Sex Workers, Stigma and Self-Belief: Evidence from a Psychological Training Program in India*

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Abstract

This paper examines whether psychological empowerment can mitigate biases in self-perception that are often imposed by social exclusion and stigma. Using a randomized field experiment, we study the impact of a training program designed to raise self-esteem and build a stronger sense of "agency" among a highly stigmatized group: sex workers in Kolkata, India. We find positive and significant impact of psychological training on self-reported measures of agency, happiness and self-esteem. We also find evidence of higher effort towards improving future outcomes as measured by savings choices and health-seeking behaviour. Our experimental design and findings enable us to rule out several alternative explanations for our results. We argue that our findings highlight the need to account for psychological factors in the design of anti-poverty programmes.

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1 Introduction

Economic decisions are shaped not just by preferences and resource constraints, but as much by individuals' expectations and beliefs. When we choose how much effort to invest into a certain endeavour – say learning a skill or adhering to an exercise regimen – our expectations about the benefits of these activities are often shaped by what we glean from the world around us. However, for groups or individuals who are socially or geographically distanced, these expectations may be biased directly as a consequence of such distance. Recognizing this fact, recent work in economics has found evidence that providing information to correct biased expectations about the returns to education (Jensen, 2010; Nguyen, 2008) and health risks to teenagers (Dupas, 2011) in poor and/or rural communities results in better choices and greater welfare among these groups.

However, it is not only beliefs and expectations about the *external* world that shape our choices. Our beliefs and expectations about ourselves too play a considerable role in determining our life choices and outcomes. If we believe that we lack the intelligence to learn a skill or the discipline to adhere to a regimen, we may not try very hard – independent of what we expect the rewards to be. As the pre-eminent psychologist Alberto Bandura puts it, "People's beliefs in their efficacy influence the choices they make, ... how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks ...".

Individuals are not born with perfect self-knowledge: as with our expectations about the external world, our beliefs about ourselves are also influenced by the social milieu in which we reside. Social exclusion and marginalization may distort these beliefs. In this paper, we examine whether biases in self-beliefs of marginalized individuals can be mitigated through psychological training, resulting in greater effort to improve their life outcomes.

Social exclusion and stigma is experienced by many groups of people across the world: the poor (especially in a rich society), racial and ethnic minorities (e.g. African-Americans in the US, low caste groups in India) and women (especially in a patriarchal society), to name a few. Existing evidence documents how society perceives members of such excluded groups with unfavourable regard.[1]

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[1] E.g. according to the World Values Survey 2001, 60% of Americans believe that the poor are lazy and lacking in will-power. Loury (1999) describes how African-Americans in US are subject to public derision, often owing to their "purported intellectual inadequacy". Similar contemptuous attitudes are also found to exist against low caste people in India (Srinivas, 1951; Deshpande, 2007).

Such attitudes may, in turn, adversely impact the beliefs of these individuals about their own worth (self-esteem). As the celebrated sociologist Erving Goffman points out in his classic work on stigma, "[t]hose who have dealings with [the stigmatized individual] fail to accord him respect and regard ...; *he echoes this denial by finding that some of his own attributes warrant it*" (italics ours). Such prejudice may also lower an individual's belief about how much his effort matters for his life outcomes (agency or self-efficacy): this creates a "self-fulfilling pessimism about the returns to effort for certain activities" (Loury, 1999).

In this paper, we run a randomized experiment to study the impact of a training program designed to raise self-esteem and build a stronger sense of agency on self-reported psychological outcomes of participants as well as their efforts to improve life outcomes in the foreseeable future ("future-orientation). We study a population that faces considerable stigma and social exclusion: sex workers in India. This setting is suitable for a number of reasons. Firstly, like other poor people, sex workers in India are often denied access to commonly available services like formal credit markets, healthcare and education, owing to their association with this profession and consequent social ostracization. Secondly, we argue that this setting enables us to estimate lower bounds of the impact of the psychological training program. Social ostracization of this group from mainstream society minimizes the chances of any "multiplier" effects arising from any potential "sorting" that such training may induce. This allows us to measure the "pure" effects of psychological empowerment.

