost that depends on the time spent on the task, and $F_k(n_{ik}, c_i)$ which indicates the fixed utility cost of engaging at all in the task. By assumption (formally stated as Assumption B.1 in Appendix Section B.1), the variable effort cost is zero

[17] Since all job offers in the experiment involve working on two tasks, I do not consider the utility costs of working on fewer or more tasks.

when the worker does not spend any time on the task (when $t_k = 0$) and is continuous in the time spent on the task.[18] The fixed utility cost only gets incurred if the worker spends any time on the task, i.e. if $t_k > 0$, and does not depend on the amount of time spent on it.

The components of $V_k(n_{ik}, c_i, t_k)$ and $F_k(n_{ik}, c_i)$ are detailed in Equation 2. For simplicity, $V_k(n_{ik}, c_i, t_k)$ is written as a linear function of t_k.[19] Both $V_k(n_{ik}, c_i, t_k)$ and $F_k(n_{ik}, c_i)$ contain components that do not depend on the worker's social category, namely $v_k(n_{ik}, t_k)$ and $f_k(n_{ik})$. These terms depend on n_{ik}, which refers to worker i's *task-relevant skills* such as innate talent, training, prior experience, and so on. The motivation is as follows. The skill-based variable component $v_k(n_{ik})$ may be large because, for example, this task is too difficult, tiresome, or boring to spend time on. The skill-based fixed component $f_k(n_{ik})$ may be large because, for example, the worker could be averse to trying out this task for the first time or expect it to involve initial unpleasantness.[20] Having more task-relevant skills can reduce such utility costs, so both terms depend on n_{ik}.

The remaining components in Equation 2 depend on worker's social category, c_i. The indicator $I^d(k, c_i)$ takes the value of 1 when task k is associated with a category that is different from c_i. The indicator $I^l(k, c_i)$ takes the value of 1 when the category associated with task k is not only different from c_i, but also has lower status than c_i. The utility effects of the relationships between task associations and the worker's category are represented by the parameters α_k^d, α_k^l, β_k^d, and β_k^l.

The theoretical discussion in Section 2.1 suggests that concerns about identity would have a large effect on the fixed utility costs of working on task k, because people care about whether their internal rules are violated. Hence, I focus the discussion here on β_k^d and β_k^l, although the effects related to variable utility costs are also examined with the experimental data. If working on a task associated with a different social category constituted an identity violation, this would increase the fixed utility cost of engaging in it, as represented by a positive value of β_k^d. If this utility effect is larger when the category

[18] One functional form that satisfies this assumption is a linear function of t_k.

[19] While this functional form is not necessary for the discussion that follows, it makes the interpretation simpler. The main empirical specification controls for linear time trends, but other functional forms are also tested as robustness checks.

[20] For instance, the worker could be worried that initially touching job-related objects may greatly increase the risk of contacting germs.

associated with the task has a lower status, then this would be captured by a positive value of β_k^l.

Although it is not possible to directly measure these utility parameters, one can test that they are positive and quantify the changes in take-up rates that are associated with them. Here I provide a quick overview on this approach, giving a more formal discussion in Appendix Section B.1.

Suppose worker i evaluates two job offers like the one described above, each against the worker's outside option. The first offer involves spending some time on extra task A, which is associated with social category A different from the worker's category c_i. The second offer involves spending some time on extra task B, which is not associated with any category. Because the utilities from wage, leisure, outside option, and costs of working on the default task are the same between the two offers, any difference in the take-up decision must be due to the total utility costs of working on task A vs. B.

Additionally, suppose these offers involve spending a short amount of time on the extra tasks. By the assumption made on the variable effort costs (Assumption B.1), they would be close to zero in this case. Hence, if the worker declines the offer involving task A but takes up the offer involving task B, it must be due to the fixed utility costs of working on task A vs. B. That is, it is due to the difference between $f_A(n_{iA}) + \beta_A^d$ and $f_B(n_{iB})$, so even the sign of β_A^d cannot be identified without auxiliary assumptions. If these tasks were such that $f_A(n_{iA}) = f_B(n_{iB})$, i.e. their skill-based fixed utility costs were exactly the same, then it would be straightforward to conclude that β_A^d is positive for this worker. If this condition only held on average for a sample of workers belonging to c_i, the difference in take-up rates of the two offers would indicate the share of workers for whom β_A^d is positive. However, it might be difficult to find such two tasks in real life.

When the above conditions do not hold, one could still examine how identity affects take-up under some appropriate assumptions. Suppose there are multiple groups of workers, one of which belongs to social category A. If these groups were on average similar (in terms of the joint distributions of $f_A(n_{iA})$ and $f_B(n_{iB})$ as well as outside options), then comparing the offer take-up rates across these groups would indicate the share of workers for whom β_A^d is positive. Roughly, this condition implies that if task A was not associated

with category A, the relative preference of task A to task B would be similar across groups. In addition, given some variations in the groups' relative status with respect to category A, one could measure the share of workers for whom β_A^l is positive.[21]

An additional note is that one can incorporate the utility costs associated with social image into this framework, following the model by Bénabou and Tirole (2006). Concerns for social image could additionally increase the utility costs of working on a task associated with other groups. Then $F_k(n_{ik}, c_i)$ may have additional components as follows:

$$\begin{aligned} F_k(n_{ik}, c_i) = \quad & f_k(n_{ik}) + \beta_k^d \cdot I^d(k, c_i) + \beta_k^l \cdot I^l(k, c_i) \cdot I^d(k, c_i) \\ & + x_k \gamma_k^d \cdot I^d(k, c_i) + x_k \gamma_k^l \cdot I^l(k, c_i) \cdot I^d(k, c_i) \end{aligned} \tag{3}$$

where x_k is a parameter indicating whether the worker's take-up decision is observable or not. Hence, to study the effect of social image on labor supply, one could randomly vary the observability of workers' decisions.

In Appendix Section B.1, I provide more details on the approach discussed here. The next section describes the tasks and groups on which I will apply this framework. Section 4 discusses the related empirical strategy for identification.

3 Background surveys on castes

The Indian labor market, with the historical caste system, provides an ideal setting for testing the theoretical framework. Ideally, the labor market should contain a number of jobs or tasks which are associated with different social groups, and these groups should form a distinctive social hierarchy. In India, caste membership defines an important part of people's identity, with different castes conceived as embodying particular characteristics and values (Hoff and Pandey 2014). Notably, caste provides a system of social hierarchy. Caste status determines how one ought to interact with others, even with respect to everyday practices such as sharing food or water (Marriott 1958; Mahar 1960). Furthermore, there are historical associations between castes and occupations, many of which are still widely recognized (Desai and Debey 2012). These associations often carry over to simple daily

[21] Section 4 discusses whether these conditions are likely to hold in the experimental setting.

tasks that relate to those occupations such as washing clothes. These features of the Indian caste system can be used to build different worker-task combinations for testing identity effects.

I conducted two surveys separately from the experiment; they were designed to document the locally prevalent views on the associations between castes and tasks, as well as on the caste hierarchy. There is a substantial geographic variation in the availability of certain castes, and therefore in the knowledge and perceptions regarding them (Munshi 2017; Marriot 1958), which makes the local context important. The surveys and the experiment were conducted in the Nayagarh, Dhenkanal, and Khordha districts in the state of Odisha. More detailed background information on the Indian caste system is provided in Appendix Section B.2.

3.1 Survey procedures

The Task Survey (N=151, 15 caste groups) was designed to collect information about the associations between castes and simple manual tasks. The list of tasks was generated based on qualitative interviews conducted prior to the survey. For each task, the participants indicated whether a particular caste performs it, and the extent to which they have personally performed it.[22] In addition, I collected their knowledge of local castes. A list of caste groups residing in Odisha was taken from the Additional Rural Incomes Survey & Rural Economic and Demographic Survey (ARIS/REDS) 2006 codebook. For each caste on the list, participants were asked whether they knew of the caste and discussed the caste's historic occupations.

Based on the survey findings, seven caste groups were selected for the experiment. Three caste groups had strong connections to the manual tasks and were well known to the participants. All three belonged to Scheduled Castes (SC)—officially designated groups of historical disadvantage, formerly known as the untouchables. To make the remaining groups in the experimental sample comparable in terms of wealth and outside options, they were drawn from Scheduled Castes (SC) and Other Backward Castes

[22]They also indicated whether a task is gender-specific. This was useful for selecting experimental tasks that do not involve conflicts of gender identity. The survey and experiment sample only involved male workers due to difficulties with employing female workers in this setting.

(OBC). All selected groups were known to over 70% of the survey participants; six of them were known to over 90%.[23]

The Ranking Survey (N=209, 15 caste groups) was designed to document how the seven castes in the experimental sample place in the caste hierarchy. Those who knew of all seven castes were recruited for this survey. The participants were provided with cards, and on each of them there was a caste name written.[24] They were asked to arrange the cards according to the caste hierarchy, placing any names horizontally if they occupy the same position in the hierarchy. After ranking the seven castes, the participants additionally ranked nine other castes.[25] The participants inserted the nine name cards into the hierarchy, skipping over any castes they do not know.

When defining the caste hierarchy, participants randomly received one of three different instructions. The first version directly asked about the caste hierarchy. The other two asked the rankings to be based on the practice of accepting cooked food or the practice of accepting water—as higher castes are not to accept such items from lower castes. These two practices are among the most common behavioral rules attached to the caste hierarchy (Marriott 1958; Mahar 1960).

3.2 Caste ranking and associations with tasks

Table 1 summarizes key information from the Task and Ranking Surveys. The table is organized such that castes and tasks that have connections are placed within the same rows.

Column (1) shows the list of the castes selected for the experiment sample, sorted according to their average rank in the caste hierarchy. Because the Ranking Survey participants ranked all seven castes without missing values, the rank scores are generated by simply averaging across reported caste rankings. This ranking is similar across different districts and versions of instructions used.[26] Further details on the consistency of the

[23]This sample includes all six SC castes that meet the knowledge threshold of 70%. There are many castes in OBC that meet this condition, so just one group that was perceived as having similar wealth and status as those in SC was selected. More detailed information about SC, OBC, and other categories are provided in Appendix Section B.2.

[24]The surveyors also guided participants with the name cards in case they were illiterate.

[25]These castes participated in the Task Survey or were SC castes not meeting the knowledge threshold.

[26]Some of these castes are mentioned in the anthropological work by Risley (1908) from the early 20th

ranking are provided in Appendix Section B.3.

The three tasks with strong caste associations are listed in Column (3), and are referred to as identity tasks hereon. Column (4) shows the share of survey participants who report such associations. For instance, 72% of the participants report that washing clothes is specifically performed by the Dhoba caste.[27]

Three tasks that are especially similar to identity tasks but do not have caste associations are listed in Column (5), and are referred to as paired control tasks. No one associates these tasks with the relevant castes in Column (1); therefore, Column (5) shows the share of participants that report associations between these tasks with any SC caste. 15% of participants associate mending grass (floor) mats with a number of different SC castes, and no one associates the other two tasks with any SC caste. Four additional tasks without caste associations are designated as a default task or pure control tasks, and are described in Appendix Table A1.[28]

Participants report varying degrees of familiarity with these tasks. Columns (6)-(9) of Appendix Table A1 show that while most people have experiences with washing clothes (98%) and washing farming tools (89%), few have ever mended leather shoes (19%) or grass mats (10%). More people have performed sweeping animal sheds (81%) compared to sweeping latrines (51%), which is plausible since many households do not have latrines in this setting. Notably, most respondents have performed washing and sweeping tasks in their household, but have rarely done so for other people or as paid work.

4 Empirically identifying identity effects

The caste groups and tasks presented in Table 1 can be used to test for identity effects. In an experiment based on the conceptual framework (in Section 2.2), the latter can be used as extra tasks involved in job offers.

If identity tasks and paired control tasks have similar skill-based fixed utility

century, which report similar relative status of those groups.

[27]These task associations closely follow the traditional connections between castes and occupations. For example, Risley (1892) report that the typical occupations for Dhoba, Mochi, and Hadi are washer, leather work/cobber, and scavenger, respectively.

[28]Gender associations of all tasks are reported in Appendix Table A1 as well.

costs, $f_k(n_{ik})$, then one could simply examine the take-up rates for (the offers involving) these tasks within a worker or a sample of workers to measure identity effects. However, this condition would be violated, for example, if workers are averse to engaging at all in washing clothes compared to washing farming tools, even without taking into account any concerns about identity.[29]

Even if the above condition does not hold, one could estimate the effects of the identity parameters by comparing take-up rates across different caste groups. This comparison requires that the differences in skill-based fixed utility costs for specific tasks are similarly distributed across caste groups (Assumption B.3). For example, without concerns about identity, the aversion workers feel towards engaging at all in washing clothes compared to washing farming tools should be similar between Dhobas and non-Dhobas, and also between those who rank higher or lower than Dhobas.[30] This assumption may still be too restrictive given that the experimental tasks and castes may be different from one another in other ways. Then the assumption on the joint distribution may only hold for the differences in utility costs across tasks and groups (Assumption B.4).

I examine whether these assumptions appear consistent with the data patterns from the Task and Ranking Surveys. Even though the experimental tasks are simple manual activities and job offers would not require any training, workers' fixed utility costs of engaging in them could still depend on their prior experiences. I examine how participants' prior experience with tasks vary across castes using the following empirical specification:

$$\begin{aligned} Y_{ik} =& \sigma^d \, different_{ik} + \sigma^l \, different_{ik} \cdot identity_k \\ &+ \nu^d \, lower_{ik} + \nu^l \, lower_{ik} \cdot identity_k \\ &+ \eta \, identity_k + \phi \, purecontrol_k + \rho_k P_k + \chi_i X_i + \epsilon_i. \end{aligned} \tag{4}$$

The dependent variable Y_{ik} is a measure of worker i's task-relevant experience for task k. The covariates $identity_k$ and $purecontrol_k$ are the indicators for task k's category, as

[29]One reason could be that they believe that people's clothes have more germs and want to completely avoid touching clothes.

[30]The assumption also requires that workers' outside options are distributed similarly across the caste groups. This is plausible given how castes were selected and is tested with the follow-up survey data later.

specified in Table 1.

The relative status variables $different_{ik}$ and $lower_{ik}$ are defined according to the ranking in Table 1. For any worker i that belongs to caste c_i, task k is considered to be a same-ranked task if it appears in the same row as c_i. For example, for a Dhoba worker, both washing clothes and washing farming tools are considered same-ranked tasks. Same-ranked tasks are in the omitted category of the specification. If task k appears in a different row from the worker's caste, the task is considered a different task and $different_{ik}$ takes the value of 1. If task k appears in a row beneath the worker's caste, the task is considered a lower task and $lower_{ik}$ takes the value of 1; thus, it would be 0 if task k is in a row above the worker's caste (a higher task). The other covariates, P_k and X_i, are used to control for task or worker-related fixed effects. P_k is a vector of task-specific indicator variables, and X_i is a vector of dummies indicating each caste or each worker. P_k and X_i are not included in the basic regression; when they are included, $identity_k$ and $purecontrol_k$ are omitted.

