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**Believing in Oneself: Can Psychological Training
Overcome the Effects of Social Exclusion?**

Sayantana Ghosal (Glasgow), Smarajit Jana (Durbar)
Anandi Mani (Warwick), Sandip Mitra (ISI Kolkata)
and Sanchari Roy (Warwick)

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Believing in Oneself: Can Psychological Training Overcome the Effects of Social Exclusion?

Sayantana Ghosal (Glasgow)

Smarajit Jana (Durbar)

Anandi Mani (Warwick)

Sandip Mitra (ISI Kolkata)

Sanchari Roy (Warwick)

Abstract

This paper examines whether psychological empowerment can mitigate mental constraints that impede efforts to overcome the effects of social exclusion. Using a randomized control trial, we study a training program specifically designed to reduce stigma and build self-efficacy among poor and marginalized sex workers in Kolkata, India. We find positive and significant impacts of the training on self-reported measures of efficacy, happiness and self-esteem in the treatment group, both relative to the control group as well as baseline measures. We also find higher effort towards improving future outcomes as measured by the participants' savings choices and health-seeking behaviour, relative to the control group. These findings highlight the need to account for psychological factors in the design of anti-poverty programmes.

JEL Codes: O12, I30, D87

Keywords: social exclusion, self-efficacy, self-esteem, future-orientation, sex workers

1. Introduction

The extensive economics literature on poverty and social exclusion has explored several alternative mechanisms through which constraints *external* to an individual can lead to its persistence, including the lack of access to credit and education (e.g. Loury, 1981; Galor and Zeira, 1993; Banerjee and Newman, 1991; 1993), malnutrition (e.g. Dasgupta and Ray, 1986) and neighborhood effects (Hoff and Sen, 2005).

However several puzzles about the behaviour of the poor, often self-defeating, remain: Why don't poor people always take advantage of programs meant to benefit them (Currie *et al*, 2001), why do they ignore clear and demonstrated profitability of certain technologies, when they've been taught how to use them and have the means to do so (Duflo *et al*, 2010); why do they take fewer active preventive health measures (Katz and Hofer, 1994) etc.

In this paper, we critically examine an alternative explanation that has received much less attention among economists: that such counter-productive behaviour could be a consequence of mental or psychological constraints (*internal* to an individual) that poverty and marginalization imposes. These may, in turn, lead to a lower propensity to invest in the future, hence perpetuating poverty. These constraints could be both cognitive and non-cognitive.¹ In this paper, we focus on the latter type.

Specifically, we take seriously the idea that poverty and marginalization may negatively impact an individual's sense of *self-efficacy* – i.e. the belief in one's capacity to achieve a desired outcome through one's effort. As the pre-eminent psychologist Alberto Bandura puts it, "*People's beliefs in their efficacy influence the choices they make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks... .*" Therefore, individuals are less likely to put effort to achieve a task or desired outcome if they have low belief in their self-efficacy that may, in turn, lower their likelihood of escaping poverty. The psychology literature has studied multiple ways in which being poor and marginalized can diminish such beliefs: Self-Affirmation theory (Steele, 1998) implies that the stigma a poor person continually endures – from being disrespected, perceived as lazy, incompetent or lacking in will power – diminishes the mental resources he or she can apply to tasks; such stigma can then lead to cognitive distancing (Reutter *et al*, 2009) and thereby worse life outcomes (Croizet and Claire, 1998). Facing repeated life shocks and crises that one is unable to surmount can also lead to a feeling of Learned Helplessness (Abramson *et al*, 1978) – an inability to apply effort towards challenges that can realistically be overcome.

In this paper, we examine whether a training program focused on psychological empowerment can reduce mental constraints that impede efforts to overcome the effects of social exclusion. The program focuses on two aspects of such empowerment: reducing stigma (i.e. raising self-esteem) and exploring pathways to build higher self-efficacy. These two elements of the training program are particularly relevant to our target population: sex

¹ For recent evidence on how poverty affects cognitive capacity, see Mani et al(2013).

workers in Kolkata, India. As with other poor people, their association with this profession often means that they are denied access to commonly available services, such as banks and education for their children in the local schools. They also face considerable social stigma, having possibly the lowest status in society (Ashforth and Kreiner, 1999).²

We collaborated with Durbar, an NGO that works to improve the welfare of sex workers in Kolkata, to implement a randomized control trial to evaluate their psychological training program. Based on a population census of sex workers in three “red-light” areas of the Kolkata, 461 program participants were randomly selected, out of which 260 were randomly assigned to the treatment group and 201 to the control group. Consistent with our focus on psychological dimensions of poverty and marginalization, we collected baseline and endline data on a range of (self-reported) psychological outcomes, including self-esteem, self-efficacy, happiness, current aspirations, shame etc. Following the basic tenet of self-efficacy theory (Bandura, 1982), we posit that having a greater belief in one’s capacity to achieve an outcome in the future would increase a person’s willingness to devote effort towards it. Therefore, we also tracked changes in participants’ orientation towards the future, as measured by their choices across savings products with different maturity periods and interest rates, as well as health seeking behaviour.³

The main findings are as follows. We find strong and significant positive effects of the training program on self-reported measures of efficacy, self-esteem and happiness. Relative to the control group, sex workers assigned to the treatment group are found to be on average 22 percentage points more likely to report being self-efficacious (relative to a baseline mean of 0.31), 68 percentage points more likely to report high self-esteem (relative to a baseline mean of a mere 18%) and 12 percentage points more likely to report being happy (relative to a baseline mean of 50%). They are also, on average, 40 percentage point less likely to feel ashamed of their occupation compared to their counterparts in the control group (relative to a baseline mean of 0.63), which is consistent with the findings on self-esteem described above.

When compared to the baseline measures, too, the estimated effects of the training program with respect to these outcomes for the treatment group are of a similar order of magnitude.

Finally, we also find a strong positive impact in the degree of future-orientation of the participants, as measured by their savings choices relative to the control group. In particular, sex workers assigned to the treatment group are 25-50% more likely to choose a future-oriented savings product than a present-biased one. Interestingly, we find that at the beginning of the training program, the choices of the treatment group look very similar on average to those of the control group, but over the course of the program, a distinct divergence emerges between the two groups that persists till the end of the program. We

² For example, approximately 81% of the respondents in our baseline survey said they considered themselves as “bad” or “fallen” women, with little hope for the future.

³ Control group participants, who were also offered the same savings products, were given access to all factual information related to these savings options so as to ensure that the treatment group had no informational advantage.

attribute this change to the strengthening of psychological faculties of sex workers in the treatment group as a result of the training program, which promotes future-oriented behaviour.⁴ We also observe a positive impact of the training program on health-seeking behaviour in that sex workers in the treatment group are on average 9 percentage points more likely to have visited a doctor since the program's commencement relative to the control group. Since sex work, by its very nature, puts a lot of stress on the physical condition of the sex worker, investment in physical health is very important for future sustainability and hence, a higher frequency of doctor visits may be interpreted as evidence of devoting higher effort towards securing one's future.

In recent years, there have been several initiatives to empower the poor and marginalized sections of society through training programs.⁵ Typically, the content of these programs has focused on building business development skills, numeracy and literacy. Other programs targeted to the ultra-poor (Banerjee *et al*, 2011; Bandiera *et al*, 2013 etc.) have focused on providing both capital and skills required for better livelihood. While the Durbar training program also targets a specific marginalized group, its key difference relative to these others is its *exclusive* focus on psychological empowerment. It is also related to, but distinct from, other programs that study the effects of building aspirations among adults (Bernard *et al*, 2011) or children (Glewwe *et al*, 2013). Unlike these programs, our training program does not make a conscious attempt to orient the aspirations of sex workers in any specific direction. It simply emphasizes their right to have hopes and aspirations for their future, like any other person in mainstream society, and focuses explicitly on developing the psychological faculties to achieve those aspirations. To the best of our knowledge, we are the first to focus explicitly on the use of psychological empowerment as a tool to improve the welfare of the poor and marginalized. Our work is also related to interventions in the psychological literature that examine how self-affirmation of the poor can affect their inclination to seek benefits from anti-poverty programs (Hall, Zhao and Shafir, 2012).