We collaborated with Durbar, an NGO that works to improve the welfare of sex workers in Kolkata, to implement the training program. The program consisted of muliple sessions conducted by experienced trainers from the NGO and focused on themes relating to alleviating stigma and building agency among the participants. Based on a population census of sex workers in three "red-light" areas of Kolkata, 467 program participants were randomly selected, out of which 264 were randomly assigned to the treatment group and 203 to the control group. The treatment consisted of the invitation to participate in the training program. Consistent with our focus on psychological dimensions of social exclusion and marginalization, we collected baseline and endline data on a range of (self-reported) psychological outcomes, including sense of agency, self-esteem, happiness, aspirations, comfort in public interaction, sense of shame etc. We also tracked changes in participants' orientation towards the future, as measured by their choices across savings products with different maturity periods and interest

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rates (collected over the course of the training program),[2] as well as their health-seeking behaviour.

The main findings are as follows. We find strong and significantly positive effects of the training program on self-reported pychological outcomes, including measures of agency, self-esteem and happiness. Relative to the control group, sex workers assigned to the treatment group score 0.43 standard deviations higher on an "agency" index , are 68%-points more likely to have high self-esteem (relative to a baseline mean of 0.18) and 12%-points more likely to report being happy (corresponding to 24% of the baseline mean). They are also, on average, 40 %-point less likely to feel ashamed of their occupation (corresponding to 63% of the baseline mean) relative to their counterparts in the control group, which is consistent with the findings on improved self-esteem described above. Compared to baseline measures, too, the estimated effects of the training program with respect to these outcomes are of a similar order of magnitude.

Secondly, 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. Specifically, sex workers assigned to the treatment group are 25-50%-points more likely to choose a future-oriented savings product than a present-biased one. Interestingly, we find that in the early stages 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.

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%-points more likely to have visited a doctor since the program's commencement relative to the control group. This is especially striking since the baseline levels of such doctor visits was already quite high at approximately 80%. 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 further evidence of devoting higher effort towards securing one's future following exposure to the training program. What is striking to note here is that we observe this change in health-seeking behavior despite no explicit mention of health issues at any time during the training. This gives us greater confidence that the observed effects

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[2]As discussed in Section 3.2 later, 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.

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are not driven by any unobserved informational advantages that may have been conferred to the treatment group relative to the control group over the course of training.

We attribute these observed change in future-orientation of the treatment group to the strengthening of their psychological faculties through the training program: specifically, higher self-esteem and a greater sense of agency, based on self-reported data.[3] In addition, design features of our program and several facets of our findings allow us to provide evidence against certain alternative explanations for our results on saving choices, such as increased self-control and reciprocity. Nor do we find evidence to support the explanation that our program worked by shaping aspirations of sex-workers with specific role-models, as has been done by other recent programs for adults (Bernard, Dercon, and Taffesse, 2011) and children (Glewwe, Ross, and Wydick, 2013).[4] Further, we are able to exploit experimental variation in the composition of our training groups (measured as the fraction of co-resident group members) to disentangle the impact of program content on saving choices from that of greater group interaction, especially with new people. We find that it is the former, not the latter, that explains our results. Indeed, our program content is unique in its focus on mitigating psychological constraints as a way to raise effort and improve life outcomes among the marginalized – especially in contrast to several recent initiatives that focus on relaxing material resource constraints through skill training and provision of capital.[5]

Our work is also related to an important emerging behavioral literature that focuses on the link between poverty and mental resources. Departing from the standard economic assumption of unbounded mental resources, this literature recognizes that psychological capacities are also a scarce resource, and are depleted by poverty. For example, using cross-country data, Haushofer (2013) shows that poverty is associated with lower motivation. Mani, Mullainathan, Shafir, and Zhao (2013) find evidence that financial stress due to poverty may tax cognitive capacity. In contrast, our paper focuses on non-cognitive mental capacities, and to the best of our knowledge, provides the first randomized

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[3]Consistent with the channel described in our paper, Banerjee, Duflo, Chattopadhyay, and Shapiro (2011) find a positive correlation between improved mental health and greater work effort among their ultra-poor program participants.

[4]Indeed, we find no difference in self-reported aspirations of the treatment group relative to the control group, whereas the former do report higher levels of happiness.