Table 2 shows the results of OLS regressions with three different measures of experience with selected tasks. Standard errors are clustered at the worker-task level, since identity effects are predicted to vary at this level.[31] Column (1) shows the basic regression result, which suggests that there are task and caste-specific differences in experience levels even across paired control tasks, i.e. everyone has more experience with certain tasks and some caste groups have more experience with all tasks. Controlling for task and caste/worker fixed effects in Columns (2) and (3), the results show that experience with paired control tasks do not vary across caste groups in a statistically significant way.

However, workers are 22 pp less likely to be experienced with identity tasks associated with other castes, as suggested by the coefficient on Different $\times$ Identity in Columns (2)-(3). The results in the remaining columns indicate that this is driven by the differences in wage-paying experience. Workers whose castes are directly associated with tasks are 27 pp more likely to have wage-paying experience. Caste groups do not differ in their non-wage-paying experience (i.e. ever performed within their household or for friends/neighbors). This is plausible given that people tend to perform washing or sweeping at home, but only those castes directly associated with identity tasks may be willing to

[31] Standard errors are clustered at the worker level during robustness checks, which leads to similar results.

such tasks for a wage. Notably, among those who are not directly associated with the tasks, there appear to be no statistically significant differences in experience levels, regardless of their relative ranking.[32]

Given these results, the preferred empirical specification for examining workers' take-up decisions is as follows:

$$\begin{aligned} Y_{ikt} =& \sigma^d \, different_{ik} + \sigma^l \, different_{ik} \cdot identity_k \\ &+ \nu^d \, lower_{ik} + \nu^l \, lower_{ik} \cdot identity_k \\ &+ \tau_k \, time_{tk} + \rho_k P_k + \chi_i X_i + \epsilon_i. \end{aligned} \tag{5}$$

The dependent variable Y_{itk} is now worker i's take-up decision for the offer that requires spending time t_k on task k. The covariates $different_{ik}$, $lower_{ik}$, P_k, and X_i are all defined in the same way. Given the importance of task- and caste-specific factors in determining worker's experience level, the preferred specification controls for task and caste(/worker) fixed effects. The specification also accounts for the effect of the time required on the extra task, $time_{tk}$. The preferred specification controls for task-specific linear time trends; other functional forms are tested during robustness checks.

Given Assumption B.4, the coefficients on Different $\times$ Identity and Lower $\times$ Identity would indicate the changes in offer take-up due to concerns about identity. However, one may be concerned that this assumption does not hold when comparing those whose castes are directly associated with the tasks against the rest. For example, having wage-paying experience with a task might reduce the aversion to engaging in it (in terms of fixed utility costs). If so, the coefficient on Different $\times$ Identity would be biased upwards; it would overestimate the identity effect related to engaging in tasks associated with other castes.

If the assumption held only for groups that are not directly associated with the extra tasks, the coefficient on Lower $\times$ Identity will still measure the change in take-up due to identity concerns. It would indicate the *additional* impact of engaging in tasks associated

[32]The sample used for the experience level analysis includes 10 castes, 4 of which are selected for the experiment. Although this sample includes some castes that are ranked higher than all of the experimental castes, the experience levels still do not differ across whether the tasks are considered higher vs. lower.

with castes that rank lower—rather than higher—than one's own. Thus, it can serve as the *lower bound* on the overall effect of identity on job take-up.

5 Experiment on job offer take-up

5.1 Sample construction and recruiting

The experimental sample is composed of 630 male household heads aged 18-55, who primarily derive income from casual daily-wage labor.[33] The sample is stratified by caste and randomized privacy condition. The breakdown of the sample is described in Appendix B.4.

Casual laborers in this setting tend to work in agriculture during peak planting and harvesting seasons, and get short-term contract jobs in unskilled manufacturing or construction in the remaining lean periods. Potential employers often recruit directly by visiting workers' villages. They provide a job description and offer wages at the market prevailing daily wage rate. Workers who agree to the offered terms start working that day or on a prearranged, upcoming date. The experiment takes place during agricultural lean periods, when many workers are unemployed, often involuntarily (Breza, Kaur, and Shamdasani 2018).

The recruiting process for the experiment exactly mimics the natural labor market procedures. A scouting team first identifies villages with casual laborers belonging to the target caste groups. The identified villages are randomized into two privacy conditions: private vs. public. Surveyors visit the identified villages in the following days to discuss and make job offers. Only those who express interest in a one-day job of making paper bags are asked to participate in the choice exercise, which effectively results in a slightly different job offer.[34] This means all workers in the experiment prefer having a job making paper bags to their default outside option, although this answer is not incentivized.

The motivation for this recruiting process and criteria is threefold: 1) workers' de-

[33] I restrict my sample to male workers, for the reasons discussed earlier.

[34] These paper bags are commonly used in the markets to store nuts and snacks, and the produced paper bags are sold to wholesale vendors. The setup and operation of the worksites are similar to those described in (Breza, Kaur, and Shamdasani 2018).

cisions during the choice exercise mimic their day-to-day labor supply decisions; 2) workers in the sample have similar outside options, i.e. their opportunity costs are smaller than the utilities of taking up the hypothetical job of making paper bags; and 3) it provides a simple reference point to compare different take-up rates. For any sub-sample, the average take-up rate of an offer implies a decrease from the perfect take-up rate (i.e. rate of 1) of the hypothetical job.

5.2 Choice exercise and experimental procedures

To elicit workers' true willingness to take up job offers, a procedure based on the Becker-DeGroot-Marschak (BDM) mechanism is used. (Becker, DeGroot, and Marschak 1964). In the choice exercise, each worker is presented with an entire set of potential job offers—all involving the same daily wage of Rs. 300—and is asked to indicate whether he would take up each offer. After he chooses over all offers, one offer is randomly selected and his stated choice for it is implemented. This mechanism is incentive compatible under risk neutrality.[35] To further encourage truth-telling, workers are explicitly asked to consider each one as a single take-it-or-leave-it offer and give a "simple honest answer" about what they prefer.[36] In the analysis, I consider each worker's choices as reflecting his true willingness to take up offers.

The experiment proceeds as follows. Each choice exercise is conducted privately between a surveyor and a worker. Workers first go through a practice exercise which is designed to help them understand the BDM procedure. During the practice exercise, workers are offered the opportunity to buy different combinations of packaged food (e.g. mustard seeds and sugar), all involving at the same fixed price. Workers can choose to accept—purchase the combination—or decline each offer. One offer is randomly selected and implemented, and surveyors verify workers' understanding of the process.

[35]For more details on the mechanism and its use in experiments, see Fudenberg, Levine, and Maniadis (2012).

[36]The exercise is justified to workers by explaining that the employer is looking for people to complete different tasks in addition to making paper bags and thus wants to collect information on what kind of jobs people are willing to do. The employer is also described as wanting to be fair when assigning different job offers. Finally, workers are told it would be costly if they accept an offer and change their mind later. If a worker accepts an offer that is randomly selected, surveyors will visit his village multiple times over the following days to compel him to complete the agreed upon job.

Then, workers go through the choice exercise with job offers. Surveyors describe the set of all potential job offers and highlight how only one of their choices will be enforced. All job offers are the same in most aspects, including wage, total working time of five hours, worksite location, etc. They require spending their majority of working time on the default task of producing paper bags, and the remainder on an extra task in private.

Job offers vary only in the *type* of extra task and in the *time* required to work on it. All workers' choice sets include eight extra tasks: three identity tasks, three paired control tasks, and two pure control tasks (ref. Table 1).[37] All tasks are described as not requiring any prior experience.[38] There are four different time requirements for the extra tasks: 10 minutes, 30 minutes, 1 hour, and 1.5 hours.[39] Surveyors describe each offer in detail and show photos depicting the tasks, similar to those in Appendix Figure A1.

Although the extra task is always performed in private, workers' take-up decisions may be publicized depending on their randomized privacy condition. Each village is scheduled to host a focus group meeting in the days following the exercise. Local agricultural practices are discussed in these meetings, and many village members (including those who did not participate in the experiment) are invited to attend. Those in the public condition are told that all their choices during the job offer exercise will be openly discussed during these meetings, irrespective of their attendance. Those in the private condition are assured that their choices will remain private information, except for their willingness to wash farming tools, a control task.[40] Hence, the two conditions should differ only in the observability of workers' decisions, not the observability of their job performance nor their expectations about the focus group activities.

Third, workers go over the list of job offers and choose whether to take up each offer. To test for any order effect, the order in which tasks appear on this list is randomized in four different ways across workers. Time requirement is also randomly chosen to be

[37] One pure control task is always stitching. The other is randomly chosen to be making ropes or deshelling peanuts.

[38] The tasks that could involve special skills, such as mending leather shoes or grass mats are described as assisting an experienced worker.

[39] These time lengths were chosen to create as much variation as possible while making the jobs sound realistic and be practical given the constraints at the worksites.

[40] The justification is that discussing local agricultural practices would involve talking about people's willingness to wash farming tools.

presented in an ascending or descending order. All offers have the same chance of being randomly selected.[41]

Finally, one offer per worker is randomly selected, and his choice for this offer is implemented. If the worker chose to take up the offer, he can complete the job within the next three days and receive Rs. 300.[42] He is also asked to complete a follow-up survey at the worksite. If the worker declined his selected offer, he does not get any other offer. However, he is still asked to complete the follow-up survey to receive a gift worth Rs. 50.[43] This compensation is mentioned at the very end, so that they do not factor this into their outside options during the choice exercise.

6 Results: conflicts of identity lower job take-up

The experimental results reveal that many workers are averse to taking up job offers associated with other castes, and especially so when those castes rank lower than their own. My set of findings are well in line with the explanation that those workers face strong concerns about violating caste identity.

6.1 Visualizing offer take-up rates

I first use plots to examine patterns in the raw data. Figure 1 plots the average take-up rates of job offers against the time required on extra tasks, separately for paired control tasks and identity tasks. The three connected lines show the differences in take-up rates according to the relative status of the extra task: same-ranked, higher, or lower, as defined in Section 4. When tasks are same-ranked, take-up rates are similar between (offers involving) paired control tasks and identity tasks. When tasks are higher, take-up rates for paired control tasks increase slightly while take-up rates for identity tasks fall by about 20 pp. When tasks are lower, take-up rates fall for both paired control tasks and identity tasks, but the decrease for identity tasks is almost twice as large at about 40 pp. All connected lines

[41] Workers roll dice and draw scratch cards to select offers.

[42] 57% of workers receive offers that they are willing to take up, and 67% of those complete their jobs. Absenteeism is prevalent in this region (Krishnaswamy 2019), especially for casual contract jobs. More details on job completion are provided in the next section.

[43] Those who do not complete their offered jobs in the next three days are also asked to do the survey for the same compensation. The follow-up survey completion rate is high (87%) and discussed in the next section.

appear linear and parallel with small negative slopes, i.e. spending longer time on an extra task appears to have little effect on take-up rates. Given that the take-up rate is one when time requirement on extra tasks is zero minutes (according to workers' stated preference during recruiting), there appear to be discrete drops in take-up rates associated with spending any time at all on an extra task.

Appendix Figure A2 shows a similar plot for each extra task type, with four connected lines representing four disjoint sets of castes. This provides more detailed information compared to Figure 1, which plots pooled averages over different tasks and castes. Even within the same groups of workers, take-up rates vary widely depending on the type of extra task. For example, among the workers belonging to castes other than Hadi (associated with sweeping latrines), 93% are willing to deshell peanuts for ten minutes, but only 25% are willing to sweep latrines for ten minutes. Higher caste groups tend to have lower take-up rates for some control tasks as well as identity tasks.[44] Again, the discrete drops in take-up rates are larger for identity tasks compared to paired control tasks when tasks are considered lower.

6.2 Regression analysis

A regression analysis with the experimental data confirms the findings from the plots. Table 3 reports the results from running ordinary-least-squares (OLS) regressions based on the empirical specification in Equation 5. Column (1) shows the basic specification result, and Columns (2)-(3) the preferred specification results that control for task and caste(/worker) fixed effects. All specifications control for task-specific linear time trends. Hence the main coefficients can be interpreted as the changes in take-up rates that are due to engaging at all in extra tasks, i.e. due to spending close to zero minutes on extra tasks.

The coefficients on Different $\times$ Identity and Lower $\times$ Identity have large magnitudes, similar across all specifications, and are always statistically significant at 1% level. The other coefficients are smaller in magnitude and less consistent. When offers involve tasks that are not same-ranked, take-up rates are lower for identity tasks compared to paired control tasks. This gap is 23 pp when tasks are higher, and increases by an addi-

[44]The control tasks, such as mending grass mats and sweeping animal sheds, are typically perceived as menial according to field interviews.

tional 24 pp when tasks are lower. Hence the total estimated effect of identity violation on take-up is 47 pp, with 24 pp as the unbiased estimate of the lower bound.

Using a different caste ranking. Replicating the analysis with a different ranking pre-registered on the RCT registry results in similar findings with a smaller point estimate for the lower bound. The registered ranking is based on field interviews conducted prior to the Ranking Survey. Under this ranking, one identity task for the Kaibarta caste and two identity tasks for the Kela caste are considered higher instead of lower—and similarly for paired control tasks.[45] Appendix Table A2 reports the results based on the registered ranking. The total estimated effect of identity violation on take-up is 45 pp with 13 pp as the unbiased estimate of the lower bound. The change is due to some identity tasks associated with a large negative drop in take-up being categorized as higher tasks under this ranking. Since both rankings give qualitatively similar results and the Task Survey provides a more objective measure of caste hierarchy based on a larger survey sample, the remaining analysis uses the ranking based on the Task Survey data.

Identity vs. social image. I examine whether the main findings are better explained by concerns for identity or social image. If workers have similar intrinsic willingness to work on different extra tasks but face concerns about other people's judgments or reactions, the estimated effects on take-up should be concentrated among the workers who expect their take-up decisions to be publicized. In Table 3, columns (4)-(6) show how the main results differ depending on the randomized privacy condition. The main covariates are interacted with *Public*, an indicator variable equal to one if the worker is are in the public condition.

The estimated effects are invariant to the randomized privacy condition. The coefficients on Different $\times$ Identity and Lower $\times$ Identity have similar magnitudes as before and are still statistically significant at 1% level, while their interactions with the Public indicator are small and not statistically significant. One may think that the experimental variation is not effective in creating different expectations about observability, i.e. workers in the private condition may also expect their decisions to become known to others. In such a case, the results would indicate a strong effect of social image on labor supply.

[45] A more detailed discussion on caste ranking consistency is provided in Appendix Section B.3.

While this is plausible, a better explanation for the results may be that workers facing concerns about social image regarding certain jobs already consider those jobs to violate their identity. This can explain the lack of additional effects from publicizing worker decisions and is likely given the following reasons.

First, the experimental variation used here is similar to that used in another study in the same setting, which finds social image effects. Breza et al. (2019) show that workers' willingness to take up jobs at wages below the market prevailing rate increases when workers are told their wages will be kept confidential. Given that their study also involved a similar sample of casual laborers, it seems unlikely that this study did not alter worker expectations about confidentiality at all.