The rest of the paper is organized as follows. Section 2 outlines context and experimental design while section 3 describes the data and evaluation design. Section 4 presents our empirical findings and Section 5 concludes.

2. Context and Experimental Design

2.1 The Training Program

The training program was carried out by our local partner Durbar, an NGO working with sex workers in Kolkata, India, in consultation with us. The program consisted of 8 sessions spread over 8 weeks, during which experienced trainers associated with Durbar attempted to “psychologically empower” participating sex-workers through novel methods of discussion

⁴ Consistent with the channel described in our paper, Banerjee 2011 find a positive correlation between improved mental health and greater work effort among their ultra-poor program participants.

⁵ See Mackenzie and Woodruff (2011) for a review of these training programs for the poor

and engagement. Given the social stigma attached to the sex trade, particularly in India, many workers in this profession suffer from a loss of hope and a sense of defeat that may have a potentially adverse impact on their life outcomes and overall welfare.⁶ The program specifically focused on reintroducing sex workers to the view that they too are entitled to have hopes and aspirations (just like any other person from mainstream society), and building their self-esteem and sense of “self-efficacy” to overcome hurdles and achieve these aspirations.

The psychology literature defines self-efficacy as one’s belief regarding one’s capability to achieve a given task or goal (Bandura 1982). Choices, effort, and perseverance in the face of setbacks are all influenced by self-efficacy (Bandura, 1991). If a person believes a certain outcome to be beyond their ability, he or she will not act, even if there is a perceived demand for that behaviour (Boyd and Vozikis, 1994). One of the ways in which self-efficacy may be strengthened is by verbal persuasion or exhortation. If people receive realistic encouragement directed at convincing them that they are capable of performing a task, they may be more likely to exert more effort (Gist, 1987; Wood and Bandura, 1989).

Our training program in Kolkata was designed with the key aim of providing such verbal persuasion or exhortation to our sample of sex workers in order to test its impact on relevant outcomes. In particular, the program focused on two key dimensions:

- strengthening one’s capacity to question or challenge existing status quo – especially with regard to existing stigmatized societal perceptions about sex workers which, in turn, feed into the sex workers’ own perceptions of themselves, with direct implication for their sense of self-esteem and self-worth
- rethinking one’s capability to change one’s status quo – i.e. strengthening the belief that one’s goal can be achieved despite multiple hurdles, such that expending effort in this context will be rewarded

The program emphasized the importance of both individual agency as well as collective agency in the realization of desired outcomes. For example, certain outcomes like cessation of violence, which is an ugly reality in the lives of these sex workers, is better achieved using collective agency of a number of sex workers who can protest together against violent clients, local goons, police etc.

All sessions of the training program was held in in a pre-designated venue in each location, except the last one which was held in an offsite location. Each session focussed on a particular issue relevant to the lives of these sex workers, e.g. the importance of saving to secure their as well as their children’s future, striving for a violence-free environment, etc.

⁶ For example, approximately 81% of the respondents in our baseline survey said they considered themselves as “bad” or “fallen” women, with little hope for the future.

2.2 Experimental Design

Sex workers are distributed over 98 houses in our 3 study areas of Kalighat, Bowbazar and Chetla.⁷ Houses in “red-light” areas of Kolkata are typically buildings with multiple rooms, where these women live and work. Firstly, we randomly selected two-thirds of the houses (66 out of 98) as follows. In each area, we first ranked the houses according to size, i.e. the number of eligible women, in the baseline. Then we formed groups of three houses by putting three consecutive houses on these lists in the same triplet. Within each of these triplets, we randomly selected two houses to be part of the treatment group and one house to be part of the control group.

Secondly, eligible sex workers were selected from a list of sex workers compiled by Durbar in January 2012, with the eligibility criterion being that a sex worker had to be 35 years of age or less at the time of survey in order to be a participant in the study. This resulted in a sample frame of 855 sex workers across these 98 houses, of which 380 lived in Bowbazar, 277 in Kalighat and 198 in Chetla. Out of this, we randomly sampled 238 in Bowbazar (62%), 136 in Kalighat (49%) and 98 in Chetla (50%), giving us a final baseline sample of 472 surveyed sex workers living in 98 houses in 3 areas.

Finally, all surveyed eligible women in each of the treatment houses were invited to participate in the training program, while those in control houses were not.⁸ Thus the treatment group comprises of 260 sex workers, while the control group consists of 201 sex workers.

At the end of each of the 8 sessions of the training program, we provided a token payment of Rs. 100 (2 USD) to all program participants, and offered them three options regarding how they would like to receive this payment:

- 1) as a deposit directly into their current/savings account
- 2) as a contribution to a fixed deposit
- 3) as a contribution to a fixed deposit where the participant would match our payment with an equal amount provided by herself

The key difference across these three products is in the extent to which they require “future-oriented” commitment from the participants. Product 1 requires no future-orientation as all the benefits are immediately available. Product 2 requires some future-orientation since the returns from a fixed deposit are only available at maturity a year later. Product 3 requires even greater future-orientation given that the participant has to contribute her own funds over and above what is offered as part of the training, with the returns from this total investment

⁷ The distribution of houses by locality is: 30 in Kalighat, 45 in Bowbazar and 23 in Chetla.

⁸ We also interviewed approximately 107 eligible women in the treatment houses in Bowbazar, who were not invited to the training workshops, in order to study spill-over effects of the training on untreated eligible sex workers living in treatment houses. However, in this study we do not focus on spill-over effects and hence we leave out these women from our analysis.

being only available a year later. The interest rates offered differ across these three products: the interest rate is 8% for the first product, 12% for the second and 15% for the third.

Along with the treatment group, we also offered the same amount of token payment to members of the control group as well. Our aim is to examine the difference in the rate of take-up of each of these options between the treatment and the control groups and interpret these differences in light of the impact of the training program on the degree of “future-oriented” behaviour. Our framework predicts that, other things being equal, when individuals have a stronger belief that their efforts can favourably shape their (future) life outcomes, it should increase their willingness to make greater efforts to achieve those outcomes.

3. Data and Evaluation

3.1 Data

In Feb-April 2012, we conducted a baseline survey that collected detailed information on a number of psychological outcome measures, as well as socio-economic characteristics, past histories and occupational details of the sex workers. The training program was carried out Oct-Dec 2012, during which we collected data on choices our subjects made regarding the three savings products on offer. The follow-up survey, again focusing on the same questions as in baseline, was conducted in Jan-Feb 2013. As reported above, our baseline sample consisted of 472 sex workers in 98 houses in 3 “red-light” areas of Kolkata. Attrition in the endline was approx. 7%, leaving us with a sample of 437.⁹

Construction of Psychological Outcome Variables

The first set of key outcome variables that we focus on in this paper include measures of self-efficacy, decision-making power, mobility, happiness and aspirations for own future. We also look at measures of self-worth, self-perception, shame and health seeking behaviour, proxied by frequency of visits to nearby health facility and condom usage.

The measures of self-efficacy, self-perception, decision-making power and mobility are constructed on the basis of a multitude of questions asked in the surveys.