[5]See McKenzie and Woodruff (2013) for a review of these training programs for the poor, as well as Banerjee, Duflo, Chattopadhyay, and Shapiro (2011) and Bandiera, Burgess, Das, Gulesci, Rasul, and Sulaiman (2013) for such programs aimed at the ultra-poor.

evaluation of the impact of strengthening such capacities on psychological and economic outcomes.[6] As Haushofer and Fehr (2013) point out, there remains much to be learnt about the impact of positive psychological interventions, especially in the context of developing countries.

The rest of the paper is organized as follows. Section 2 gives a brief description of the setting of our study. Section 3 outlines context and experimental design while Section 4 describes the data and evaluation design. Section 5 presents our empirical findings and Section 6 discusses how potential alternative mechanisms are ruled out. Section 7 concludes.

2   The Setting

The brothel-based sex work industry in Kolkata is estimated to comprise of almost 18,000 women located in different "red-light" areas across the city (AI-IHPH, 1992). While the largest of these areas in terms of size is Sonagachi, with an estimated population of around 4000-6000 prostitutes (Rao, Gupta, Lokshin, and Jana, 2003; JISC, 2009), our three study localities of Bowbazar, Kalighat and Chetla are more medium range in this respect, with a mean of around 500.[7] A vast majority of the sex workers (approx. 80% in our sample) are migrants from impoverished rural parts of nearby districts in the state of West Bengal (of which Kolkata is the capital) or neighbouring countries like Nepal and Bangladesh. Extreme poverty has often been cited as being, directly or indirectly, one of the prime reasons for women ending up in this profession (Basu, Jana, Rotheram-Borus, Swendeman, Lee, Newman, and Weiss, 2004).

Sex work sites in these areas consist of a number of houses that serve as brothels, as well as small businesses (e.g. liquor shops, food stalls, teashops etc.) that have grown around them to support sex workers and their clients. Within these brothels, sex workers live and work under primarily three types of contracts. The first type is one in which the sex worker pays a fixed rent to the owner for a room in the brothel and works independently (*self-employed*). The second type is one in which the sex worker splits her daily earnings 50:50 with the owner in return for lodging and use of room (*adhiya*). The third is one where

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[6]In the psychology literature, there is related evidence that interventions focusing on self-affirmation of the poor improves their inclination to seek benefits from anti-poverty programs (Hall, Zhao, and Shafir, 2013).

[7]Bowbazar is the largest while Chetla is the smallest in terms of size. According to Durbar's census of these 3 areas in 2012, the total number of sex workers in Bowbazar is 621, in Kalighat is 559 and in Chetla is 297.

the sex worker (typically very young) effectively works as a bonded labourer to the owner who has paid a lumpsum amount in advance for her to her family or a trafficker (*chukri*). Due to the efforts of the NGO Durbar in the prevention of under-age prostitution, *chukri* contracts have almost disappeared.[8] A fourth type of contract also exists, called a "flying" contract, in which the sex worker is not resident in the brothel but comes to work there from outside the "red-light" area. She typically hires a room from the owner of the brothel on a per-hour or per-act basis to carry out her services.

Sex workers in India are severely stigmatized owing to their profession. In addition, an ambiguous legal status effectively criminalizes the profession, leaving the workers vulnerable to exploitation by other stakeholders in the sex trade, e.g. brothel owners, pimps, local goons, police etc (Evans and Lambert, 2008). This reinforces their social ostracization and stigma to create a sense of helplessness, low self-esteem and an overall fragile state of mind, which is reflected in the following quote made by one of the sex workers we interviewed in our baseline survey: "I have lost everything...I was a burden to my own parents, suffered beating in my husband's family...ended up in these blind alleys [only to] face torture and society's contempt...". Such a state of mind often results in a lack of interest and drive to move forward and develop a forward-looking attitude towards life and its betterment. To change such a "mind set" created by the sex worker's social and occupational milieu requires a reinforcement of her sense of "agency" and motivation to act to change her future life outcomes. Our training program intervention was thus designed to constitute such a strengthening of psychological capacities.

3 Context and Experimental Design

3.1 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 and engagement. Given the social stigma attached to the sex trade, particularly in India, many workers in

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[8]In our sample, the percentage of (*chukri*) contracts is less than 1%.