Second, workers' stated reasons for refusing job offers are more in line with concerns about identity. During the follow-up survey, workers are asked why they turned down all offers involving a particular task. Figure 2 plots which share of answers bring up only the reasons related to identity (e.g. feel ashamed of oneself, lower caste work), only the reasons related to social image (e.g. unacceptable to family or neighbors), both, or neither (e.g. task is difficult, never done the task before). Among those who turn down offers involving identity tasks, the share mentioning only the reasons related to social image are small (7%), compared to the shares mentioning only the identity-related reasons (50%) or both types of reasons (25%).[46]

Third, in this setting, people's personal opinions on caste norms are very similar to what they believe about other people's opinions on caste norms. The Task Survey asked four vignette questions describing characters violating various caste norms.[47]. Randomly selected half of the participants were asked whether they approve of the characters' actions in their personal opinion. The rest were asked whether they think their friends and neighbors would approve. Figure A3 shows that the shares of participants who support following caste norms are similar regardless of how the questions are asked. The effect of social image on take-up would be present only if workers personally find it desirable

[46]For paired control tasks, many people also bring up feeling ashamed in oneself, suggesting some of these tasks may be too menial, i.e. involve a violation of status identity.

[47]These questions are listed as Q1-Q4 in Appendix Section B.5. Two questions are related to the practice of taking up lower-caste jobs.

to take up certain offers but believe others will not approve. The general consistency in people's personal opinions and beliefs about others suggests that workers may personally find it undesirable to take up certain offers and believe others will agree with his decisions.

These considerations point to identity as the major driver of the findings. One caveat in this study is that workers always disclose their take-up decisions and opinions to surveyors. If workers were mainly concerned about surveyors' judgments of them, it could result in similar findings. However, this would mean that workers face as severe concerns about judgments by some surveyors as those by their friends and neighbors.

Heterogeneity by caste sensitivity and age. If the identity channel explained the findings, the effects should be larger among those workers who strongly believe in following caste norms. During the follow-up survey, workers were asked seven vignette questions that describe characters violating caste norms and stated their personal opinions on whether they approve of those behaviors.[48] With their answers, I generated a caste-sensitivity score using a principal component analysis (PCA) and categorized those who score above the median as caste-sensitive.

Caste sensitivity is associated with a higher likelihood of turning down job offers associated with lower castes. In Columns (1)-(2) of Table 4, the coefficient on Different $\times$ Identity is -0.25, similar to the original estimate, and the coefficient on Caste sensitive $\times$ Different $\times$ Identity is small and not statistically significant. Therefore worker responses to offers associated with other castes are similar regardless of their caste sensitivity. The coefficient on Lower $\times$ Identity is -0.17, which is smaller than the original estimate, and the coefficient on Caste sensitive $\times$ Lower $\times$ Identity is -0.14, and both coefficients are statistically significant at 1% level. These coefficients indicate that caste sensitive workers are especially unwilling to take up offers associated with lower castes. These results are robust to using alternate definitions of caste sensitivity, as shown in Appendix Table A3.

A heterogeneity analysis using worker age gives similar results, since caste sensitivity is positively correlated with age ($\rho = 0.15$). In columns (3)-(4) of Table 4, the coefficient on Older $\times$ Lower $\times$ Identity is -0.10 and statistically significant at 5% level, while the

[48] The questions are listed in Appendix Section B.5; four of them are from the Task Survey. For example, the questions describe characters getting jobs associated with other castes, serving food to higher caste people, and marrying outside of own caste.

coefficients on other interacted variables are not statistically significant. Caste sensitivity is negatively correlated with education and wealth.[49] Appendix Table A4 shows that less-educated workers are especially unwilling to take up offers associated with lower castes, and the results do not vary much by wealth. Overall, the heterogeneous effects by caste sensitivity show the clearest and most robust patterns.

6.3 Alternate explanations

I discuss here whether an explanation other than concerns for identity could produce the above findings.

Worker education and wealth. Although the heterogeneity analysis above indicates that the results are not driven by more educated or wealthier workers, I consider whether the task-specific effects of education or wealth can explain the results. This would be the case, for example, if higher caste workers are more educated and being more educated is negatively correlated with having task-relevant skills for identity tasks. The summary statistics reported in Appendix Table A5 show that workers in the two highest-ranked castes are more educated and wealthier than the rest, although the economic implications of these differences may be small. Workers not in those two castes tend to be statistically indistinguishable.

The main findings are robust to controlling for the effects of education and wealth measures. I modify the regression specifications to control for the interactions of education or wealth measures with task-specific dummies. If being more educated or wealthier has a negative effect on take-up for specific tasks, this specification would control for those effects. The results in Table 5 Columns (1)-(5) indicate that that the education and wealth measures play a limited role in explaining the main findings.

Other job opportunities. I do not find evidence that caste groups differ in their access to other job opportunities. Having greater access to other jobs could decrease workers' willingness to engage in specific tasks. However, the summary statistics in Appendix Table A5 show that workers report on average getting 2.5 days of paid work in the previous week, and the number is marginally lower only for those in the Mochi and Pana castes

[49] The correlation coefficients with years of education and being wealthier than the median are -0.08 and -0.06, respectively.

(ranked 5th and 6th). In addition, individual workers' opportunity costs are held fixed when workers evaluate different job offers, and the results are robust to controlling for worker fixed effects.

Status. The findings may be explained by differences in worker status; workers may be less willing to take up offers associated with groups that have different social status from their own, and especially so when those groups have relatively lower status. Figure 2 shows that some workers report concerns about feeling ashamed or reactions from others as reasons for refusing to work on paired control tasks. This finding is in line with the idea that worker status and how menial a task is can matter for job take-up, independent of caste associations. According to this explanation, the results still document the effects of identity on job take-up, but the relevant factor would be status identity instead of caste identity.

Untouchabitity. The historic and currently illegal practice of untouchability socially segregates groups now known as Scheduled Castes and delegates them the activities that deal with emissions of the human body. This practice is unlikely to be driving the results since six of the caste groups belong to Scheduled Castes. However behavioral rules (norms) that are specific to each caste can be driving the results, and this would be consistent with attributing the results to identity effects.

Expectations about the employer. One may be concerned that workers form different expectations about employers who would hire them to perform different extra tasks, e.g. some may be more discriminatory. This is unlikely given the offers are explicitly advertised as one-time offers coming from the same employer providing work at the same location. In addition, discrimination has been more prevalent against low caste workers (Mosse 2018). Fear of discrimination has difficulty explaining why higher caste workers are especially averse to taking up jobs associated with lower castes.

Surveyor demand effect. Although the recruiting team asked around for worker names and castes during the process of scouting villages, the surveyors who conducted the choice exercises in the days following were careful not to bring up any discussions of caste. The Task and Ranking surveys were also conducted in separate areas from where the experiment was conducted. In addition, this explanation requires that although the

employer was described as looking for people to complete extra tasks, the workers in the experiment must still believe that the employer (or the surveyor) wants to only hire specific castes for certain tasks. It seems unlikely that workers would forego job opportunities based on such speculations.

6.4 Robustness checks

I examine the randomization outcomes for job offers and discuss job and survey completion rates. I also show that the main findings are robust to using different regression specifications and control variables in Appendix Section B.6.

The randomization process for selecting job offers was implemented successfully. In Appendix Table A6, columns (1) and (2) replicate the main take-up results only using the job offers that were randomly selected at the end of the choice exercise. The coefficients on Different $\times$ Identity and Lower $\times$ Identity are similar to those in Table 3, although less statistically significant due to the smaller sample size.

Job completion results also go in the direction of the main findings. Overall, 57% of workers receive offers that they are willing to take up, and 67% of them complete their jobs. The completion rate is not very high, as absenteeism is prevalent in this region (Krishnaswamy 2019). Columns (3) and (4) show how job completion varies with extra task category and relative status. The coefficients on Different $\times$ Identity is larger compared to those in columns (1) and (2), showing that job completion is even lower compared to take-up for offers associated with other castes. This additional effect on completion might be also due to identity or social image, e.g. workers thinking more deeply or talking to others about the implications of taking up specific offers. The survey completion rate is high (87%) and does not depend on extra task category and relative status, as shown in columns (5) and (6).

In Appendix Section B.6, I show that the main findings are robust to the following: excluding any one caste, controlling for different time trends, and clustering standard errors in another way. The results are also robust to controlling for other variations in workers' decision making environment—surveyors, orders in which offers are discussed, and choice sets–as well as excluding inconsistent decisions that may involve worker mis-

takes.

7 Supplementary experiment: pricing identity violations

My findings show that identity is an important factor constraining workers' labor supply decisions. Many workers in the sample are willing to forego a valuable income-earning opportunity in order to avoid spending ten minutes on some tasks associated with other castes. The same workers report finding only about 2.4 days of paid work in the week prior to the experiment and generally have little wealth. These results suggest that the utility costs of violating identity could be very high for some workers.

The supplementary experiment aims to directly quantify the utility costs of identity violations in monetary terms; it examines how much workers need to be offered in wages in order for them to engage in tasks associated with other castes. Using job offers similar to those in the first experiment, I document whether workers are willing to take up the offers when offered more wages.

Referring back to the framework, the fixed utility cost of engaging in task k takes the following form:

$$F_k(n_{ik}, c_i) = \quad f_k(n_{ik}) + \beta_k^d \cdot I^d(k, c_i) + \beta_k^l \cdot I^l(k, c_i) \cdot I^d(k, c_i). \tag{6}$$

Comparing across worker decisions, one could in principle put bounds on the fixed utility cost of engaging at all in task k relative to task j, $F_k(n_{ik}, c_i) - F_j(n_{ij}, c_i)$, in terms of utilities from money.

As discussed earlier, theories of identity suggest that some workers may be unwilling to engage at all in tasks associated with other castes, regardless of the offered wage. In other words, the costs of engaging in such tasks, β_k^d, may be so high that workers would effectively never perform them in the labor market. This experiment is designed to test whether workers refuse to work on certain tasks despite being offered high wages, which would be strongly indicative of a high value of β_k^d.

7.1 Supplementary experimental procedures

A new set of 106 workers belonging to the Kaibarta and Pana castes are recruited. These two castes do not have any associations with the tasks used in this experiment, since its aim is to document worker reactions to tasks that are associated with other caste groups.[50]

Workers get started on a one-day job of producing paper bags, the default task. Then they individually sit with surveyors who inform them about a chance to switch to working on some other extra task for part of the total working time. Similarly to the main experiment, these switching offers involve variations in the extra task's type and time requirement. There are seven different types of extra tasks: three identity tasks, three paired control tasks, and one pure control task. Identity tasks and paired control tasks are the same as those used in the first experiment, defined in Table 1. The time required on these tasks may be 10 minutes, 30 minutes or one hour.[51] The extra task is always to be performed in private, but workers hear different scripts about whether or not their choices are going to be publicized to their neighbors depending on their randomized privacy conditions.

A notable difference from the main experiment is that these switching offers can include a bonus payment on top of their daily wage of Rs. 300. The amount of extra wage for any switching offer is to be randomly drawn from the following list: 0, 30, 60, 90, 120, 180, 240, 300, 1500 or 3000. The amount of Rs. 3000 is close to a month's worth of wage earnings during agricultural lean seasons.

After doing a practice choice exercise, workers participate in the offer choice exercise. They go over the entire set of potential switching offers, each linked to the extra wage list, indicating their willingness to take up a given switching offer for a given extra wage amount. After workers indicate all of their choices, a combination of one switching offer and one extra wage amount is randomly selected, and the worker's choice for this

[50] The two caste groups are still compared in the results section below. The sample breakdown is described in Appendix Section B.4.

[51] To reduce the length of this choice exercise, only one pure control task and three time variations are used. The pure control task is moving bricks, a task frequently performed in construction by casual laborers. It was chosen because it would not involve any identity concerns but could require high effort cost, which would allow for useful comparisons.

combination is implemented.

An alternate design could involve promising job offers as in the first experiment, but offering much higher wages. Both sets would provide bounds on the differences in utility costs of engaging in extra tasks (and these bounds would be the same if the utility in money was increasing linearly over the relevant wage range). However, because the supplementary experiment requires offering workers much larger sums of money (e.g. ten times the prevailing market wage), it is critical to convince workers that the offers are real. This is more likely to hold under the procedures I used because they involved workers coming to worksites, meeting their supervisors, and being promised a base wage prior to being offered large sums.[52]

7.2 Results: responses to extra wage

The results indicates a striking divide in worker responses regarding switching offers. Panel A of Figure 3 plots the average take-up rates of offers against the time required on the extra tasks, separately for an extra wage of Rs. 30 and Rs. 3000. The graph for paired control tasks shows that over 60% of workers are willing to switch to working on these tasks for ten minutes when Rs. 30 is offered. When the time requirement increases to one hour, the rate falls, consistent with the idea that working on these tasks involve time-dependent variable effort costs. When Rs. 3000 is offered, over 80% of workers are willing to switch to these tasks for ten minutes. The slope becomes more flat, indicating that for those who refuse Rs. 3000, the variable costs of working matters little.

According to Appendix Figures A4, the task-specific trends in take-up are such that as time requirement goes to zero minutes, take-up rates would get close to the perfect rate of one for most control tasks (except for sweeping animal sheds). This is consistent with the assumption that variable effort costs of working on tasks are close to none when workers spend very little time on them. This also suggests the three control tasks—moving bricks, washing farming tools, and mending grass mats—do not involve any identity concerns. 20% of workers refuse to sweep animal sheds for ten minutes even when offered Rs. 3000. As this task is typically considered a menial task (according to field interviews),

[52]These procedures also had logistical advantages, which allowed me to conduct more choice exercises per day.

this task may involve other types of identity concerns (e.g. status identity).

Going back to Panel A of Figure 3, the graph for identity tasks shows that around 40% of workers are willing to work on identity tasks when offered Rs. 30. At the same time, 43% of workers refuse to switch to identity tasks even when offered Rs. 3000.

Panel B of the same figure highlights this stark division in worker responses. The histograms in this panel plot the minimum extra wage amounts at which workers agree to switching offers. Those who refuse all offers regardless of wages offered are plotted in the bin, "$\geq$ 3000." I focus on the offers that involve spending ten minutes on extra tasks, as these offers are expected to involve the smallest variable effort costs. Both histograms are double-peaked, first at Rs. 0 - 30 and then at Rs. 3000, and the shares of workers who demand something in between are relatively small. Notably, the bar at Rs. 3000 is more than twice as tall for identity tasks compared to paired control tasks. These patterns are also clearly shown in the task-specific graphs in Appendix Figures A5. These patterns suggest that some workers incur small fixed utility costs of engaging in the extra tasks, whereas the majority of the remaining workers incur extremely large utility costs.

As the workers who turn down switching offers regardless of extra wage amounts are likely facing concerns about identity (or social image), the results in Table 6 examine the shares of such workers using regressions. Columns (5) and (6) show that the share of workers who demand more than Rs. 3000 for switching (i.e. refuse all offers) is 29 pp larger for identity tasks compared to paired control tasks. Furthermore, this estimate does not vary with whether workers' decisions are publicized, as indicated by the results in Columns (7) and (8).[53]

These findings show that some workers refuse to work on tasks associated with other castes even when they are offered ten times daily wage to do so. This is consistent with the idea presented by Bénabou and Tirole (2011) that concerns about identity can lead to taboo-like behaviors. Workers' reported reasons for refusing offers even at Rs. 3000 are also consistent with this idea. All workers who refused offers involving moving bricks (a pure control ask) said the task is too difficult for them (particularly due to health prob-

[53]In addition, Appendix Table A7 shows that the share of workers who refuse all offers is 6 pp larger when tasks are associated with lower castes, although not statistically significant.

lems). On the other hand, the reasons workers cited for turning down offers associated with other castes relate to feeling shame in themselves, caste-related concerns, and simple lack of will (e.g. I would never do this task).