Self-efficacy: The self-efficacy measure is constructed on the basis of the following question: “Do you feel capable of: resolving a situation of conflict with the police; resolving problems with the landlord/lady; resolving problems with local youths; resolving problems with goons; resolving problems with your pimp; resolving problems with your madam; dealing with aggressive clients; dealing with emergencies like sudden illness; developing a new skill to

⁹ This attrition rate is significantly lower to those reported in other studies that evaluate the impact of various training programs for the poor: e.g. Bandiera et al (2013) report an attrition rate of 13% for the Targeted Ultra-Poor program conducted by BRAC in rural Bangladesh over 4 years. Banerjee et al (2011) find that 17% of their original baseline sample in West Bengal attrit over an 18-month period, while Morduch et al (2012) report an attrition rate of 12% over 3 years in Andhra Pradesh.

engage in another occupation; making plans for a future business; determining your child's future; buying property." The answer options are: "1-Strongly agree", "2-Agree", "3-Neither agree nor disagree", "4-Disagree", "5-Strongly disagree. For each of the 12 scenarios described above, a binary variable is created that equals 1 if the answer is either 1 or 2, and 0 if the answer is 3, 4 or 5. These 12 binaries are added up to generate a self-efficacy score between 0-12. A self-efficacy dummy variable is then constructed that equals 1 if the score is 7-12 and zero otherwise.

Is it better to construct standardized z-scores for self-efficacy, self-perception, decision-making power and mobility? The results are unchanged qualitatively

Self-perception: The self-perception measure is constructed on the basis of the following question: "Are you comfortable about: speaking in meetings; participating in public processions; interacting with a police officer; talking about your profession with your children; talking about your profession with your neighbour; talking about your profession to the police; allowing your children to bring home their friends." The answer options are same as above. For each of the 7 scenarios described above, a binary variable is created that equals 1 if the answer is either 1 or 2, and 0 if the answer is 3, 4 or 5. These 7 binaries are added up to generate a self-perception score between 0-7. A self-perception dummy variable is then constructed that equals 1 if the score is 4-7 and zero otherwise. In other words, a sex worker who reported being "comfortable" in 4 out of the 7 scenarios is classified as an individual with high self-perception, while one that reported being "comfortable" in 3 or less scenarios is classified as an individual with low self-perception.

Decision-making power: The measure of decision-making power is constructed on the basis of the following question: "For each of the following, specify who takes the decision: number/choice of customer; financial matters; children's future; purchase of clothes and jewellery; own medical treatment; condom usage with babu (fixed client); condom usage with other ordinary client." The answer options are "1-Self", "2-Husband/babu", "3-Other family member", "4-Madam", "5-Pimp", "6-Other sex workers", "7-Durbar official". For each of the 7 scenarios described above, a binary variable is created that equals 1 if the answer is 1, and 0 otherwise. These 7 binaries are added up to generate a decision-making score between 0-7. A dummy variable for decision-making power is then constructed that equals 1 if the score is 4-7 and zero otherwise.

Mobility: The mobility measure is constructed on the basis of the following question: "Have you attended or visited any: social function e.g. marriages back home; Women's Day celebration; Durga Puja (local religious festival) celebrations; Sex Worker Day celebrations; seminar or training workshops; local health clinic on your own; local cinema on your own; excursion on your own." The answer options are "1-Yes", "2-No". For each of the 8 scenarios described above, a binary variable is created that equals 1 if the answer is 1, and 0 otherwise. These 8 binaries are added up to generate a mobility score between 0-8. A dummy variable for mobility is then constructed that equals 1 if the score is 5-8 and zero otherwise.

The remaining psychological variables are constructed from single questions asked in the survey:

Happiness: The happiness measure is constructed on the basis of the question: “On a scale of 1-5, how happy would you classify yourself to be in life?” The answer options are “1-Very happy”, “2-Somewhat happy”, “3-Indifferent”, “4-Somewhat unhappy”, “5-Very unhappy”. A binary variable for happiness is created that equals 1 if the answer is either 1 or 2 and zero otherwise.

Aspiration: The aspiration measure is constructed on the basis of the question: “Where do you see yourself five years from now?” The answer options are “1-Own a house”, “2-Become a peer worker”, “3-Become an organization member of Durbar”, “4-Become a madam”, “5-Leave this profession”, “6-Same as now”, “7-Don’t know”. A binary variable for aspiration is created that equals 0 if the answer is either 6 or 7 and 1 otherwise.

Self-worth: The self-worth measure is constructed on the basis of the question: “How do you view yourself?” The answer options are “1-Bad woman”, “2-Fallen woman”, “3-Woman with no future”, “4-Service provider/entertainment worker”, “and 5-Somehow managing life”, “6-Criminal”. A binary variable for self-worth is created that equals 1 if the answer is 4 and zero otherwise.

Shame: The measure for shame is constructed on the basis of the question: “Are you ashamed of your occupation?” The answer options are “1-Yes”, “2-Sometimes”, “3-Never”. A binary variable for shame is constructed that equals 1 if the answer is 1 or 2 and zero otherwise.

Construction of Future-Orientation Variable

The other key outcome variable that we focus on is a proxy for “future-orientation”. The primary means of measuring this is through the choices made by the participants across the various savings product with differential maturity periods and interest rates as described above. If a participant chooses Product 2 or 3 then she is classified as displaying future-oriented behaviour. If she chooses Product 1, she is present-biased.

An alternative approach of measuring “future-orientation” is by focusing on health-seeking behaviour. Since sex work, by its very nature, puts a lot of stress on the physical condition of the sex worker, investment in physical health is very important for future sustainability. We proxy health-seeking behaviour with the frequency of visits to the doctor. In particular, the measure is based on the question: “When was the last time you visited your doctor regarding your physical health?” The answer options are “1-A week or less ago”, “2-A month of less ago”, “3-A year or less ago”, “4-More than a year ago”, “5-More than 5 years ago”. A binary variable for health seeking behaviour is constructed that equals 1 if the answer is either 1 or 2 and zero otherwise.

3.2 Evaluation

In order to evaluate the impact of the training program on psychological outcomes of our subjects, we estimate the following regression specification:

$$y_{ijl} = \alpha_l + \beta \cdot T_{jl} + \epsilon_{ijl} \quad (1)$$

Where y_{ijl} indicates the outcome of interest for individual i living in house j in area l . T_j is a binary variable equal to 1 if the individual lives in a treatment house (a house whose eligible residents were invited to participate in the training program). The coefficient β captures the average difference in outcomes of individuals living in a treatment house relative to individuals living in a control house, and identifies the intent to treat parameter, which is close to the average treatment on treated effect, since less than 2% of those invited to the training program refused to attend. α_l denote area fixed effects and are included to improve efficiency since randomization was stratified by locality (Bruhn and McKenzie, 2009).

We also estimate the program impact by using a difference-in-difference strategy as follows:

$$y_{ijut} = \alpha_l + \beta \cdot T_{jl} + \gamma \cdot Post_t + \delta \cdot T_{jl} * Post_t + \epsilon_{ijut} \quad (2)$$

In this case, the program effect δ is identified by comparing changes in individual outcomes before and after the training program in treatment houses, to those in control houses, within the same area. This controls for time-varying factors common to individuals in treatment and control houses, as well as time-invariant heterogeneity with area. $Post_t$ is a binary variable which denotes the endline survey.

A key concern regarding the validity of the estimates of the program effect is that of contamination between the treatment and control houses. However, our baseline estimates indicate that interaction among sex workers within house is far more intense compared to across house. E.g. more than 75% of a random sample of 50 sex workers reported that *all* their close friends live in the same house as them. Hence, using houses as the unit of randomization minimizes the risk of contamination. Standard errors are also clustered at the house level throughout to account for the fact that outcomes are likely to be correlated within house.