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.[9] 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 "agency" to overcome hurdles and achieve these aspirations.

The psychology literature defines "agency" (or "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 one's sense of agency (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 agency 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 (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:

1. 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

2. 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

Each of the 8 sessions focused on psychological empowerment relating to a particular issue relevant to the lives of these sex workers, e.g. the importance of self-esteem especially in relation to their profession, the importance of saving to secure their as well as their children's future, striving for a violence-free environment, etc. The session would last for approximately one hour, during which

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[9]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.

trainers would exhort them to develop a positive and pro-active outlook towards their future.

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.

It is to be noted that the training program was not designed to provide new information, e.g. new (alternative) employment opportunities etc. It focuses entirely on boosting psychological factors while keeping the external environment (or information thereof) unchanged.

3.2   Experimental Design

Sex workers are distributed over 98 houses in our 3 study areas of Kalighat, Bowbazar and Chetla.[10] 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 233 in Bowbazar (61%), 136 in Kalighat (49%) and 98 in Chetla (50%), giving us a final baseline sample of 467 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.[11] Thus the treatment group comprises of 264 sex workers, while the control

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

[11]We also interviewed approximately 107 eligible women in the treatment houses in Bow-bazar, 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

group consists of 203 sex workers.

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. The conditions for the treatment and control groups were kept as similar as possible. In particular, we were careful to ensure that the 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.

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

1. as an injection directly into their current 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 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.

In order to minimize the chances of "spillovers" among participants, whereby they observe and mimick each other's choices, we asked each participant to reveal her choice to us in a separate room after the completion of the training session. We also ensured that she was not able to return to the training room after having declared her choice. 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

we do not focus on spill-over effects and hence we leave out these women from our analysis.

"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.

4 Data and Evaluation

4.1 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 467 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.[12]

Construction of Psychological Outcome Variables

The first set of key outcome variables that we focus on in this paper include measures of agency, self-esteem, comfort in public interaction and shame. We also look at measures of happiness, aspiration for own future, decision-making and mobility.

The measures of agency, comfort in public interaction, decision-making power and mobility are constructed on the basis of a multitude of questions asked in the surveys.

Agency: This 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

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[12]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, Burgess, Das, Gulesci, Rasul, and Sulaiman (2013) report an attrition rate of 13% for the Targeted Ultra- Poor program conducted by BRAC in rural Bangladesh over 4 years. Banerjee, Duflo, Chattopadhyay, and Shapiro (2011) find that 17% of their original baseline sample in West Bengal attrit over an 18-month period, while Morduch, Ravi, and Bauchet (2012) report an attrition rate of 12% over 3 years in Andhra Pradesh.

with your madam; dealing with aggressive clients; dealing with emergencies like sudden illness; developing a new skill to 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 an agency score index between 0-12, and then converted into a standardized z-score by subtracting the mean and dividing by the standard deviation.

Comfort in public interaction: This 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 comfort score between 0-7, and then converted into a standardized z-score by subtracting the mean and dividing by the standard deviation.

Decision-making power: This measure 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, and then converted into a standardized z-score by subtracting the mean and dividing by the standard deviation.

Mobility: This 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, and then converted into a standardized z-score by subtracting the mean and dividing by the standard deviation.

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

Self-esteem: This 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", "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.

Happiness: This 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: This 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.

Shame: This measure 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 measure of "future-orientation". The primary variable in this context uses 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. A binary variable is constructed to measure present-bias which equals 1 if Product 1 is chosen and 0 otherwise.

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.

4.2 Evaluation

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

$$Y_{ijl} = \alpha_l + \beta T_{jl} + \epsilon_{ijl}. \tag{1}$$

where Y_{ijl} indicates the outcome of interest for individual i living in house j in area l. T_{jl} 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:

$$Y_{ijlt} = \alpha_l + \beta T_{jl} + \gamma Post_t + \delta T_{jl} * Post_t + \epsilon_{ijlt}. \tag{2}$$

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 initial estimates indicate that interaction among sex workers within house is far more intense compared to across house. E.g. in a previous pilot exercise, 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:

$$S_{ijls} = \alpha_l^s + \rho T_{jl} + \epsilon_{ijls}. \tag{3}$$

where S_{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 entail some degree of "future-orientation", we club them together. We estimate equation 3 above separately for each session.