8 Conclusion

This project's findings indicate that caste identity can constrain labor supply decisions in rural Odisha, India. In the job take-up experiment, the average take-up rate of the offers associated with other caste groups is 23 pp lower than the offers associated with the individual's own caste. This gap increases by an additional 24 pp if the groups associated with the relevant offers rank lower than the individual's own in the caste hierarchy. This latter increase is especially larger among those who strongly believe in following caste norms. These provide the first experimentally documented, quantitative estimates of identity effects on labor supply. Responses to job offers are invariant to whether worker decisions are publicized, which strongly suggests that identity—rather than social image—is the main motivating factor.

These findings highlight a channel through which occupational opportunity can become unevenly distributed across groups. The results from the supplementary experiment suggest that some workers will completely avoid certain jobs despite those jobs offering much higher wages. Such responses are in line with the idea that the value of identity could be "priceless," a key implication of the theoretical model on identity by Bénabou and Tirole (2011). If some groups of workers have the same inherent talent or existing skill sets as the rest, but avoid certain occupations due to concerns for identity, it would cause misallocation of talent in the economy. This identity channel has typically been omitted in the existing economic models on misallocation of talent such as that of Hsieh et al. (2013). This paper points towards the importance of accounting for the role of identity in studying inefficiency in the economy.

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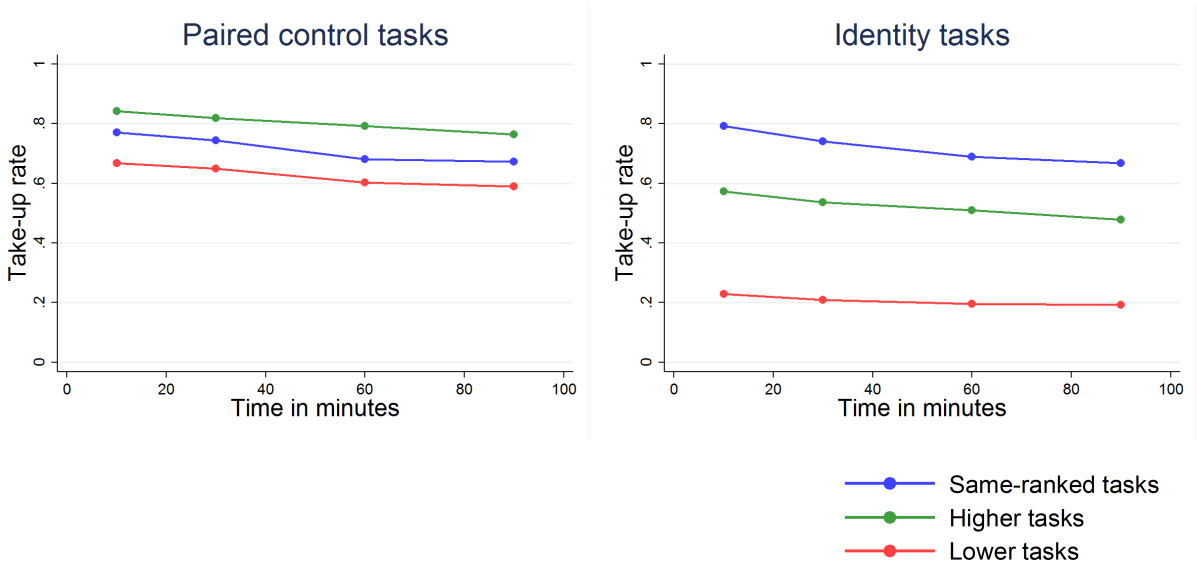
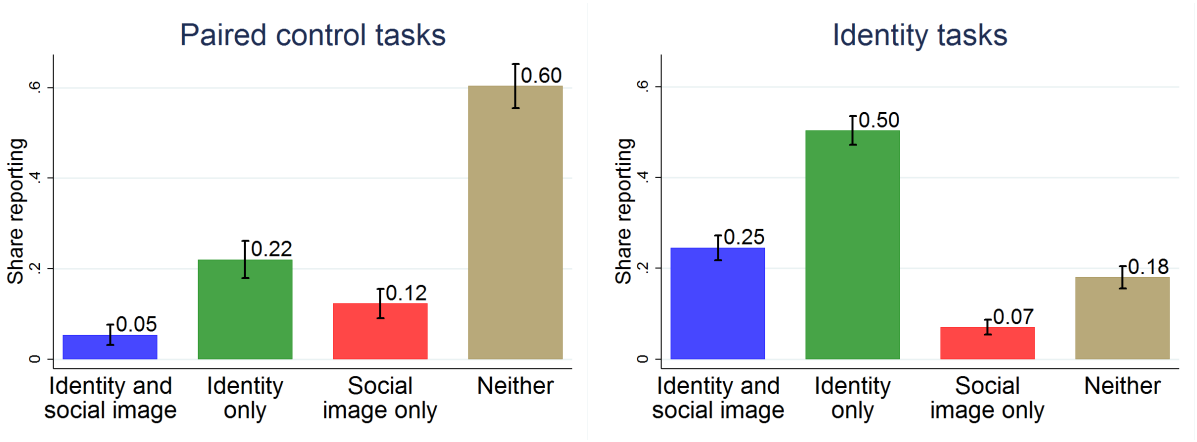
Figures and tables

Figure 1: Raw take-up rates



Notes. The average take-up rates of the job offers are plotted against the amount of time required on the extra tasks. The plotted average take-up rates are calculated separately by task category (paired control tasks on the left vs. identity tasks on the right), and also by relative task status as indicated by the three separate lines in each graph. The relative task status (same ranked, higher, or lower tasks) is determined based on the rank scores in Table 1).

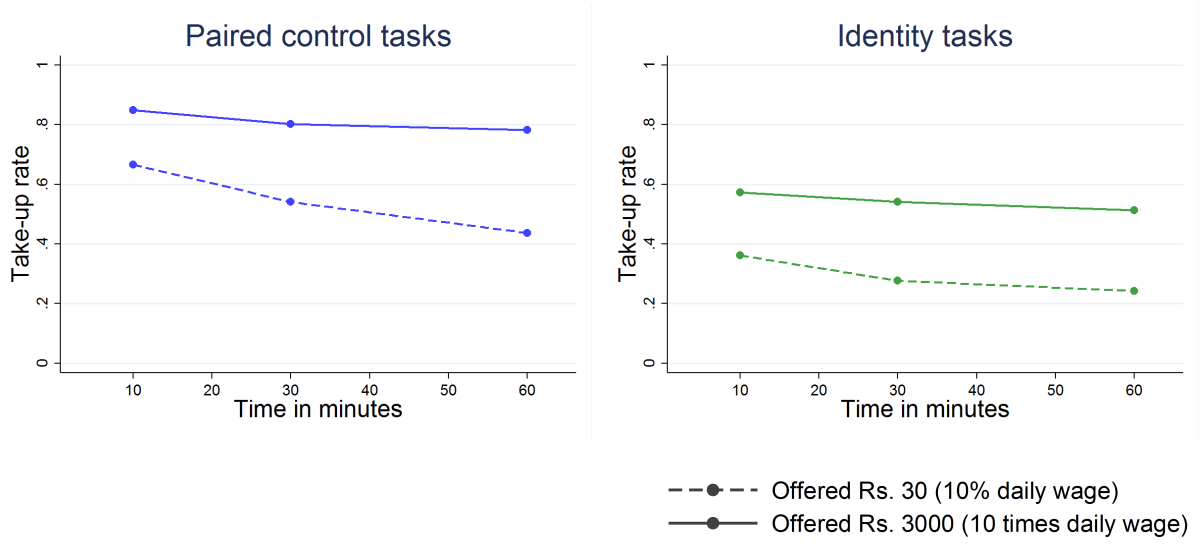
Figure 2: Reasons for turning down offers



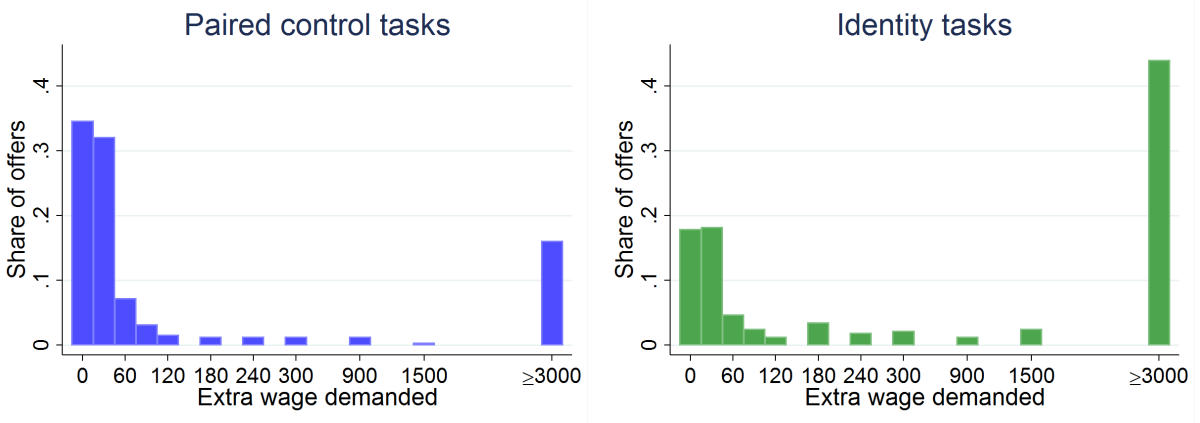
Notes. This figure plots the shares of workers reporting particular reasons for refusing job offers. Observations are at the $worker \times task$ level, i.e. worker answers regarding a set of offers involving a particular extra task type, and hence include 391 answers for the paired control tasks and 953 answers for the identity tasks. Reasons relating to identity include: this is lower caste work, I would feel ashamed of myself, and this is against cultural practice. Reasons relating to social image mention reactions from other people: family/neighbors will find it unacceptable, they will be embarrassed or upset, and so on.

Figure 3: Worker responses to switching offers

Panel A: take-up rates of switching offers



Panel B: Distributions of extra wage demanded for spending 10 minutes on extra tasks



Notes. In *Panel A*, the average take-up rates of switching offers in the supplementary experiment are plotted against the amount of time required on extra tasks. The plotted average take-up rates are calculated separately by task category, and also by size of extra wage offer as indicated by the two separate lines in each graph. In *Panel B*, the minimum extra wage offer at which workers agree to spend 10 minutes on extra tasks are plotted, separately by task category. The bars at 3000 include the cases in which workers switch for Rs. 3000 (0.9% and 1.2% of the offers respectively), as well as the cases in which workers refuse all offers.

Table 1: Caste ranking and associations with tasks

Caste	Rank score	Identity tasks (Caste-associated tasks)	Share associating task w. caste	Paired control tasks	Share associating task w. any SC
(1)	(2)	(3)	(4)	(5)	(6)
Kaibarta	1.48	-	-	-	-
Sundhi	2.07	-	-	-	-
Dhoba	3.71	Washing clothes	0.72	Washing farming tools	0
Kela	4.14	-	-	-	-
Mochi	4.59	Mending leather shoes	0.97	Mending grass mats	0.15
Pana	5.19	-	-	-	-
Hadi	6.60	Sweeping latrines	0.84	Sweeping animal sheds	0

Notes. This table summarizes the survey results on caste ranking and the associations between castes and simple tasks. The caste names in Column (1) are sorted according to the mean rank scores of the castes, which are reported in Column (2). In Column (3), the "identity" tasks that have specific caste associations are listed in the same rows as the caste names, e.g. Dhoba is associated with washing clothes. Column (4) reports the share of the survey participants who report such connections. Column (5) lists the "paired control" tasks that involve similar skills as those Column (3) in the same rows. No participant reported connections between the paired control tasks with the specific castes in the same rows, so Column (6) shows instead the share of participants who report association between the paired control tasks with any Scheduled Caste (SC). Using this table, the relative status of the tasks are determined. Given any caste group, the tasks that are in the same rows are called "same-ranked tasks", whereas those that appear in the other rows are called "different tasks". In particular, those that appear in the higher (lower) rows than the caste group are considered "higher (lower) tasks". All pure control tasks are categorized as higher tasks.

Table 2: Experiences with tasks

Dependent var. =	Ever performed			Performed without wage			Performed for wage		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Different task	-0.255***	-0.070	-0.073	-0.279***	-0.084	-0.087	-0.017	-0.020	-0.020
	(0.096)	(0.099)	(0.097)	(0.097)	(0.101)	(0.103)	(0.074)	(0.079)	(0.079)
Different × Identity	-0.044	-0.225*	-0.222*	0.118	-0.052	-0.049	-0.283**	-0.277**	-0.276**
	(0.120)	(0.116)	(0.120)	(0.142)	(0.141)	(0.140)	(0.127)	(0.130)	(0.127)
Lower task	-0.026	0.008	0.009	-0.012	0.006	0.009	-0.068**	-0.012	-0.012
	(0.064)	(0.058)	(0.058)	(0.065)	(0.060)	(0.061)	(0.032)	(0.034)	(0.034)
Lower × Identity	-0.107	0.050	0.050	-0.114	0.050	0.048	0.068**	0.036	0.036
	(0.090)	(0.063)	(0.063)	(0.090)	(0.065)	(0.065)	(0.032)	(0.035)	(0.036)
Identity task	0.100			-0.050			0.200		
	(0.094)			(0.120)			(0.123)		
Pure control tasks	-0.150**			-0.144**			-0.061*		
	(0.059)			(0.060)			(0.031)		
Mean: same-ranked									
control tasks	0.850	0.850	0.850	0.850	0.850	0.850	0.100	0.100	0.100
identity tasks	0.950	0.950	0.950	0.800	0.800	0.800	0.300	0.300	0.300
Task FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Caste FE	No	Yes	No	No	Yes	No	No	Yes	No
Worker FE	No	No	Yes	No	No	Yes	No	No	Yes
R-squared	0.042	0.399	0.506	0.035	0.387	0.492	0.080	0.115	0.189
Observations	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004

Notes. During the Task Survey, participants described to what extent they have performed the tasks that are categorized in Table 1. Each regression reports a difference-in-differences style estimate of how workers' prior experience varies with task category (identity vs. paired control) and relative task status (e.g. different, lower). The omitted category includes the same-ranked tasks, and the dependent variable means for the same-ranked tasks are reported in the table footer. Some specifications additionally control for task and caste(/worker) fixed effects, as indicated in the table footer. Standard errors are clustered at the $worker \times task$ level and shown in parentheses.
* $p < .1$, ** $p < .05$, *** $p < .01$