In order to evaluate the impact of the training program on “future orientation” of our subjects, as measured by their choices across saving products, we estimate the following regression specification:

$$y_{ijls} = \alpha_l^s + \rho T_j + \epsilon_{ijls} \quad s = 1, \dots, 8 \quad (3)$$

Where y_{ijls} is a binary variable which equals 1 if the individual chooses product 1 as opposed to products 2 or 3, and 0 otherwise. Since both products 2 and 3 require some degree of

“future-orientation”, we club them together. We estimate equation (3) above separately for each session.

4. Results

Table 1 presents descriptive evidence on the individual characteristics of the sex workers in the “red-light” areas of Kolkata. The average sex worker is 32 years old, and a vast majority of them are Hindu, with very little formal education. Approximately 70% of them are married, and have been in this profession for an average of 9 years. Close to half of them are self-employed.¹⁰ Sex workers appear to suffer a loss of around 26% in prices they can charge for their service by using condoms.¹¹ Average monthly earnings are approximately Rs. 9000 (180 USD), which is significantly higher than that of a female labourer with similar education in Kolkata e.g. female domestic maid. A vast majority of these sex workers are members of Durbar but fewer than half have bank accounts.

Sex workers in treatment and control houses also appear to be similar on most of these observable characteristics, with the exception of the proportion of “Adhiya” sex workers that appears to be higher in the treatment group. However, it is important to point out here that we control for these baseline characteristics in our basic specification presented below, while our difference-in-difference specification also accounts for any level differences between the treatment and control group in terms of baseline characteristics.

4.1 Impact on Psychological Outcomes

Table 2 presents the ITT estimates of the training program from specification (1) on various psychological outcome variables. Column 1 indicates that sex workers in the treatment group are 22 percentage points more likely to be self-efficacious compared to those in the control group, which is equal to approximately 71% of the baseline mean. They are also 12 percentage points more likely to report that they are happy (column 4), which corresponds to an increase of 24% from the baseline mean.

¹⁰ Sex workers in our study areas in Kolkata typically work under different contractual structures. The three main contracts are “Adhiya”, “self-employed” and “flying”. “Adhiya” denotes a contract where the sex worker lives in a house and shares her earnings 50-50 with her landlady in lieu of her keep. Self-employed sex workers are more independent who rent out a room from the landlady at a fixed monthly rent, and keeps her earnings. The most natural parallel of these two types of sex worker contracts is with sharecropping and fixed-rent contracts respectively in agriculture. The third type of sex worker contract is “flying”, where the sex worker is a non-resident, and comes into the red-light area only to service a client, renting a room for a few hours from the landlady at a fixed hourly rate.

¹¹ Though this is a sizeable loss, it is still significantly lower compared to the estimates of Rao et al (2002) who reported estimated losses of 66-79% in a similar population of sex workers in Kolkata. This could be potentially attributed to the fact that following Durbar’s sustained effort over the last decade in generating awareness regarding the practice of safe sex among sex workers in Kolkata, condom usage is much higher now which has in turn lowered the differential.

On the other hand, no significant impact is observed on decision-making power, mobility or level of aspiration (columns 2, 3 and 5 respectively). However, Table 1a indicates that the baseline level of decision-making power was already very high amongst this population, with approximately 93% of the women sampled in the baseline reporting that they take their own decisions. Thus, with such little margin for further improvement, it is no surprise that the training program has very little additional impact on the decision-making power of the participants. In the context of aspiration levels, on the other hand, it is important to bear in mind that our training program did not purport to change *per se* the goal of an individual (e.g. by providing new skills that opens up new opportunities) but rather to strengthen her belief in her own capability of achieving the existing goal. In that sense, the finding that the training program does not shift aspiration *levels* is consistent. This finding is also consistent with the positive impact of the training program on happiness, since existing evidence indicates that a stronger sense of self-belief has been found to foster happiness (Caprara *et al*, 2006).

Table 2a confirms that all these findings are robust to the inclusion of controls for baseline individual characteristics.

Table 4 documents the impact of the training program on measures of self-esteem, self-perception and shame. Column 1 indicates that sex workers in the treatment group are 68 percentage points more likely to report higher self-esteem than those in the control, relative to a baseline mean of a mere 18%. They are also 14 percentage points more likely to report a positive self-image or self-perception, which represents an increase of approximately 39% from the baseline mean (Column 2). The treatment group are also 40 percentage point less likely to be ashamed of their occupation compared to their counterparts in the control group (column 3), which is consistent with the self-esteem results described above. Table 4a confirms the robustness of these results to the inclusion of baseline controls.

Tables 6 and 7 present results using specification (2) i.e. a difference-in-difference strategy. All the findings are robust to this alternative specification and the estimated effects are of a similar order of magnitude, except for happiness and health-seeking behaviour. However, although the point estimate of the program's impact on happiness and frequency of health visits is not statistically significant, the magnitudes of the coefficients are still very comparable to their counterparts obtained using specification (1) in Tables 2 and 4 respectively.

4.2 Impact on Future-Oriented Behaviour

The training program was designed to build self-efficacy and ultimately promote future-oriented behaviour among the participants. The core findings on future-orientation are presented in Figure 1. Each bar represents the proportion of individuals opting for Product 1 (present-biased option) instead of either Product 2 or 3 (future-oriented options) in a particular session. For the control group, the proportion of individuals choosing the present-biased option remains unchanged across the sessions, even rising somewhat in the later sessions. On the other hand, the proportion of individuals in the treatment group choosing the

present-biased remains similar to that in the control group up to session 3, but then declines dramatically session 4 onwards, indicating that the treatment group displayed a greater degree of future-orientation in their choices regarding these products. Regarding why there is no significant difference in the choices of the treatment and control group for the first few sessions, there could be several potential explanations e.g. time taken to absorb the content of training before applying it to choices, role of trust for the trainers, status-quo bias etc.

Tables 8 and 8a presents the ITT impact estimates of the training program (with and without area fixed effects respectively) using specification (3) on choices over savings products, and confirms the patterns observed in Figure 1. There is no statistically significant difference in the propensity to choose the present-biased option between the treatment and control groups up to session 3. But in session 4, the treatment group is 25 percentage points less likely to choose the present-biased option than the control (Table 8a, column 4), which increases to approximately 50 percentage points in session 5 (Table 8a, column 5) and remains more or less stable till the end. These results are robust to the inclusion of baseline individual characteristics as shown in Table 8b.

Interestingly, we find that at the beginning of the training program, the choices of the treatment group look very similar on average to those of the control group, but over the course of the program, a distinct divergence emerges between the two groups that persists till the end of the program. We attribute this change to the strengthening of psychological faculties of sex workers in the treatment group as a result of the training program, which promotes future-oriented behaviour.

The regression results presented in Tables 8, 8a and 8b cluster standard errors at the house level. However, since the training was imparted to women in groups of size 15-17, there arises a possibility that outcomes could be correlated within these training groups. Hence, Tables A1, A1a and A2 in Appendix 1 present regression results using the same specification (3) but with standard errors clustered at the training group level. The results are found to be robust.

Finally, as described above, we also examine the impact on health-seeking behaviour (proxied by frequency of visits to the doctor) as an alternative measure of “future-oriented” behaviour. Table 4 column 4 indicates that the treatment group is 9 percentage points more likely to have visited a doctor in the recent past compared the control, which represents an improvement of 12% of the baseline mean of 0.71. Since sex work, by its very nature, puts a lot of stress on the physical condition of the sex worker, investment in physical health is very important for future sustainability and hence, a higher frequency of doctor visits may be interpreted as evidence of devoting higher effort towards securing one’s future.