5   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. Sex workers appear to suffer a loss of around 26% in prices they can charge for their service by using condoms.[13] Average monthly earnings are approximately Rs. 9000 (approx. 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.

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[13]Though this is a sizeable loss, it is still significantly lower compared to the estimates of Rao, Gupta, Lokshin, and Jana (2003) 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 Durbars 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.

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.

Tables 2 and 3 report the baseline and endline means of the key outcome variables.

5.1   Impact on Psychological Outcomes

Tables 4 and 5 presents the ITT estimates of the training program from Specification 1 on various psychological outcome variables. Column 1 in Panel A of Table 4 indicates that sex workers assigned to the treatment group score 0.43 standard deviations higher on the "agency" index relative to the control group. Column 2 indicates that they are also 68%-points more likely to report having high self-esteem that those in the control, relative to a baseline mean of a mere 0.18. They are also score 0.30 standard deviations higher on the index of comfort in public interaction (column 3), and 40 %-points less likely to feel ashamed compared to their counterparts in the control group (column 4), which is consistent with the self-esteem results described above.

Panel B of Table 4 presents the diff-in-diff estimates using Specification 2. The findings are found to be robust to this alternative specification and estimated coefficients are of a similar order of magnitude.

Next, column 1 in Panel A of Table 5 indicates that the treatment group is also 12%-points more likely to report that they are happy relative to the control, which corresponds to an increase of 25% from the baseline mean. However, no significant impact is observed on the level of aspiration (column 2). In this context, it is important to bear in mind that our training program did not directly 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 whatever is her current goal. In that sense, the finding that the training program does not shift aspiration levels is reassuring, as well as 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, Steca, Gerbino, Pacielloi, and Vecchio, 2006).

Columns 3 and 4 indicate that the training program had no impact on decision-making and mobility of the participants. Table 2 indicates that the baseline level of decision-making power was already quite high amongst this population, with 77% of sex workers in our sample report taking *all* their own decisions. This is a much larger proportion compared to, say, 25% reported in Ashraf, Karlan, and Yin (2006) in the context of Philippines. Thus, with relatively less margin for improvement, it is less of a surprise that the training program has very little additional impact on the decision-making power of the participants.

Panel B of Table 5 shows that these results qualitatively similar while using a diff-in-diff specification. Although the diff-in-diff point estimate for happiness is no longer statistically significant, the magnitude of the coefficient is still very comparable to that obtained using Specification 1.

5.2   Impact on Future-Oriented Behaviour

5.2.1   Impact on Savings Choices

The training program was designed to build agency 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.

Table 6 presents the ITT impact estimates of the training program 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 %-points less likely to choose the present-biased option than the control (column 4), which increases to approximately 50 %-points in session 5 (column 5) and remains more or less stable till the end.

Figure 2 plots the coefficients from Table 6. Each dot on the solid line is the coefficient of the interaction of the treament dummy and relevant session dummy (a 95-percent confidence interval is plotted by broken lines). These coefficients are close to 0 and insignificant until session 3 and start decreasing from session 4 onwards, and are all significantly different from zero.

Figure 2 uses variation across individuals. However, attrition may lead to estimation bias if different kinds of individuals attrit in the treatment relative to control, even when the average rate of attrition is not different between these two groups. Hence, Figure 3 plots the coefficients from the regression including individual fixed effects. It is reassuring that Figure 3 closely resembles Figure 2, thereby mitigating the concern over selection to some extent.

Interestingly, in all these figures, 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. Table 7 indicates that this pattern is common across all these areas of our study.

The regression results presented in Tables 6 and 7 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 the error terms could be correlated within these training groups. Hence, Table A.1 in the Appendix 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.