Table 3: Predicted identity violations and job take-up

Dependent var. = Willingness to take up job offer						
	(1)	(2)	(3)	(4)	(5)	(6)
Different task	0.059*	-0.053	-0.053**	0.054	-0.058	-0.053
	(0.031)	(0.033)	(0.025)	(0.044)	(0.045)	(0.034)
Different × Identity	-0.251***	-0.233***	-0.233***	-0.242***	-0.223***	-0.223***
	(0.046)	(0.046)	(0.037)	(0.064)	(0.065)	(0.051)
Lower task	-0.124***	0.065**	0.065***	-0.094***	0.096***	0.086***
	(0.022)	(0.028)	(0.022)	(0.029)	(0.034)	(0.028)
Lower × Identity	-0.205***	-0.238***	-0.238***	-0.221***	-0.253***	-0.253***
	(0.033)	(0.035)	(0.026)	(0.045)	(0.046)	(0.035)
Identity task	0.000			-0.012		
	(0.038)			(0.053)		
Public × Different				0.010	0.010	0.000
				(0.062)	(0.060)	(0.048)
Public × Different × Identity				-0.018	-0.019	-0.019
				(0.091)	(0.091)	(0.072)
Public × Lower				-0.059	-0.060	-0.040
				(0.041)	(0.041)	(0.035)
Public × Lower × Identity				0.032	0.030	0.030
				(0.062)	(0.061)	(0.046)
Public × Identity				0.023	0.026	0.026
				(0.075)	(0.075)	(0.061)
Mean: same-ranked						
control tasks	0.717	0.717	0.717	0.717	0.717	0.717
identity tasks	0.722	0.722	0.722	0.722	0.722	0.722
Time controls	Yes	Yes	Yes	Yes	Yes	Yes
Task FE	No	Yes	Yes	No	Yes	Yes
Caste FE	No	Yes	No	No	Yes	No
Worker FE	No	No	Yes	No	No	Yes
R-squared	0.200	0.223	0.498	0.202	0.225	0.498
Observations	20,160	20,160	20,160	20,160	20,160	20,160

Notes. Each regression reports a difference-in-differences style estimate of how worker willingness to take up job offers varies with task category and relative task status, similarly to those in Table 2. *Public* indicates that worker is in the public condition. The coefficients on *Pure control*, *Public*, and their interaction variable are not displayed. All regressions control for task-specific linear time trends. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 4: Heterogeneity by caste sensitivity and age

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)	(4)
Different task	-0.034	-0.024	-0.061	-0.064**
	(0.043)	(0.033)	(0.043)	(0.033)
Different × Identity	-0.251***	-0.251***	-0.213***	-0.213***
	(0.055)	(0.043)	(0.053)	(0.041)
Lower task	0.070*	0.056*	0.022	0.038
	(0.038)	(0.030)	(0.038)	(0.030)
Lower × Identity	-0.173***	-0.173***	-0.167***	-0.167***
	(0.051)	(0.037)	(0.049)	(0.036)
Caste sensitive × Different	-0.017	-0.039		
	(0.050)	(0.044)		
Caste sensitive × Different × Identity	0.038	0.038		
	(0.053)	(0.039)		
Caste sensitve × Lower	-0.025	0.004		
	(0.043)	(0.038)		
Canste sensitive × Lower × Identity	-0.138**	-0.138***		
	(0.065)	(0.049)		
Caste sensitive	0.078**			
	(0.039)			
Older × Different			0.058	0.073
			(0.051)	(0.045)
Older × Different × Identity			-0.065	-0.065
			(0.054)	(0.041)
Older × Lower			0.046	0.008
			(0.042)	(0.038)
Older × Lower × Identity			-0.103	-0.103**
			(0.066)	(0.050)
Older			0.051	
			(0.040)	
Time Controls	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes
Caste FE	Yes	No	Yes	No
Worker FE	No	Yes	No	Yes
R-squared	0.230	0.502	0.234	0.504
Observations	17,632	17,632	17,632	17,632

Notes. This table reports results on heterogeneity by caste sensitivity and age. The follow-up survey contained seven vignette questions on caste norms, listed in Appendix Section B.5. *Caste sensitive* indicates that worker expressed stronger support for abiding by caste norms, i.e. his sensitivity PCA score is greater than the median. *Older* indicates that worker age is greater than the median. The specifications are similar to those in Columns (5)-(6) in Table 3. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 5: Effects not explained by education or wealth

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)	(4)	(5)
Different task	-0.041	-0.041	-0.038	-0.040	-0.038
	(0.026)	(0.027)	(0.027)	(0.027)	(0.027)
Different × Identity	-0.233***	-0.233***	-0.240***	-0.234***	-0.240***
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Lower task	0.062***	0.064***	0.058**	0.060**	0.060**
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Lower × Identity	-0.245***	-0.247***	-0.238***	-0.244***	-0.238***
	(0.028)	(0.028)	(0.029)	(0.029)	(0.029)
Task FE interactions	High edu.	Years of edu.	High wealth	Wealth PCA score	High edu. and high wealth
Time Controls	Yes	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes	Yes
Caste FE	No	No	No	No	No
Worker FE	Yes	Yes	Yes	Yes	Yes
R-squared	0.502	0.503	0.501	0.501	0.503
Observations	17,600	17,600	17,632	17,632	17,600

Notes. This table examines whether the job take-up results are robust to controlling for worker differences in education and wealth. Each specification is similar to that in Column (3) of Table 3, but additionally controls for the interaction variables between task-specific dummies and variables describing worker characteristics. *High age* and *High wealth* indicate worker age and wealth PCA score are greater than their respective medians. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 6: Predicted identity violations and extra wage demand

Dependent var. =	Demand more than Rs. 30 (10% daily wage)				Demand more than Rs. 3000 (10 times daily wage)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Identity	0.322***	0.322***	0.302***	0.302***	0.291***	0.291***	0.272***	0.272***
	(0.037)	(0.028)	(0.049)	(0.034)	(0.032)	(0.024)	(0.040)	(0.029)
Public × Identity			0.041	0.041			0.039	0.039
			(0.063)	(0.038)			(0.061)	(0.041)
Public			0.067				0.145***	
			(0.041)				(0.032)	
Mean: control tasks	0.468	0.468	0.468	0.468	0.170	0.170	0.170	0.170
Time controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Caste FE	Yes	No	Yes	No	Yes	No	Yes	No
Worker FE	No	Yes	No	Yes	No	Yes	No	Yes
R-squared	0.106	0.592	0.114	0.592	0.159	0.600	0.191	0.601
Observations	2,226	2,226	2,226	2,226	2,226	2,226	2,226	2,226

Notes. This table shows how the minimum extra wage worker demands for spending time on the extra tasks differ across identity and control tasks. The dependent variable in Columns (1) and (2) indicates that the minimum wage worker demands is greater than Rs. 30, whereas that in Columns (3) and (4) indicates that the demanded wage is greater than the maximum offer of Rs. 3000, i.e. workers turns down all offers. Columns (3), (4), (7) and (8) examine whether the results differ by the privacy condition. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

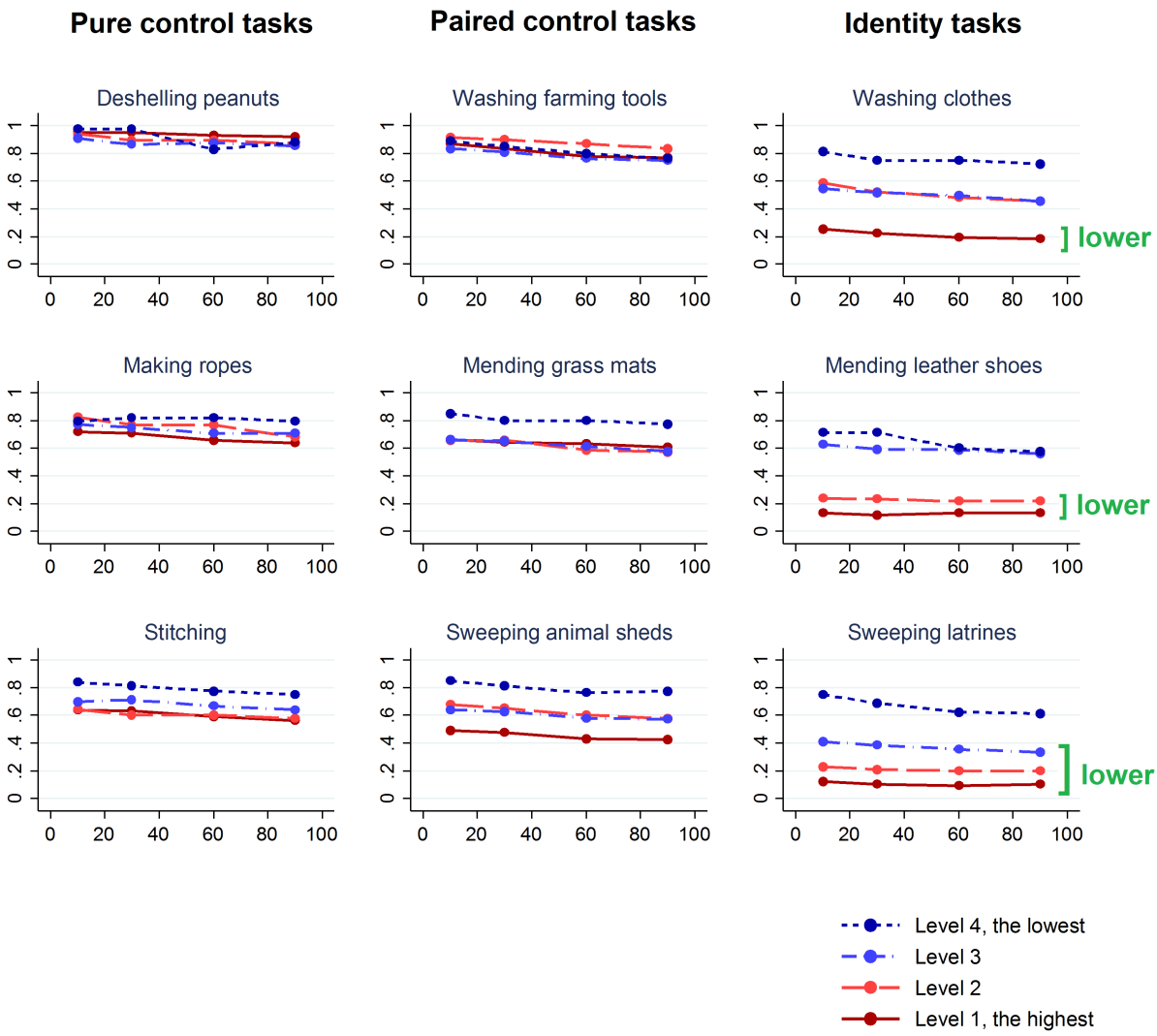
Appendix

A Appendix figures and tables

Figure A1: Descriptive pictures of tasks

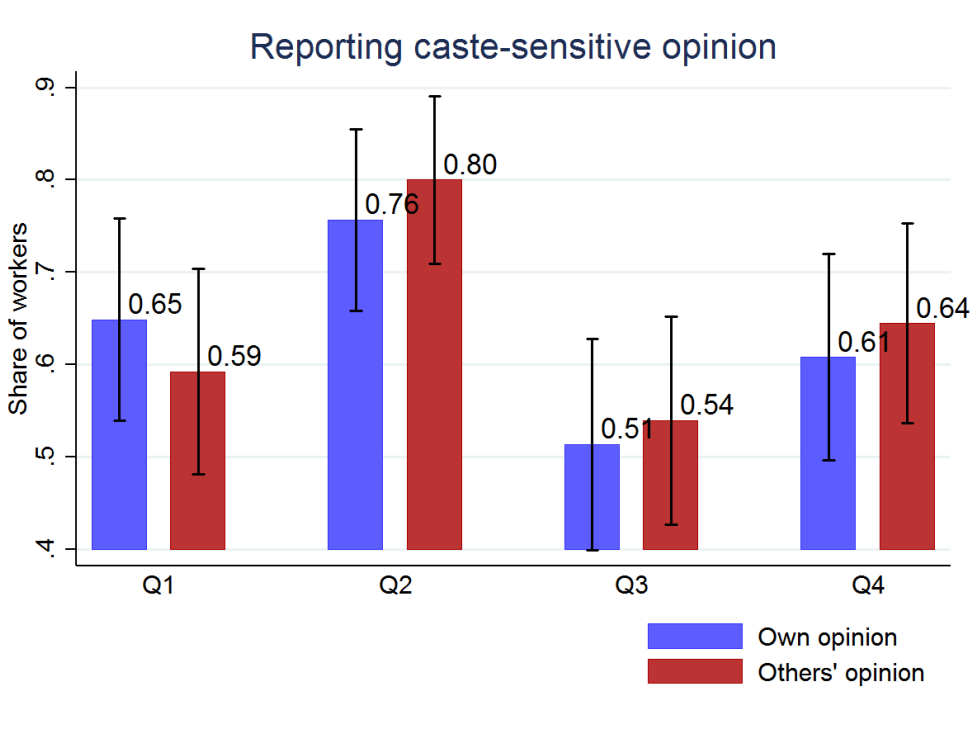
Notes. During the job take-up exercise, workers were provided descriptive pictures of the extra tasks, such as these in this figure. The examples here depict washing clothes, sweeping animal sheds, mending grass mats, and mending leather shoes.

Figure A2: Take-up rates by task type



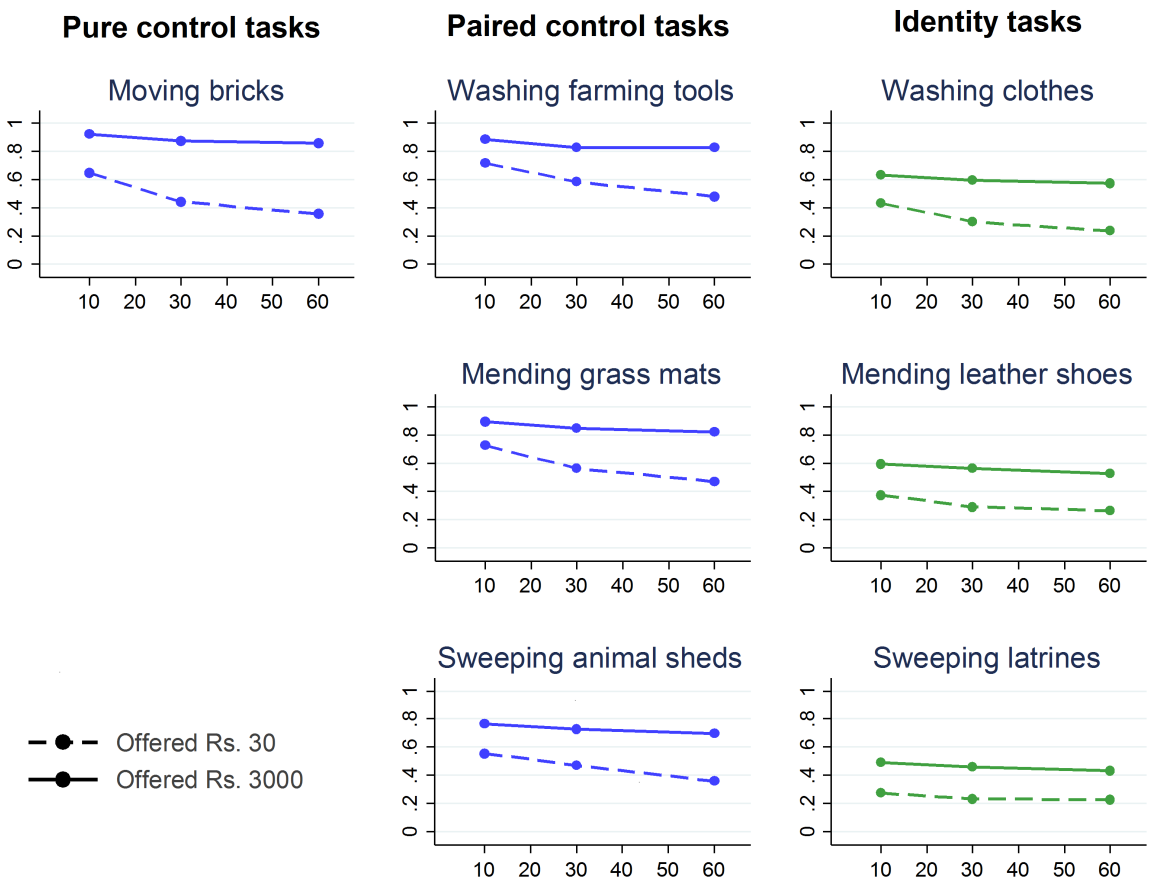
Notes. The average take-up rates of job offers are plotted against the amount of time required on the extra tasks. The plotted average take-up rates are calculated separately for each extra task type and shown in separate graphs. The lines of the same color and pattern in all the graphs refer to the same caste groups. Level 1 refer to Kaibarta and Sundhi, for whom all identity tasks are considered lower tasks. Level 2 refer to Dhoba and Kela, for whom two of the identity tasks are lower. Likewise, Level 3 refer to Mochi and Kela, and Level 4 Hadi. In Column 3, the group for which the identity tasks are considered lower tasks are marked with green brackets.