5. Conclusion

In this paper, we take seriously the view that psychological constraints imposed by poverty and social exclusion may be one reason for low effort and apathy among those affected, hence contributing to poverty persistence. We therefore examine whether psychological empowerment training – specifically, reducing the sense of stigma (raising self-esteem) and exploring pathways to higher self-efficacy – can change self-perceptions and behaviour of a group that faces poverty and acute social exclusion: sex workers in Kolkata, India. Based on a randomized control trial, we find that participants who start off with very low measures of self-worth respond positively to such a program --- both in terms of self-reported measures of efficacy, self-esteem and happiness, as well as in terms of their focus on a better future, as measured by their choice of savings products and health-seeking behaviour.

While the findings of our study pertain to a group that faces extreme negative social sanction, we believe that they are also relevant for other individuals who face social exclusion and stigma of some form, such as the poor and minorities. These findings suggest that the design of anti-poverty and anti-discrimination programs must factor in not just material deprivation, but also psychological barriers that impede such disadvantaged groups from achieving better outcomes.

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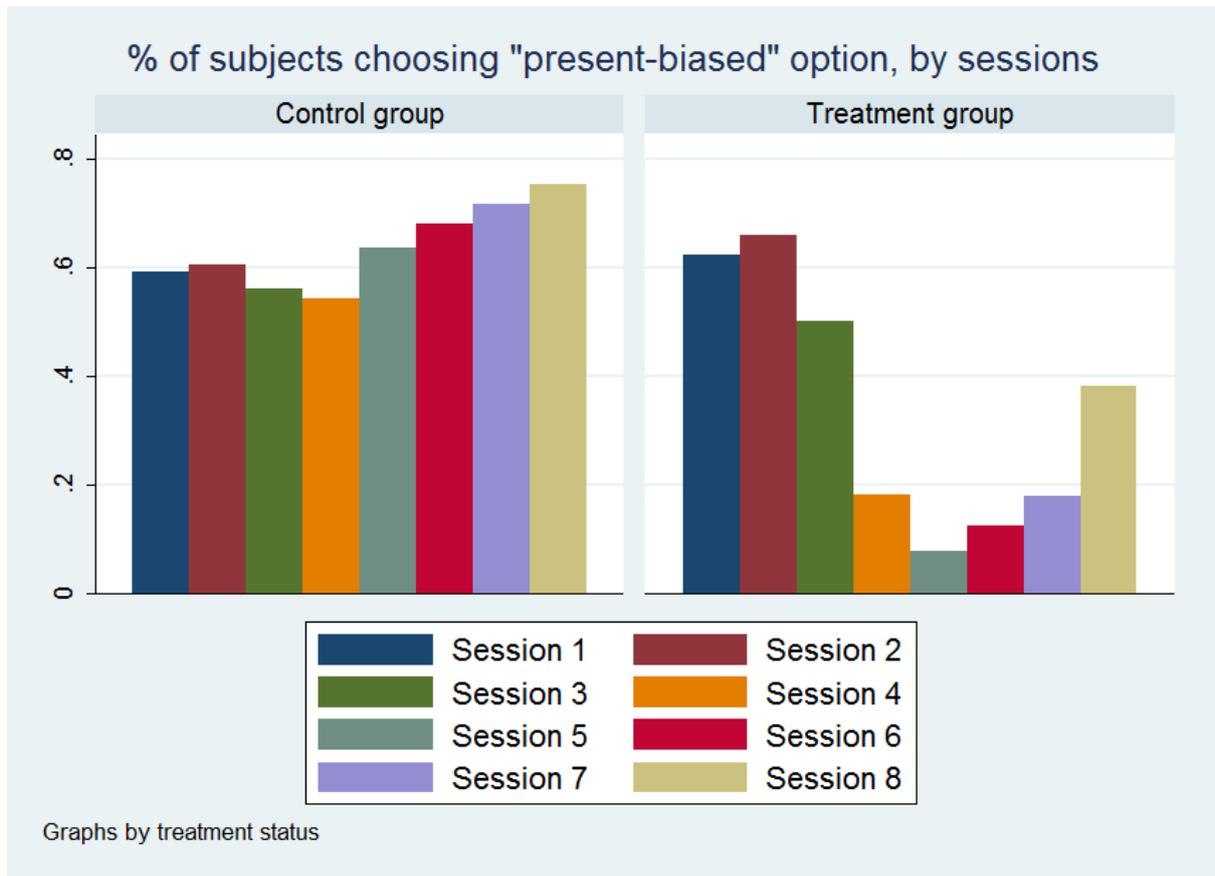


Figure 1: Percentage of sex workers choosing Product 1 (present-biased option) as opposed to Products 2 and 3 (future-oriented options), by session

Table 1: Summary Statistics - Individual Characteristics at Baseline

| | Control | Treatment | Difference |
|------------------------------------|----------------------|-----------------------|-----------------------|
| Age | 32.46 (7.12) | 32.05 (7.62) | 0.41 (0.70) |
| Hindu | 0.87 (0.34) | 0.78 (0.41) | 0.09* (0.04) |
| Muslim | 0.13 (0.34) | 0.22 (0.41) | -0.09* (0.04) |
| SC/ST | 0.41 (0.49) | 0.35 (0.48) | 0.06 (0.05) |
| Years of education | 2.10 (2.90) | 1.72 (2.80) | 0.38 (0.27) |
| Married | 0.66 (0.47) | 0.75 (0.43) | -0.09* (0.04) |
| Age at marriage | 15.74 (3.33) | 15.75 (2.99) | -0.01 (0.31) |
| Has fixed client (babu) | 0.26 (0.44) | 0.31 (0.46) | -0.04 (0.04) |
| Years in profession | 9.42 (8.08) | 8.84 (7.50) | 0.58 (0.73) |
| Adhiya (half-half) | 0.06 (0.24) | 0.18 (0.38) | -0.12*** (0.03) |
| Self-employed | 0.57 (0.50) | 0.47 (0.50) | 0.11* (0.05) |
| Flying (non-resident) | 0.37 (0.48) | 0.35 (0.48) | 0.01 (0.05) |
| Rate per sex act (avg. w/ condom) | 128.76 (129.10) | 121.02 (55.03) | 7.74 (9.00) |
| Rate per sex act (avg. w/o condom) | 175.00 (91.57) | 150.00 (50.00) | 25.00 (56.05) |
| No. of customers (weekday) | 2.99 (1.20) | 2.97 (1.13) | 0.02 (0.11) |
| No. of customers (weekend) | 3.46 (1.50) | 3.54 (1.48) | -0.09 (0.15) |
| Monthly income (Rs.) | 8609.38 (5637.04) | 9752.72 (19573.76) | -1143.34 (1449.47) |
| Uses condom | 0.99 (0.10) | 1.00 (0.00) | -0.01 (0.01) |
| Member of Durbar | 0.81 (0.39) | 0.78 (0.42) | 0.03 (0.04) |
| Has bank a/c | 0.43 (0.50) | 0.44 (0.50) | -0.01 (0.05) |
| Observations | 201 | 260 | . |