Figure A3: Caste-sensitive opinions of oneself vs. others



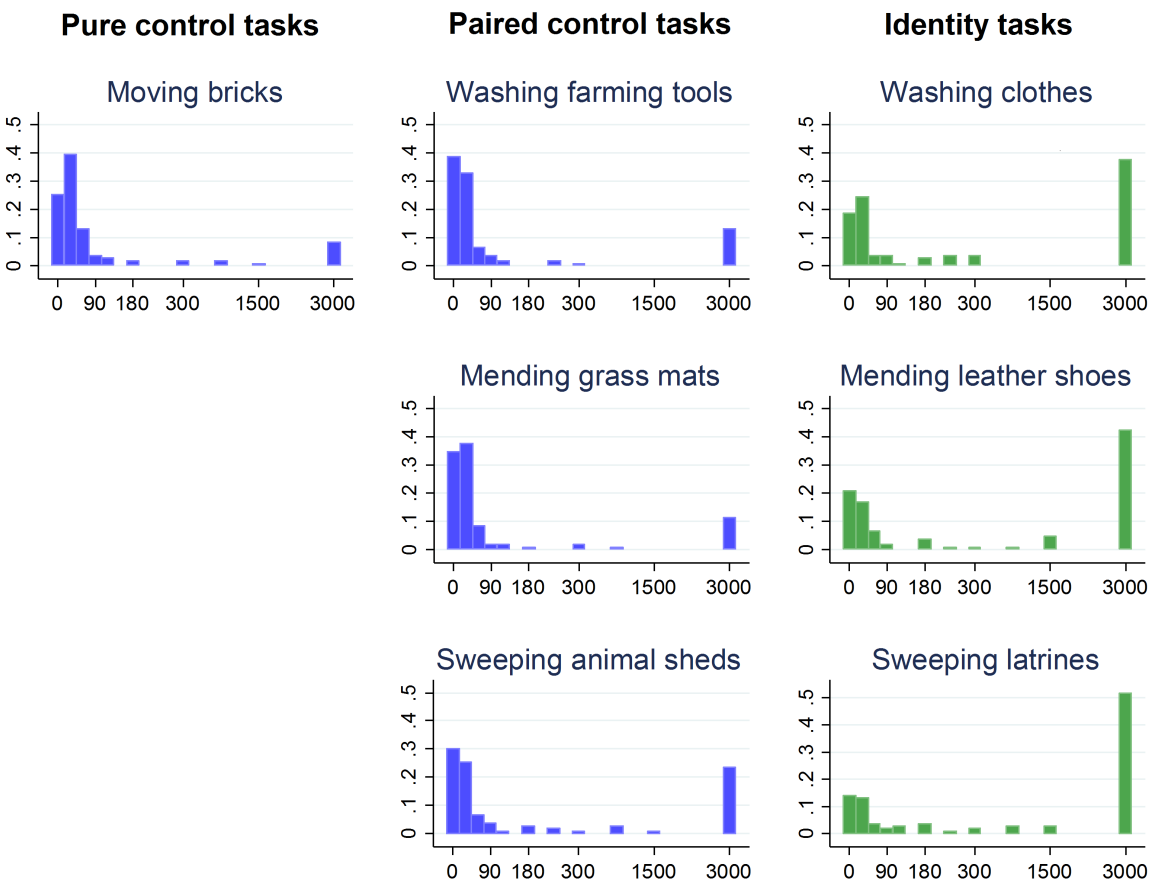
Notes. This figure plots the share of Task Survey participants who express caste-sensitive opinions, either of their own or of their friends and neighbors. There were four vignette questions describing characters violating various caste norms, listed as Q1-Q4 in Appendix Section B.5. Randomly selected half of the participants were asked in their personal view whether they approve of the characters' actions. The rest were asked whether their friends and neighbors would approve of such actions. The graph plots the share of participants who express opinions in favor of abiding by caste norms with 95% confidence intervals.

Figure A4: Extra wage offer take-up rates by task type



Notes. As in Panel A of Figure 3, the average take-up rates of switching offers are plotted against the amount of time required on the extra tasks, separately for each extra task type.

Figure A5: Distributions of extra wage demand by task type



Notes. As in *Panel B* of Figure 3, the minimum extra wage at which workers take up offers that involve spending 10 minutes on extra tasks are plotted as histograms, separately for each extra task type.

Table A1: Task associations and experiences

	Caste association		Gender association			Previously performed			
	Any caste (1)	Any SC (2)	Men (3)	Women (4)	Both (5)	Ever (6)	In own hh (7)	Outside of hh (8)	For wage (9)
Washing clothes	0.74	0.73	0.01	0.19	0.79	0.98	0.97	0.00	0.02
Washing farming tools	0.04	0.00	0.70	0.01	0.27	0.89	0.84	0.01	0.11
Mending leather shoes	0.99	0.99	0.86	0.00	0.13	0.19	0.17	0.00	0.00
Mending grass mats	0.28	0.15	0.32	0.05	0.39	0.10	0.10	0.01	0.01
Sweeping latrines	0.85	0.85	0.51	0.08	0.38	0.51	0.51	0.01	0.02
Sweeping animal sheds	0.04	0.00	0.10	0.17	0.73	0.81	0.80	0.01	0.01
Making paper bags	0.09	0.01	0.05	0.15	0.65	0.13	0.10	0.00	0.00
Deshelling peanuts	0.03	0.01	0.05	0.15	0.66	0.74	0.71	0.01	0.05
Making ropes	0.07	0.03	0.67	0.01	0.27	0.33	0.31	0.01	0.01
Stitching	0.05	0.01	0.06	0.08	0.85	0.58	0.58	0.00	0.01
Making leaf mats	0.83	0.75	0.04	0.45	0.45	0.03	0.02	0.00	0.00
Making leaf brooms	0.73	0.67	0.15	0.12	0.69	0.15	0.15	0.00	0.02
Making bamboo mats	0.71	0.67	0.47	0.04	0.47	0.45	0.42	0.01	0.07
Making stick brooms	0.43	0.40	0.13	0.12	0.69	0.41	0.40	0.01	0.01
Making incense sticks	0.03	0.01	0.03	0.41	0.51	0.09	0.03	0.01	0.06
Making candle wicks	0.13	0.00	0.01	0.52	0.37	0.51	0.49	0.03	0.01

Notes. This table summarizes the results from the Task Survey, which pertain to the caste and gender associations of the tasks listed in the row headings and the participants' prior experiences with those tasks. Columns (1)-(5) report the shares of participants who associate the tasks with the groups named in the column headings. Columns (6)-(9) report the shares who have prior experiences with the tasks as described in the column headings. Participants may be counted in the shares in Columns (7)-(9) multiple times. The bottom panel shows the results for the additional tasks that were chosen not to be part of the experiment due to having strong associations with women or other caste groups.

Table A2: Using registered (different) caste ranking

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)
Different task	0.047	-0.013	-0.013
	(0.030)	(0.032)	(0.024)
Different × Identity	-0.339***	-0.330***	-0.330***
	(0.044)	(0.044)	(0.035)
Lower task	-0.141***	0.018	0.018
	(0.022)	(0.029)	(0.022)
Lower × Identity	-0.097***	-0.120***	-0.120***
	(0.031)	(0.033)	(0.025)
Identity task	-0.001		
	(0.038)		
Mean: same-ranked control tasks	0.717	0.717	0.717
Mean: same-ranked identity tasks	0.722	0.722	0.722
Time controls	Yes	Yes	Yes
Task FE	No	Yes	Yes
Caste FE	No	Yes	No
Worker FE	No	No	Yes
R-squared	0.191	0.218	0.493
Observations	20,160	20,160	20,160

Notes. This table is similar to Table 3, but the covariates regarding caste relative status are defined according to the ranking pre-registered on the RCT registry. Compared to the ranking based on the Task Survey, the originally registered ranking—which was based on field interviews—differently categorizes one identity task for the Kaibarta caste and two identity tasks for the Kela caste in terms of *Lower task*. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A3: Alternate definitions of caste sensitivity

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)	(4)
Different task	-0.027	-0.019	0.001	-0.011
	(0.035)	(0.031)	(0.053)	(0.044)
Different × Identity	-0.240***	-0.263***	-0.283***	-0.277***
	(0.044)	(0.041)	(0.057)	(0.050)
Lower task	0.065**	0.036	0.058	0.064
	(0.032)	(0.029)	(0.048)	(0.040)
Lower × Identity	-0.184***	-0.168***	-0.081	-0.131**
	(0.040)	(0.035)	(0.061)	(0.051)
Caste sensitive × Different	-0.029	-0.060	-0.012	-0.027
	(0.044)	(0.045)	(0.012)	(0.030)
Caste sensitive × Different × Identity	0.013	0.080**	0.013	0.037
	(0.039)	(0.040)	(0.011)	(0.028)
Caste sensitve × Lower	-0.014	0.057	0.000	-0.003
	(0.038)	(0.038)	(0.011)	(0.026)
Canste sensitive × Lower × Identity	-0.097**	-0.183***	-0.041***	-0.090***
	(0.049)	(0.050)	(0.014)	(0.034)
Alternate definition	4 or more sensitive views	5 or more sensitive views	Number of sensitive views	Sensitivity pca score
Time Controls	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes
Caste FE	No	No	No	No
Worker FE	Yes	Yes	Yes	Yes
R-squared	0.502	0.502	0.502	0.502
Observations	17,632	17,632	17,632	17,632

Notes. This table shows heterogeneity results using by caste sensitivity, using alternate definitions for *Caste sensitive*. The follow-up survey contained seven vignette questions describing characters violating various caste norms (listed in Appendix Section B.5). The table footer describes how *Caste sensitive* is defined using these questions. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A4: Heterogeneity by education and wealth

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)	(4)
Different task	-0.055*	-0.051	-0.026	-0.043
	(0.032)	(0.040)	(0.032)	(0.027)
Different × Identity	-0.216***	-0.213***	-0.214***	-0.233***
	(0.041)	(0.046)	(0.042)	(0.039)
Lower task	0.079***	0.078**	0.060**	0.063***
	(0.028)	(0.034)	(0.029)	(0.024)
Lower × Identity	-0.301***	-0.348***	-0.250***	-0.245***
	(0.035)	(0.044)	(0.037)	(0.029)
High SES × Different	0.031	0.001	-0.032	-0.017
	(0.045)	(0.006)	(0.045)	(0.015)
High SES × Different × Identity	-0.035	-0.004	-0.048	-0.006
	(0.040)	(0.006)	(0.040)	(0.013)
High SES × Lower	-0.033	-0.002	0.003	-0.000
	(0.039)	(0.005)	(0.039)	(0.012)
High SES × Lower × Identity	0.118**	0.019***	0.025	0.009
	(0.049)	(0.007)	(0.050)	(0.015)
High SES definition	High edu.	Years of edu.	High wealth	Wealth pca score
Time Controls	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes
Caste FE	No	No	No	No
Worker FE	Yes	Yes	Yes	Yes
R-squared	0.501	0.502	0.501	0.500
Observations	17,600	17,600	17,632	17,632

Notes. This table shows heterogeneity results by education and wealth. Each column is similar to Column (4) of Table 4, but uses a different definition of *High SES*, as defined in the table footer. *High education* and *High wealth* indicate that the worker's years of education and wealth PCA score are greater than their respective medians. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A5: Summary of worker characteristics

	Mean for Level 4	Diff. for Level 3	Diff. for Level 2	Diff. for Level 1
Age	37.440	-0.641	3.163	5.013
	(1.078)	(1.268)	(1.316)*	(1.258)***
Years of education	4.707	0.268	-0.508	1.481
	(0.402)	(0.475)	(0.500)	(0.476)**
Family size	5.053	0.337	0.049	-0.171
	(0.195)	(0.242)	(0.263)	(0.234)
Share of working members	0.373	-0.102	0.002	-0.033
	(0.021)	(0.025)***	(0.026)	(0.025)
Mud house	0.387	-0.123	-0.034	-0.169
	(0.056)	(0.066)	(0.068)	(0.065)**
Owns land	0.373	-0.002	0.031	0.335
	(0.056)	(0.068)	(0.069)	(0.067)***
Land size in acres (if owns land)	0.977	-0.228	-0.294	0.025
	(0.257)	(0.288)	(0.282)	(0.273)
Last month income in Rs.	5350	1794	-29	856
	(287)	(495)***	(402)	(446)
Paid work days last week	2.813	-0.719	0.046	-0.559
	(0.259)	(0.304)*	(0.301)	(0.307)
Number of assets owned	3.307	0.096	-0.287	0.861
	(0.184)	(0.220)	(0.223)	(0.212)***
Wealth PCA score	-0.478	0.409	-0.130	1.359
	(0.167)	(0.207)*	(0.215)	(0.202)***
Number of caste sensitive views	3.760	-0.181	-0.010	0.656
	(0.207)	(0.249)	(0.251)	(0.247)**
Caste sensitivity PCA score	1.214	-0.088	-0.054	0.210
	(0.085)	(0.101)	(0.102)	(0.101)*

Notes. This table summarizes the worker-level variables related to demographics, wealth, and caste sensitivity using the follow-up survey data. Each row reports the coefficients from regressing the row heading variable on the caste level indicators, which are defined in the notes for Appendix Figure A2. Robust standard errors are shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A6: Completion rates of actually selected offers

Dependent var. =	Accepted job		Completed job		Completed survey	
	(1)	(2)	(3)	(4)	(5)	(6)
Different task	-0.015	-0.076	0.145	0.076	0.012	0.023
	(0.121)	(0.127)	(0.130)	(0.138)	(0.080)	(0.088)
Different × Identity	-0.267*	-0.284*	-0.493***	-0.491***	-0.028	-0.026
	(0.152)	(0.152)	(0.166)	(0.168)	(0.098)	(0.100)
Lower task	-0.064	0.086	-0.005	0.132	-0.042	-0.011
	(0.075)	(0.093)	(0.087)	(0.104)	(0.049)	(0.063)
Lower × Identity	-0.251**	-0.270**	-0.234**	-0.247**	-0.071	-0.070
	(0.107)	(0.105)	(0.114)	(0.115)	(0.071)	(0.070)
Mean: same-ranked cont. tasks	0.737	0.737	0.316	0.316	0.895	0.895
Mean: same-ranked iden. tasks	0.857	0.857	0.750	0.750	0.964	0.964
Time controls	No	No	No	No	No	No
Task FE	Yes	Yes	Yes	Yes	Yes	Yes
Caste FE	No	Yes	No	Yes	No	Yes
Worker FE	No	No	No	No	No	No
R-squared	0.174	0.213	0.110	0.126	0.033	0.072
Observations	629	629	629	629	629	629

Notes. This table shows the job take-up and completion results only using the offers that were randomly selected at the end of the choice exercise, i.e. using one randomly selected offer per worker. The dependent variables indicate whether worker chose to take up the offer, completed the job, or completed survey. Time controls are not included since time requirements were not determined for some workers; after extra task type was randomly selected, it was obvious that some workers refused all offers involving that task so they did not continue with randomization. One observation is missing for a worker who had to leave the exercise without getting an offer. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A7: Comparing two caste groups in the supplementary experiment

Dependent var. = Demand more than Rs. 3000 (10 times daily wage)				
	(1)	(2)	(3)	(4)
Lower task	-0.020	-0.020	-0.159**	-0.091
	(0.065)	(0.047)	(0.060)	(0.050)
Lower × Identity	0.062	0.062	0.056	0.056
	(0.079)	(0.050)	(0.081)	(0.056)
Public × Lower			0.285***	0.146**
			(0.054)	(0.052)
Public × Lower × Identity			0.012	0.012
			(0.083)	(0.055)
Kaibarta caste (higher ranked)	0.188***		0.185***	
	(0.045)		(0.044)	
Mean: higher cont. tasks	0.090	0.090	0.090	0.090
Mean: higher iden. tasks	0.310	0.310	0.310	0.310
Time controls	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes
Caste FE	Yes	No	Yes	No
Worker FE	No	Yes	No	Yes
R-squared	0.164	0.606	0.221	0.610
Observations	2,226	2,226	2,226	2,226

Notes. This table shows difference-in-differences style estimates of how task association and relative task status are linked to worker refusal to take up all switching offers (even those providing Rs. 3000 in extra wage). Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A8: Consistency of caste rank scores

Dependent var. = Reported rank						
		Question type			District	
	(1)	(2)	(3)	(4)	(5)	(6)
Sundhi	0.576***	0.518***	0.718***	0.491**	0.129	0.995***
	(0.104)	(0.167)	(0.182)	(0.196)	(0.137)	(0.147)
Dhoba	2.234***	2.157***	2.309***	2.241***	1.970***	2.477***
	(0.101)	(0.199)	(0.174)	(0.150)	(0.114)	(0.159)
Kela	2.624***	2.573***	2.678***	2.620***	2.240***	2.983***
	(0.110)	(0.176)	(0.183)	(0.218)	(0.152)	(0.153)
Mochi	3.080***	2.983***	3.199***	3.056***	3.218***	2.967***
	(0.107)	(0.191)	(0.181)	(0.187)	(0.169)	(0.132)
Pana	3.707***	3.714***	3.760***	3.647***	3.810***	3.612***
	(0.093)	(0.160)	(0.166)	(0.164)	(0.133)	(0.132)
Hadi	5.123***	5.047***	5.322***	5.000***	4.950***	5.282***
	(0.087)	(0.157)	(0.122)	(0.174)	(0.123)	(0.122)
Own caste	-0.757***	-0.730***	-0.946***	-0.602***	-0.822***	-0.689***
	(0.112)	(0.187)	(0.211)	(0.181)	(0.176)	(0.151)
Constant	1.556***	1.602***	1.503***	1.562***	1.709***	1.410***
	(0.052)	(0.088)	(0.088)	(0.097)	(0.079)	(0.065)
Sample	All	General	Food-based	Water-based	Nayagarh	Dhenkanal
R-squared	0.674	0.663	0.697	0.664	0.735	0.639
Observations	1,463	490	497	476	700	763

Notes. This table shows the caste ranking results from the Caste Survey. Each observation is a rank score that a participant assigned to a caste. The rank score is regressed on the indicator for each caste group as well as the indicator for whether the ranked caste is the same as the participant's caste. Columns (2)-(4) show the results by the survey question type and Columns (5)-(6) show the results by district.

Table A9: Robustness: dropping any one caste

Dependent var. = Willingness to take up job offer							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Different task	-0.046*	-0.041	-0.011	-0.067**	-0.111***	-0.061**	-0.016
	(0.026)	(0.026)	(0.033)	(0.027)	(0.027)	(0.027)	(0.031)
Different × Identity	-0.232***	-0.249***	-0.346***	-0.198***	-0.042	-0.183***	-0.412***
	(0.037)	(0.037)	(0.050)	(0.038)	(0.039)	(0.039)	(0.044)
Lower task	0.055**	0.047*	0.069***	0.076***	0.055**	0.067***	0.086***
	(0.026)	(0.024)	(0.023)	(0.024)	(0.022)	(0.026)	(0.024)
Lower × Identity	-0.234***	-0.194***	-0.220***	-0.266***	-0.239***	-0.306***	-0.224***
	(0.030)	(0.029)	(0.027)	(0.027)	(0.027)	(0.031)	(0.030)
Mean: same-ranked							
control tasks	0.717	0.717	0.629	0.717	0.826	0.717	0.674
identity tasks	0.722	0.722	0.798	0.722	0.637	0.722	0.750
Dropped caste	Kaibarta	Sundhi	Dhoba	Kela	Mochi	Pana	Hadi
Time controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Caste FE	No	No	No	No	No	No	No
Worker FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.488	0.490	0.497	0.499	0.508	0.508	0.502
Observations	16,576	17,536	17,120	17,568	18,240	16,320	17,600

Notes. The table shows that the main findings are robust to dropping any one caste. The table footer indicates which caste groups is excluded in each regression. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A10: Robustness: using alternate time trends

Dependent var. = Willingness to take up job offer	(1)	(2)	(3)	(4)	(5)	(6)
Different task	-0.068*	-0.068**	-0.083**	-0.083**	-0.072**	-0.072**
	(0.035)	(0.030)	(0.037)	(0.034)	(0.035)	(0.029)
Different × Identity	-0.231***	-0.231***	-0.230***	-0.230***	-0.233***	-0.233***
	(0.049)	(0.042)	(0.051)	(0.048)	(0.048)	(0.041)
Lower task	0.083***	0.083***	0.096***	0.096***	0.071**	0.071***
	(0.030)	(0.026)	(0.032)	(0.029)	(0.029)	(0.023)
Lower × Identity	-0.278***	-0.278***	-0.285***	-0.285***	-0.276***	-0.276***
	(0.037)	(0.030)	(0.040)	(0.034)	(0.036)	(0.028)
Time (in hours)					-0.079***	-0.079***
					(0.016)	(0.016)
Time × Identity					-0.013	-0.013
					(0.024)	(0.024)
Time × Different					0.024	0.024
					(0.017)	(0.017)
Time × Different × Identity					0.000	0.000
					(0.027)	(0.027)
Time × Lower					-0.007	-0.007
					(0.009)	(0.010)
Time × Lower × Identity					0.048***	0.048***
					(0.015)	(0.015)
Task-caste specific time control type	Linear	Linear	Quadratic	Quadratic	None	None
Task FE	Yes	Yes	Yes	Yes	Yes	Yes
Caste FE	Yes	No	Yes	No	Yes	No
Worker FE	No	Yes	No	Yes	No	Yes
R-squared	0.242	0.517	0.247	0.522	0.223	0.498
Observations	20,160	20,160	20,160	20,160	20,160	20,160

Notes. The table shows the main findings are robust to using alternate time controls. The specifications in Columns (1)-(4) are similar to those in Columns (2)-(3) in Table 3, but control for task-caste specific time trends as described in the table footer. Columns (5)-(6) show how the linear time trends vary with task category and relative status. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A11: Robustness: clustering errors at the worker level

Dependent var. = Willingness to take up job offer						
	(1)	(2)	(3)	(4)	(5)	(6)
Different task	0.059**	-0.053**	-0.053**	0.054	-0.058	-0.053
	(0.028)	(0.026)	(0.026)	(0.039)	(0.037)	(0.035)
Different × Identity	-0.251***	-0.233***	-0.233***	-0.242***	-0.223***	-0.223***
	(0.043)	(0.043)	(0.044)	(0.058)	(0.058)	(0.059)
Lower task	-0.124***	0.065***	0.065***	-0.094***	0.096***	0.086***
	(0.026)	(0.022)	(0.022)	(0.032)	(0.030)	(0.027)
Lower × Identity	-0.205***	-0.238***	-0.238***	-0.221***	-0.253***	-0.253***
	(0.029)	(0.031)	(0.032)	(0.038)	(0.040)	(0.041)
Identity task	0.000			-0.012		
	(0.035)			(0.048)		
Public × Different				0.010	0.010	0.000
				(0.054)	(0.054)	(0.050)
Public × Different × Identity				-0.018	-0.019	-0.019
				(0.085)	(0.084)	(0.086)
Public × Lower				-0.059	-0.060	-0.040
				(0.044)	(0.044)	(0.036)
Public × Lower × Identity				0.032	0.030	0.030
				(0.052)	(0.052)	(0.053)
Public × Identity				0.023	0.026	0.026
				(0.070)	(0.070)	(0.071)
Mean: same-ranked						
control tasks	0.717	0.717	0.717	0.717	0.717	0.717
identity tasks	0.722	0.722	0.722	0.722	0.722	0.722
Time controls	Yes	Yes	Yes	Yes	Yes	Yes
Task FE	No	Yes	Yes	No	Yes	Yes
Caste FE	No	Yes	No	No	Yes	No
Worker FE	No	No	Yes	No	No	Yes
R-squared	0.200	0.223	0.498	0.202	0.225	0.498
Observations	20,160	20,160	20,160	20,160	20,160	20,160

Notes. This table replicates Table 3 using an alternate clustering method. Standard errors are clustered at the $worker$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A12: Robustness: other specification changes

Dependent var. = Willingness to take up job offer				
	(1)	(2)	(3)	(4)
Different task	-0.057**	-0.052**	-0.053**	-0.052**
	(0.025)	(0.025)	(0.025)	(0.026)
Different × Identity	-0.221***	-0.235***	-0.233***	-0.241***
	(0.037)	(0.037)	(0.037)	(0.038)
Lower task	0.065***	0.065***	0.065***	0.065***
	(0.022)	(0.022)	(0.022)	(0.023)
Lower × Identity	-0.235***	-0.237***	-0.238***	-0.236***
	(0.026)	(0.026)	(0.026)	(0.027)
Specification change	Surveyor controls	Task and time order controls	Choice set controls	Drop inconsistent choices
Time controls	Yes	Yes	Yes	Yes
Task FE	Yes	Yes	Yes	Yes
Caste FE	No	No	No	No
Worker FE	Yes	Yes	Yes	Yes
R-squared	0.503	0.500	0.499	0.524
Observations	20,160	20,160	20,160	19,364

Notes. The regressions in this table include additional control variables or have different sample restrictions, as specified in the table footer. The experiment involves 12 surveyors, 4 orders in which tasks are discussed, 2 orders in which time requirements are discussed, and 2 potential choice sets (only one of 2 pure control tasks are randomly presented). Dummy variables representing these variations are interacted with the indicator for identity tasks. Columns (1)-(3) control for these additional control variables. The sample used in Column (4) excludes the cases where worker decisions involve choice inconsistency regarding offers involving specific tasks. Standard errors are clustered at the $worker \times task$ level and shown in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

B Additional exposition

B.1 Notes on the conceptual framework

Section 2.2 outlines how to test whether the identity parameters, β_k^d and β_k^l, are non-zero and how to quantify the changes in take-up rates that are associated with them. This section provides more details on this approach.

Suppose worker i evaluates two job offers like the one described in the framework, each against the worker's outside option. The first offer involves spending some time on extra task A, which is associated with social category A different from the worker's category c_i. The second offer involves spending some time on extra task B, which is not associated with any category. The worker will take up the first offer if the utility from the offer exceeds that of his outside option, O_i. Take-up is thus given by:

$$takeup_{iA}(t) = \begin{cases} 1, & \text{if } M_i(w) + L_i(1-T) \\ & \quad -[V_j(n_{ij}, T - t_A) + F_j(n_{ij}) + V_A(n_{iA}, t_A) + F_A(n_{iA})] > O_i \\ 0, & \text{otherwise} \end{cases} \tag{7}$$

The time-dependent utility cost of working on any task k, $V_k(n_{ik}, t_k)$, is assumed to be zero when the worker does not spend any time on that task. It is also assumed to be continuous in time as follows.

Assumption B.1. *The variable cost function $V_k(n_{ik}, t_k) : R \times [0, 1] \to R$ is continuous in t from the right at 0, from the left at 1, and from both sides for all $t \in (0, 1)$. Furthermore, $V_k(n_{ik}, 0) = \lim_{t_k \to 0^+} V_k(n_{ik}, t_k) = 0$.*

Then, being slightly informal, one can find $\bar{\epsilon} > 0$ such that $V_k(n_{ik}, \epsilon) \approx V_k(n_{ik}, 0) = 0$ and $V_j(n_{ij}, T - \epsilon) \approx V_j(n_{ij}, T)$ for all $\epsilon < \bar{\epsilon}$. That is, when a worker spends almost no time on task k, the time-varying utility cost of working on task k would be close to 0. In addition, the time-varying utility cost of working on the default task in this case would similar to that of spending the entire working time on it.

Substituting for t_A with ϵ in Equation 7 and rearranging:

$$takeup_{iA}(\epsilon) \approx \begin{cases} 1, & \text{if } M_i(w) + L_i(1-T) - O_i \\ & \quad -[V_j(n_{ij}, T) + F_j(n_{ij}) + F_A(n_{iA})] > 0 \\ 0, & \text{otherwise} \end{cases}$$

Suppose the worker also evaluates a job offer which involving spending the entire working time on the default task j. The take-up decision of this offer is given by:

$$takeup_i(0) = \begin{cases} 1, & \text{if } M_i(w) + L_i(1-T) - O_i \\ & \quad -[V_j(n_{ij}, T) + F_j(n_{ij})] > 0 \\ 0, & \text{otherwise} \end{cases}$$

Comparing $takeup_i(0)$ and $takeup_{iA}(\epsilon)$, one can see that the difference in the two take-up decisions would be almost entirely due to the fixed utility cost of working on task A, $F_A(n_{iA})$. Similarly, comparing $takeup_i(0)$ and $takeup_{iB}(\epsilon)$, one can observe any change in take-up that would be attributable to $F_B(n_{iB})$. Given that task A is associated with social category A different from c_i (and supposing that category A does not have a lower status than c_i), the fixed utility costs can be written as follows:

$$\begin{aligned} F_A(n_{iA}, c_i) &= f_A(n_{iA}) + \beta_A^d \\ F_B(n_{iB}, c_i) &= f_B(n_{iB}) \end{aligned} \tag{8}$$

If the two tasks were such that $f_A(n_{iA}) = f_B(n_{iB})$ for this worker, then any difference in the take-up decisions, $takeup_{iA}(\epsilon)$ and $takeup_{iB}(\epsilon)$, would be due to β_A^d, the fixed utility cost of engaging in tasks associated with social category A.