Table 1a: Summary Statistics - Psychological Outcomes at Baseline

| | Control | Treatment | Difference |
|------------------------|----------------|----------------|-----------------|
| Self-efficacy | 0.31 (0.46) | 0.31 (0.46) | -0.00 (0.04) |
| Decision-making | 0.94 (0.24) | 0.93 (0.26) | 0.01 (0.02) |
| Mobility | 0.49 (0.50) | 0.54 (0.50) | -0.05 (0.05) |
| Happiness | 0.48 (0.50) | 0.51 (0.50) | -0.02 (0.05) |
| Aspiration | 0.77 (0.42) | 0.75 (0.43) | 0.02 (0.04) |
| Self-esteem | 0.15 (0.36) | 0.20 (0.40) | -0.05 (0.04) |
| Self-perception | 0.37 (0.48) | 0.36 (0.48) | 0.01 (0.05) |
| Ashamed | 0.65 (0.48) | 0.60 (0.49) | 0.05 (0.05) |
| Health check frequency | 0.76 (0.43) | 0.77 (0.42) | -0.01 (0.04) |
| Observations | 201 | 260 | . |

Table 2: Impact on Psychological Outcomes: Basic Results

| | (1) | (2) | (3) | (4) | (5) |
|---|-------------------|-----------------|----------------|------------------|----------------|
| | Self-efficacy | Decision-making | Mobility | Happiness | Aspiration |
| Treatment | 0.22*** (0.04) | -0.01 (0.02) | 0.02 (0.02) | 0.12** (0.05) | 0.03 (0.04) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes |
| <i>Mean of dependent variable at baseline</i> | <i>0.31</i> | <i>0.93</i> | <i>0.52</i> | <i>0.50</i> | <i>0.76</i> |
| Adj. R-sq | 0.04 | -0.00 | 0.01 | 0.02 | 0.01 |
| N | 437 | 437 | 437 | 437 | 434 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level.

Table 2a: Impact on Psychological Outcomes: Basic Results, with baseline controls

| | (1) | (2) | (3) | (4) | (5) |
|-----------------------|-------------------|--------------------|------------------|-----------------|------------------|
| | Self-efficacy | Decision-making | Mobility | Happiness | Aspiration |
| Treatment | 0.20*** (0.05) | -0.01 (0.02) | 0.02 (0.02) | 0.10* (0.05) | 0.01 (0.04) |
| Age | 0.00 (0.00) | 0.00* (0.00) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) |
| Education | -0.00 (0.01) | -0.00 (0.00) | -0.00 (0.00) | 0.01 (0.01) | -0.00 (0.01) |
| Muslim | 0.00 (0.06) | 0.04* (0.02) | -0.05* (0.03) | 0.12* (0.07) | 0.03 (0.05) |
| Married | 0.07 (0.05) | -0.06*** (0.02) | -0.03 (0.03) | 0.02 (0.06) | 0.01 (0.05) |
| Has fixed client/babu | -0.01 (0.05) | -0.02 (0.03) | 0.00 (0.03) | 0.02 (0.06) | 0.07 (0.05) |
| Adhiya | 0.11 (0.09) | 0.00 (0.04) | 0.04 (0.04) | 0.01 (0.07) | -0.01 (0.07) |
| Flying | -0.06 (0.06) | 0.01 (0.02) | -0.00 (0.02) | -0.00 (0.06) | 0.04 (0.05) |
| Durbar member | -0.06 (0.07) | 0.03 (0.03) | -0.01 (0.03) | 0.03 (0.06) | 0.02 (0.06) |
| Has bank a/c | -0.11* (0.06) | 0.00 (0.03) | -0.03 (0.02) | -0.02 (0.05) | 0.11** (0.05) |
| Log income | 0.02 (0.03) | 0.02 (0.01) | -0.01 (0.02) | -0.01 (0.03) | -0.00 (0.03) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes |
| Adj. R-sq | 0.05 | 0.00 | 0.01 | -0.00 | 0.01 |
| N | 412 | 412 | 412 | 412 | 409 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level.

clustered at the house level. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table 3: Impact on Psychological Outcomes: Heterogeneous Treatment Effects, by location

| | (1) | (2) | (3) | (4) | (5) |
|--------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| | Self-efficacy | Decision-making | Mobility | Happiness | Aspiration |
| Treatment*Kalighat | 0.27*** (0.07) | -0.01 (0.04) | 0.03 (0.02) | 0.22** (0.08) | 0.00 (0.10) |
| Treatment*Bowbazar | 0.17** (0.07) | -0.04 (0.03) | 0.04 (0.03) | 0.04 (0.07) | 0.03 (0.05) |
| Treatment*Chetla | 0.27*** (0.08) | 0.04 (0.04) | -0.04 (0.05) | 0.17 (0.12) | 0.05 (0.06) |
| Kalighat | -0.04 (0.07) | 0.05 (0.04) | -0.12*** (0.03) | 0.03 (0.12) | -0.09 (0.08) |
| Bowbazar | 0.08 (0.07) | 0.06** (0.03) | -0.09** (0.04) | 0.04 (0.12) | 0.00 (0.05) |
| Constant | 0.21*** (0.05) | 0.91*** (0.02) | 0.12*** (0.03) | 0.45*** (0.11) | 0.79*** (0.03) |
| Adj. R-sq | 0.04 | -0.00 | 0.01 | 0.02 | 0.00 |
| N | 437 | 437 | 437 | 437 | 434 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level. The constant term captures the level impact in Chetla

Table 4: Impact on Identity, Shame and Health: Basic Results

| | (1) | (2) | (3) | (4) |
|---|-------------------|-------------------|--------------------|------------------|
| | Self-esteem | Self-perception | Shame | Health check |
| Treatment | 0.68*** (0.04) | 0.14*** (0.05) | -0.40*** (0.04) | 0.09** (0.04) |
| Area fixed effects | Yes | Yes | Yes | Yes |
| <i>Mean of dependent variable at baseline</i> | <i>0.18</i> | <i>0.36</i> | <i>0.63</i> | <i>0.76</i> |
| Adj. R-sq | 0.47 | 0.03 | 0.17 | 0.01 |
| N | 435 | 437 | 429 | 424 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level.

Table 4a: Impact on Identity, Shame and Health: Basic Results, with baseline controls

| | (1) | (2) | (3) | (4) |
|-----------|-------------------|-------------------|--------------------|------------------|
| | Self-esteem | Self-perception | Shame | Health check |
| Treatment | 0.68*** (0.04) | 0.14*** (0.05) | -0.40*** (0.04) | 0.09** (0.04) |
| Age | 0.00 | -0.00 | -0.00 | 0.00 |

| | | | | |
|-----------------------|--------|--------|--------|--------|
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Education | 0.00 | -0.01 | 0.01 | -0.01 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| Muslim | 0.02 | 0.02 | -0.05 | -0.01 |
| | (0.04) | (0.06) | (0.05) | (0.05) |
| Married | -0.03 | -0.04 | 0.08* | -0.02 |
| | (0.04) | (0.05) | (0.04) | (0.03) |
| Has fixed client/babu | 0.02 | 0.03 | -0.07* | -0.02 |
| | (0.03) | (0.06) | (0.04) | (0.04) |
| Adhiya | -0.04 | -0.15* | 0.06 | -0.01 |
| | (0.06) | (0.08) | (0.07) | (0.06) |
| Flying | 0.00 | 0.00 | -0.00 | 0.02 |
| | (0.04) | (0.06) | (0.05) | (0.04) |
| Durbar member | 0.07 | -0.00 | -0.07 | 0.01 |
| | (0.05) | (0.07) | (0.06) | (0.06) |
| Has bank a/c | -0.06 | 0.06 | -0.02 | 0.07* |
| | (0.04) | (0.06) | (0.05) | (0.04) |
| Log income | 0.05** | 0.05 | -0.05* | 0.04 |
| | (0.03) | (0.04) | (0.03) | (0.03) |
| Area fixed effects | Yes | Yes | Yes | Yes |
| Adj. R-sq | 0.45 | 0.03 | 0.17 | 0.00 |
| N | 410 | 412 | 405 | 399 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table 5: Impact on Identity and Health: Heterogeneous Treatment Effects, by location