If this condition only held on average for a sample of workers belonging to c_i (of size N), the difference in take-up rates of the two offers would indicate the share of workers for whom β_A^d is positive. For simplicity, suppose all workers are willing to take up the offer that only involves working on the default task.[54] That is, the following holds

[54]This can be relaxed but it simplifies the notation and interpretation, and is consistent with the experimental design.

for all workers:

$$\theta_i \equiv M_i(w) + L_i(1-T) - O_i - [V_j(n_{ij}, T) + F_j(n_{ij})] > 0$$

where θ_i is defined as the set of terms common to determining $takeup_i(0)$ and $takeup_{iA}(\epsilon)$. The share of workers who declines the offer that involves spending ϵ on task A instead of the default task corresponds to the share for whom the following condition holds:

$$\underbrace{M_i(w) + L_i(1-T) - O_i - [V_j(n_{ij}, T) + F_j(n_{ij})]}_{=\theta_i} - F_A(n_{iA}) < 0$$

and similarly for task B.

Defining δ_k to be the decrease in take-up rate due to spending ϵ on task k instead of the default task, the changes in take-up rates can be written as:

$$\delta_A = \sum \mathbb{1}[f_A(n_{iA}) + \beta_A^d > \theta_i]/N$$
$$\delta_B = \sum \mathbb{1}[f_B(n_{iB}) > \theta_i]/N.$$

The distribution of θ_i is constant within any sample. Hence if the distributions of $f_A(n_{iA})$ and $f_B(n_{iB})$ were expected to be similar for this sample, then the difference between δ_A and δ_B would indicate a lower bound on the share for whom β_A^d is positive[55].

Assumption B.2. *(Fixed cost equivalence) Suppose the following holds for the workers in c_i:*

$$G(f_A(n_{iA})) = G(f_B(n_{iB}))$$

where G describes the distribution of the skill-based fixed utility costs of working on task A or B.

This assumption implies that the fixed utility cost that is unrelated to worker identity is on average the same across the two tasks. Under this assumption:

$$\mathbb{E}[\delta_B - \delta_A] = \mathbb{E}[\mathbb{1}[f_B(n_{iB}) > \theta_i]] - \mathbb{E}[\mathbb{1}[f_A(n_{iA}) + \beta_A^d] > \theta_i]]$$

[55]It indicates a lower bound because for some workers β_A^d may be too small affect the take-up decision

If the observed difference $\delta_B - \delta_A$ is negative, it would indicate the lower bound on the share for whom β_A^d is positive.[56]

When the above conditions do not hold, one could still examine how identity affects take-up under some appropriate assumptions. Suppose there are multiple groups of workers, one of which belongs to social category A, and the following holds:

Assumption B.3. *(Joint distribution equivalence)*
Suppose there are groups P and Q such that only those in Q belongs to social category A, and the following also holds:

$$G(f_A(n_{iA}), f_B(n_{iB}), \theta_i)_{\{i \in P\}} = G(f_A(n_{iA}), f_B(n_{iB}), \theta_i)_{\{i \in Q\}}$$

where G describes the joint distribution of the three variables.

Roughly this means that without concerns about identity, how costly it is to engage at all in task A compared to task B given individual skills and outside options is comparable across P and Q. Then comparing the differences in take-up rates across the two groups yields:

$$\begin{aligned}\mathbb{E}[(\delta_B - \delta_A)|\, P] - \mathbb{E}[(\delta_B - \delta_A)|\, Q] &= (\mathbb{E}[\mathbb{1}[f_B(n_{iB}) > \theta_i]|\, P] - \mathbb{E}[\mathbb{1}[f_A(n_{iA}) + \beta_A^d > \theta_i]|\, P]) \\ &\quad - (\mathbb{E}[\mathbb{1}[f_B(n_{iB}) > \theta_i]|\, Q] - \mathbb{E}[\mathbb{1}[f_A(n_{iA})] > \theta_i]|\, Q]) \\ &= \mathbb{E}[f_A(n_{iA}) > \theta_i \mid Q] - \mathbb{E}[f_A(n_{iA}) + \beta_A^d > \theta_i \mid P]\end{aligned}$$

where the same expectation terms for P and Q are canceled out. If the observed difference in take-up corresponding to the left-hand side of the equation is negative, it would indicate the lower bound on the share for whom β_A^d is positive.

The assumption on the joint distribution may only hold for differences:

Assumption B.4. *(Joint distribution conditional equivalence)*
Suppose there are groups P and Q such that only those in Q belongs to social category A, and the

[56] It is possible to relax the assumption in other ways and get the same implication for β_A^d. For instance, the distributions of costs could be instead such that $f_B(n_{iB}) \succ_{FOSD} f_A(n_{iA})$, and $f_B(n_{iB})$, $f_A(n_{iA})$, and θ_i are mutually uncorrelated. However, Assumptions B.2 and B.3 are arguably more plausible in the experimental setting.

following holds:

$$G(f_A(n_{iA}) - \theta_i, f_B(n_{iB}) - \theta_i)_{\{i \in P\}} = G(f_A(n_{iA}) - \theta_i, f_B(n_{iB}) - \theta_i)_{\{i \in Q\}}$$

where G describes the joint distribution of the differences.

The implication of this assumption would be the same as above.

B.2 The caste system in India

The historic caste system, dating as far back as 1500-500 BCE, comprises four hierarchical classes or *varnas*, the Brahmins, Kshatriyas, Vaishyas, and Shudras. The social group at the bottom of this hierarchy was excluded from the varnas altogether, and were called the untouchables. Each varna and the untouchables are further divided into many discrete communities called *jatis* or castes. There exist approximately 4,000 castes, whose members tend to live in small clusters scattered over potentially large regions. Caste members maintain close intra-group connectedness through the tradition of endogamy—strictly marrying within castes—and caste networks continue to influence many spheres of Indian life even to this day (Munshi 2017).

The hierarchy embedded in the caste system is easily recognizable in political, economic, and social spheres. The modern Indian government endorses an affirmative action program, formally acknowledging the historical disadvantage some groups have faced compared to the other "forward" castes (FC's). As in the traditional hierarchy, FC's are considered to be above Other Backward Castes (OBC's), which are in turn above Scheduled Castes (SC's, formerly the untouchables) and Scheduled Tribes (ST's, marginalized indigenous groups).

Within each of these official categories, castes form an even finer layers of social hierarchy. The Hindu religious notions of purity and pollution determines which castes rank higher and thus are able to access or perform the more exclusive and prized ritual services. The system further imposes various behavioral prescriptions regarding how different castes ought to interact. Individuals belonging to higher castes are prohibited from making contact with—e.g. receiving water from, sharing cooked food with, or entering

the houses of—those from lower castes (Marriott 1958; Mahar 1960). These practices serve as frequent reminders of individuals' caste identities as well as their castes' relative social positions.

Another notable feature of the caste system is the historic links between castes and occupations. Some scholars (Gupta 2000) trace their origins to occupational guilds from the feudal period (7th to 12th century), whereas others argue that the British colonial government (19th to 20th century) either created or rigidly reinforced the connections beteween castes and jobs (Dirks 2001, Bayly 2001). These links effectively sustained a system of labor division in which individuals performed their caste-designated jobs for many generations.

Although a large number of people have abandoned their traditional jobs for new opportunities that arrived with modern developments, caste continues to play an important role in the Indian labor market (Mosse 2018; Desai and Dubey 2012). A number of studies examine the effects of caste-based networks or discrimination on labor market outcomes (Munshi and Rosenzweig 2006, 2016; Madheswaran and Attewell 2007; Thorat and Attewell 2007).[57] Other channels through which caste influences labor market behaviors may include stereotype threat (Hoff and Pandey 2006, 2014), willingness to punish norm violations (Hoff, Kshetramade, and Fehr 2011), and in-group favoritism (Rao 2019; Lowe 2019). This paper suggests people's desire to uphold their caste identity may be another critical channel through which caste affects people's labor supply decisions.[58]

B.3 Consistency of caste ranking

The ranking of castes reported in Table 1 is consistent across the different versions of instructions. Appendix Table A8 shows the results from running OLS regressions of the reported rank on the indicator for each caste name, controlling for whether the ranked caste is the same as the participant's own. Participants tend to rank their own caste higher,

[57] Munshi and Rosenzweig study the influence of caste networks on schooling and job choice (2006) and migration decisions (2016). Madheswaran and Attewell (2007) and Thorat and Attewell (2007) study caste-based discrimination. For a comprehensive review, see Munshi (2017).

[58] A number of news articles report that people avoid working as barbers (Gowda 2011-08-20) or sanitary workers (Mohanty and Dwivedi 2018-07-10) due to the strong caste associations of these jobs, despite the large existing demand for such workers.

but the ranking is the same across all three versions of the instruction. For the pooled regression in Column (1), t-tests reject that the coefficients are the same for any two adjacent castes in the ranking. In Column (2)-(4), where sub-samples are used, only the tests for the Kela castes (comparisons with Dhoba and Mochi) are sometimes not rejected ($0.1<p<0.18$).

Across the two districts where the survey was conducted, there are greater variations regarding the position of some castes. Column (5) of Appendix Table A8 shows that one cannot reject Sundhi and Kaibarta are of the same rank in Nayagarh. In addition, Column (6) shows that the rank scores of Kela and Mochi are statistically indistinguishable in Dhenkanal ($p=0.92$). Due to these variations, the robustness checks include doing the main analysis, dropping one caste at a time, to ensure that the results are not sensitive to including the Kela caste.

The experimental design registered on the RCT registry included information on caste rankings that also differed slightly from that based on the Ranking Survey. Due to some time constraints associated with agricultural seasons, the Ranking Survey and some initial rounds of the experiment were conducted at the same time, after the Task Survey was completed. The registered ranking was therefore based on field interviews and some pilot ranking data, which resulted in misspecifying the positions for two castes, Kaibarta and Kela, whose rank scores are also noisier according to the Ranking Survey. The main analysis therefore report results using both versions of rankings. They yield qualitatively similar results with different magnitudes for estimated identity effects.

B.4 Sample breakdown

The sample for the main experiment is stratified by caste and randomized privacy condition, as shown below.

The pre-registered targets were 120 for castes that are not associated with any experimental tasks (i.e. Kaibarta, Sundhi, Kela, and Pana), and 80 for the rest (i.e. Dhoba, Mochi, and Hadi). Due to the logistical difficulty of locating certain caste groups and time constraints, the targets were revised down for Sundhi (80), Kela (80), and Mochi (60). Privacy condition was randomized at the village level and surveyors were more successful with completing surveys in certain villages, so there are small deviations from targets.

	Public	Private	Total
Kaibarta	55	57	112
Sundhi	41	41	82
Dhoba	51	44	95
Kela	46	35	81
Mochi	30	30	60
Pana	59	61	120
Hadi	40	40	80
Total	322	308	630

The sample for the supplementary experiment is described below.

	Public	Private	Total
Kaibarta	25	25	50
Pana	27	29	56
Total	52	54	106

B.5 Vignette questions related to caste sensitivity

The following questions were used during the follow-up survey to determine caste sensitivity. Participants answered on a 5-point-scale indicating their approval or disapproval.

1. Sameer Jena went to Khorda recently to find work. There he met Sarveshwara Barik, who has been a barber in the area for 10 years. Sarveshwara has been looking for someone to take over the work and offered Sameer the job. Do you think it is acceptable for Sameer to become a barber even though he is from a higher caste?

2. Tukuna Naika is from the Hadi caste. He is currently looking for work in villages around him. Recently a contractor offered him work in his catering business, where Tukuna will be required to serve food to guests at functions. Do you feel it is acceptable for Tukuna to perform this task?

3. Shantilatha Sahoo is currently in the last year of college. She goes to college with a friend Nilakanth Sethi. They have been friends ever since childhood and Shantilatha

likes Nilakanth very much. She wants to marry him but her village finds this relationship unacceptable as Shantilatha is from a higher caste and Nilakanth is from a lower caste. Do you think it is acceptable for a higher caste woman to marry a lower caste man?

4. Gagan Dalai has not been finding enough work in his village recently. He is very worried for his family. A contractor had recently come to the village and offered him 7 days' work in another village. The contractor offered him Rs.350/day for cleaning sewage tanks. Gagan refused the job as it is lower caste work. Do you think Gagan did the right thing?

5. Kartik Behera and Tuna Naika are both agricultural laborers. They work together for the same landlord and in the evenings they come back to the village together. Once, when they were returning to the village, Tuna offered some home-made sweets to Kartik. A senior village member saw this and reprimanded Kartik for eating the sweets because Tuna Naika is of a lower caste. Do you think it's wrong for a higher caste person to accept home-cooked food from a lower caste person?

6. Bindusagar Behera and Rabi Naika have been friends since childhood. Whenever Rabi went to meet Bindusagar, he was not allowed to enter Bindusagar's house. They would talk outside Bindusagar's house. Now Bindusagar is getting married and he has invited Rabi to be a part of the marriage festivities. During the wedding, Rabi sits separately to eat (according to his caste). Do you think these village norms are acceptable as Rabi is from a lower caste?

7. Nerua Naika has recently finished secondary school and is looking for a job. He lives near Ramesh Maharana who is a carpenter. Ramesh offers to train Nerua in carpentry so that he can work with him. Do you think Nerua should try to work as a carpenter although he is from a lower caste?

B.6 Additional robustness checks

My main findings are robust to dropping any one caste. Appendix Table A9 shows results are broadly similar regardless of which caste is dropped, and the coefficient on Lower $\times$

Identity is in particular consistent across all specifications.

The results are robust to controlling for alternate time trends. Appendix Table A10 Columns (1)-(4) control for linear or quadratic time trends specific to each task given each caste group. The results change very little. Columns (5) and (6) show how the time trends change depending on task category and relative status, by interacting linear time trends with the main covariates. Take-up generally falls slightly with longer time requirement, and varies little by task category and relative status. Take-up actually falls even less with time for lower identity tasks. These results confirm that the large differences in take-up decisions are due to the costs of engaging at all in the different tasks, which are expected to vary due to concerns about identity.

Using an alternate clustering method does not change the main findings. Appendix Table A11 shows that the main results do not change when the standard errors are clustered at the worker level.

Finally, the main findings are robust to controlling for other variations in workers' decision making environment. The experiment involves 12 surveyors, 4 orders in which tasks are discussed, 2 orders in which time requirements are discussed, and 2 potential choice sets (only one of 2 pure control tasks are randomly presented). I test whether these variations having different effects on take-up for identity tasks can explain the results. Appendix Table A12 Columns (1)-(3) shows that the results are robust to addressing the effects of these variations. In addition, I consider that workers may make mistakes during the choice exercise. A worker's choices regarding a set of offers involving a particular extra task are considered inconsistent if he accepts some offer, while rejecting another offer with a shorter time requirement on the task. Column (4) shows that the results are robust to only using decisions that do not involve such inconsistency.