| | (1) | (2) | (3) | (4) |
|--------------------|-------------|-----------------|----------|--------------|
| | Self-esteem | Self-perception | Shame | Health check |
| Treatment*Kalighat | 0.74*** | -0.10 | -0.37*** | -0.01 |
| | (0.05) | (0.10) | (0.07) | (0.10) |
| Treatment*Bowbazar | 0.62*** | 0.21*** | -0.42*** | 0.13*** |
| | (0.06) | (0.06) | (0.06) | (0.04) |
| Treatment*Chetla | 0.74*** | 0.29*** | -0.40*** | 0.15** |
| | (0.07) | (0.10) | (0.11) | (0.07) |
| Kalighat | 0.01 | 0.19* | -0.11 | 0.11 |
| | (0.08) | (0.11) | (0.10) | (0.10) |
| Bowbazar | 0.07 | -0.06 | -0.07 | 0.08 |
| | (0.08) | (0.09) | (0.10) | (0.07) |
| Constant | 0.18*** | 0.30*** | 0.64*** | 0.72*** |
| | (0.06) | (0.07) | (0.08) | (0.06) |
| Adj. R-sq | 0.48 | 0.05 | 0.17 | 0.01 |
| N | 435 | 437 | 429 | 424 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level. The constant term captures the level impact in Chetla

Table 6: Impact on Psychological Outcomes: Difference-in-difference Results

| | (1) | (2) | (3) | (4) | (5) |
|--|-------------------|---------------------|--------------------|-----------------|-----------------|
| | Self- efficacy | Decision- making | Mobility | Happiness | Aspiration |
| Treatment | 0.01 (0.04) | -0.02 (0.02) | 0.04 (0.04) | 0.03 (0.05) | -0.01 (0.04) |
| Post | -0.06* (0.03) | 0.02 (0.02) | -0.46*** (0.04) | -0.00 (0.04) | 0.00 (0.03) |
| Treatment*Post | 0.21*** (0.06) | -0.00 (0.03) | -0.03 (0.05) | 0.11 (0.07) | 0.04 (0.05) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes |
| <i>Mean of dependent variable in treatment group at baseline</i> | <i>0.31</i> | <i>0.93</i> | <i>0.54</i> | <i>0.50</i> | <i>0.75</i> |
| Adj. R-sq | 0.03 | -0.00 | 0.27 | 0.01 | 0.03 |
| N | 890 | 898 | 891 | 891 | 887 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level.

Table 7: Impact on Identity, Shame and Health: Difference-in-difference Results

| | (1) | (2) | (3) | (4) |
|--|-------------------|-------------------|--------------------|----------------|
| | Self-esteem | Self-perception | Shame | Health check |
| Treatment | 0.05 (0.04) | -0.02 (0.04) | -0.05 (0.05) | 0.00 (0.04) |
| Post | 0.07 (0.04) | -0.05 (0.04) | -0.09 (0.06) | 0.03 (0.05) |
| Treatment*Post | 0.63*** (0.05) | 0.16*** (0.06) | -0.34*** (0.06) | 0.07 (0.07) |
| Area fixed effects | Yes | Yes | Yes | Yes |
| <i>Mean of dependent variable in treatment group at baseline</i> | <i>0.20</i> | <i>0.36</i> | <i>0.60</i> | <i>0.75</i> |
| Adj. R-sq | 0.43 | 0.02 | 0.16 | 0.01 |
| N | 889 | 889 | 885 | 876 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level.

Table 8: Impact on Payment Choices: Basic Results (w/o area fixed effects, cluster by house)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|----------------|----------------|----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment | 0.07 (0.07) | 0.07 (0.06) | 0.01 (0.07) | -0.30*** (0.06) | -0.53*** (0.06) | -0.52*** (0.05) | -0.52*** (0.06) | -0.37*** (0.06) |
| Constant | 0.55*** | 0.58*** | 0.49*** | 0.48*** | 0.61*** | 0.65*** | 0.69*** | 0.75*** |

| | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|
| | (0.05) | (0.05) | (0.06) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Adj. R-sq | 0.00 | 0.00 | -0.00 | 0.10 | 0.32 | 0.29 | 0.27 | 0.13 |
| N | 448 | 432 | 434 | 427 | 412 | 394 | 396 | 361 |

Individual treatment indicates if individual was assigned to treatment. Standard errors, in parentheses, are clustered at the house level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table 8a: Impact on Payment Choices: Basic Results (with area fixed effects, cluster by house)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------|----------|--------|--------|----------|----------|----------|----------|----------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment | 0.09 | 0.09 | 0.06 | -0.25*** | -0.51*** | -0.50*** | -0.48*** | -0.36*** |
| | (0.07) | (0.06) | (0.06) | (0.05) | (0.06) | (0.05) | (0.06) | (0.06) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-sq | 0.01 | 0.02 | 0.08 | 0.20 | 0.35 | 0.31 | 0.31 | 0.14 |
| N | 448 | 432 | 434 | 427 | 412 | 394 | 396 | 361 |

Individual treatment indicates if individual was assigned to treatment. Standard errors, in parentheses, are clustered at the house level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table 8b: Impact on Payment Choices: Basic Results, with baseline controls (cluster by house)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------|----------|--------|--------|----------|----------|----------|----------|----------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment | 0.10 | 0.11* | 0.08 | -0.24*** | -0.51*** | -0.50*** | -0.50*** | -0.39*** |
| | (0.07) | (0.06) | (0.06) | (0.05) | (0.06) | (0.06) | (0.06) | (0.06) |
| Age | -0.00 | -0.00 | -0.00 | 0.00 | -0.01 | -0.00 | -0.00 | -0.01 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Muslim | 0.04 | 0.01 | 0.00 | -0.04 | 0.06 | 0.04 | 0.09* | 0.07 |
| | (0.07) | (0.07) | (0.06) | (0.05) | (0.04) | (0.05) | (0.05) | (0.06) |
| Education | -0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Adhiya | 0.04 | 0.05 | 0.04 | 0.03 | 0.01 | 0.09 | 0.09 | 0.04 |
| | (0.08) | (0.06) | (0.07) | (0.07) | (0.06) | (0.06) | (0.07) | (0.08) |
| Flying | -0.08 | -0.04 | -0.02 | 0.03 | 0.05 | 0.07 | 0.05 | 0.05 |
| | (0.05) | (0.06) | (0.06) | (0.05) | (0.05) | (0.05) | (0.04) | (0.06) |
| Durbar member | 0.01 | 0.02 | -0.02 | 0.01 | 0.04 | 0.01 | -0.03 | -0.01 |
| | (0.06) | (0.07) | (0.06) | (0.06) | (0.05) | (0.05) | (0.06) | (0.07) |
| Has bank a/c | 0.01 | 0.05 | -0.00 | -0.00 | 0.03 | 0.03 | 0.02 | -0.01 |
| | (0.05) | (0.05) | (0.06) | (0.04) | (0.04) | (0.05) | (0.04) | (0.06) |
| Log income | -0.02 | -0.00 | 0.03 | 0.02 | 0.00 | 0.01 | -0.03 | -0.03 |
| | (0.04) | (0.03) | (0.04) | (0.03) | (0.04) | (0.03) | (0.04) | (0.04) |

| Area fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
|--------------------|-------|------|------|------|------|------|------|------|
| Adj. R-sq | -0.00 | 0.01 | 0.06 | 0.18 | 0.34 | 0.30 | 0.31 | 0.13 |
| N | 423 | 407 | 409 | 401 | 388 | 371 | 374 | 340 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table 9: Impact on Payment Choices: Heterogeneous Treatment Effects, by location (cluster by house)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment* Kalighat | 0.05 (0.11) | 0.11 (0.09) | 0.29*** (0.08) | -0.13 (0.08) | -0.62*** (0.10) | -0.60*** (0.10) | -0.68*** (0.07) | -0.58*** (0.10) |
| Treatment* Bowbazar | 0.06 (0.10) | 0.10 (0.10) | -0.04 (0.10) | -0.35*** (0.09) | -0.52*** (0.09) | -0.54*** (0.08) | -0.48*** (0.09) | -0.26*** (0.08) |
| Treatment* Chetla | 0.19 (0.12) | 0.04 (0.10) | -0.02 (0.10) | -0.16** (0.08) | -0.32*** (0.10) | -0.19** (0.09) | -0.19 (0.12) | -0.44*** (0.16) |
| Kalighat | 0.14 (0.13) | 0.00 (0.09) | -0.26*** (0.09) | -0.02 (0.09) | 0.30** (0.14) | 0.31** (0.12) | 0.36*** (0.12) | 0.19 (0.14) |
| Bowbazar | 0.19 (0.12) | 0.11 (0.10) | 0.25** (0.11) | 0.41*** (0.09) | 0.34*** (0.12) | 0.40*** (0.10) | 0.43*** (0.13) | -0.01 (0.16) |
| Constant | 0.41*** (0.09) | 0.52*** (0.06) | 0.41*** (0.08) | 0.24*** (0.06) | 0.33*** (0.10) | 0.33*** (0.08) | 0.35*** (0.11) | 0.73*** (0.14) |
| Adj. R-sq | 0.00 | 0.01 | 0.09 | 0.21 | 0.36 | 0.33 | 0.34 | 0.15 |
| N | 448 | 432 | 434 | 427 | 412 | 394 | 396 | 361 |

Treatment indicates if individual was assigned to the treatment group. Standard errors, in parentheses, are clustered at the house level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Appendix 1

Table A1: Impact on Payment Choices: Basic Results (cluster by training group)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------|----------------|----------------|----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment | 0.09 (0.09) | 0.09 (0.07) | 0.06 (0.08) | -0.25*** (0.07) | -0.51*** (0.07) | -0.50*** (0.07) | -0.48*** (0.07) | -0.36*** (0.08) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-sq | 0.01 | 0.02 | 0.08 | 0.20 | 0.35 | 0.31 | 0.31 | 0.14 |
| N | 448 | 432 | 434 | 427 | 412 | 394 | 396 | 361 |

Treatment indicates if individual was assigned to treatment. Standard errors, in parentheses, are clustered at the intervention group level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table A1a: Impact on Payment Choices: Basic Results, with baseline controls (cluster by training group)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------|-----------------|-----------------|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment | 0.10 (0.09) | 0.11 (0.07) | 0.08 (0.08) | -0.24*** (0.07) | -0.51*** (0.07) | -0.50*** (0.07) | -0.50*** (0.07) | -0.39*** (0.10) |
| Age | -0.00 (0.00) | -0.00 (0.00) | -0.00 (0.00) | 0.00 (0.00) | -0.01 (0.00) | -0.00 (0.00) | -0.00 (0.00) | -0.01 (0.00) |
| Muslim | 0.04 (0.07) | 0.01 (0.05) | 0.00 (0.06) | -0.04 (0.05) | 0.06 (0.05) | 0.04 (0.05) | 0.09 (0.05) | 0.07 (0.07) |
| Education | -0.00 (0.01) | -0.01 (0.01) | -0.01 (0.01) | -0.01 (0.01) | -0.01 (0.01) | -0.01 (0.01) | 0.00 (0.01) | -0.01 (0.01) |
| Adhiya | 0.04 (0.09) | 0.05 (0.08) | 0.04 (0.06) | 0.03 (0.06) | 0.01 (0.06) | 0.09 (0.07) | 0.09 (0.06) | 0.04 (0.08) |
| Flying | -0.08 (0.05) | -0.04 (0.06) | -0.02 (0.06) | 0.03 (0.03) | 0.05 (0.05) | 0.07 (0.05) | 0.05 (0.04) | 0.05 (0.05) |
| Durbar member | 0.01 (0.07) | 0.02 (0.08) | -0.02 (0.06) | 0.01 (0.05) | 0.04 (0.04) | 0.01 (0.04) | -0.03 (0.05) | -0.01 (0.06) |
| Has bank a/c | 0.01 (0.05) | 0.05 (0.04) | -0.00 (0.06) | -0.00 (0.04) | 0.03 (0.03) | 0.03 (0.03) | 0.02 (0.04) | -0.01 (0.06) |
| Log income | -0.02 (0.04) | -0.00 (0.03) | 0.03 (0.03) | 0.02 (0.03) | 0.00 (0.04) | 0.01 (0.03) | -0.03 (0.04) | -0.03 (0.04) |
| Area fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-sq | -0.00 | 0.01 | 0.06 | 0.18 | 0.34 | 0.30 | 0.31 | 0.13 |
| N | 423 | 407 | 409 | 401 | 388 | 371 | 374 | 340 |

Treatment indicates if individual was assigned to treatment. Standard errors, in parentheses, are clustered at the

intervention group level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.

Table A2: Impact on Payment Choices: Heterogeneous Treatment Effects, by location (cluster by training group)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------------|----------|---------|----------|----------|----------|----------|----------|----------|
| | Sessions | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Treatment* | 0.05 | 0.11 | 0.29*** | -0.13** | -0.62*** | -0.60*** | -0.68*** | -0.58*** |
| Kalighat | (0.12) | (0.10) | (0.05) | (0.05) | (0.09) | (0.10) | (0.06) | (0.08) |
| Treatment* | 0.06 | 0.10 | -0.04 | -0.35*** | -0.52*** | -0.54*** | -0.48*** | -0.26** |
| Bowbazar | (0.16) | (0.13) | (0.12) | (0.12) | (0.11) | (0.10) | (0.09) | (0.09) |
| Treatment* | 0.19** | 0.04 | -0.02 | -0.16*** | -0.32** | -0.19** | -0.19** | -0.44*** |
| Chetla | (0.07) | (0.06) | (0.07) | (0.03) | (0.11) | (0.08) | (0.09) | (0.06) |
| Kalighat | 0.14 | 0.00 | -0.26*** | -0.02 | 0.30** | 0.31** | 0.36** | 0.19 |
| Bowbazar | (0.08) | (0.05) | (0.07) | (0.05) | (0.14) | (0.13) | (0.14) | (0.11) |
| Bowbazar | 0.19** | 0.11 | 0.25** | 0.41*** | 0.34** | 0.40*** | 0.43** | -0.01 |
| Constant | (0.08) | (0.07) | (0.10) | (0.08) | (0.13) | (0.12) | (0.15) | (0.13) |
| Constant | 0.41*** | 0.52*** | 0.41*** | 0.24*** | 0.33*** | 0.33*** | 0.35** | 0.73*** |
| | (0.02) | (0.01) | (0.06) | (0.04) | (0.11) | (0.10) | (0.12) | (0.11) |
| Adj. R-sq | 0.00 | 0.01 | 0.09 | 0.21 | 0.36 | 0.33 | 0.34 | 0.15 |
| N | 448 | 432 | 434 | 427 | 412 | 394 | 396 | 361 |

Treatment indicates if individual was assigned to treatment. Standard errors, in parentheses, are clustered at the intervention group level. All regressions include location fixed effects. Default group for religion is Hindu and for contract is Self-employed. Education refers to years of completed education. Bank account refers to account with USHA, Durbar's banking arm. Income refers to monthly income.