5.2.2 Impact on Health-seeking Behaviour

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. Column 1 in Table 8 indicates that the treatment group is 9%-points more likely to have visited a doctor in the recent past compared the control, which represents an improvement of 12% over the baseline mean of 0.76. This result remains

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qualitatively similar when replicated using a diff-in-diff specification in Column 2, and although the coefficient is no longer statistically significant at conventional levels, the magnitude is very similar to that obtained in Column 1. 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 further evidence of devoting higher effort towards securing one's future following exposure to the training program. What is also striking to note here is that we observe this change in health-seeking behavior despite no explicit mention of health issues at any time during the training. This gives us greater confidence that the observed effects are not driven by any unobserved informational advantages that may have been conferred to the treatment group relative to the control group over the course of training.

6   Discussion

This paper focuses on a particular channel through which psychological empowerment can affect future-oriented choices of program participants: by raising their sense of agency, i.e. the belief that they can achieve desirable life outcomes through their own effort. Below, we present some alternative mechanisms that could potentially be driving the results and discuss why that is unlikely to be the case.

6.1   Alternative Mechanisms

Self-control

An alternative channel that is known to affect future-oriented choices is a person's sense of self-control. Given that this channel is widely studied in economics (Gul and Pesendorfer, 2001; Fudenberg and Levine, 2006; Ashraf, Karlan, and Yin, 2006), it would be useful to clarify why this latter channel is unlikely to be operational in our setting. In principle, the psychological empowerment training program could make a person more aware of her lack of self-control, which may have been leading to poor life outcomes. Such awareness could then make her more future-oriented in her choices.

In a standard framework, self-control problems arise due to dynamic inconsistency in preferences: there are two selves: the current self at $t = 0$ (who is

making the decision to invest in the high-return-illiquid asset or the low-return-liquid asset) and the future self at $t = 1$ (who will face a temptation to consume early and so liquidate the high-return-illiquid asset early). A key element of investment products designed to tackle self-control issues is that the investment in a financial product made by the $t = 0$ self cannot be liquidated by the $t = 1$ self without cost, until the maturity date. This is not true in our setting. A participant could always liquidate the high return-illiquid asset at some intermediate stage and still get the return she would have had she invested in the low return-more liquid asset. Thus investment in the illiquid asset does not as a commitment device in our context, implying that self-control cannot be the explanation for participants' more future oriented choices.

If the psychological empowerment training raises an individual's perception that she can overcome temptation in the future, this is unlikely to increase the likelihood that a person initially lacking in self-control would make more future oriented choices. Furthermore, the content of the Durbar training program does not address self-control issues in any way. Our preferred explanation – that psychological training leads to more future-oriented choices by creating a greater sense of agency among the sex workers – is based both on the content of the training and self-reported measures obtained from our survey data.[14]

Reciprocity

A second alternative mechanism could be that the participants choose the "right" options i.e. the future-oriented options as a reciprocity gesture to the trainers for spending time training them. This argument may be countered in the following three ways: First, the participants revealed their choices not to the trainers themselves but to members of our field staff. Second, such a reciprocity gesture is more likely to be observed for those participants who are members of Durbar since their relationship with the NGO is a repeated game.[15] Participants who are non-members, on the other hand, should not exhibit a similar pattern of choices regarding these savings product over the course of the training. However, we find that there is no differential effect of Durbar-membership (measured at baseline) on participants' choice (Table 9). In other words, members and non-members of Durbar are equally likely to take up the future-oriented options over

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[14]To the extent that a higher sense of agency (self-efficacy) can induce greater perseverance – as suggested by the Bandura quote in the introduction – it is possible that participants's behavior reflects greater self-control.

[15]Members of the NGO are often expected to provide volunteer service to assist in the activities of the NGO, which forms the basis for repeated interaction with the NGO.

the course of the intervention. The rate of take-up of Durbar membership does increase in the treatment group relative to the control in the endline compared to baseline ($\approx$7% points) but this is not statistically significant, and is primarily being driven by Bowbazar. However, as Table 7 shows, the pattern of saving choice is same for all three areas. Hence, it is unlikely that reciprocity is driving our results. Third, if reciprocity were to be the driving mechanism, then one would expect the participants in the training program to make the "right" choice from the first session itself. The divergence in the choice behaviour between treatment and control groups from the fourth session is less easy to explain using reciprocity.

Changing Aspirations

Thirdly, could the impact of our training program be working through raising the level of aspirations? To address this concern, it is important to point out that that our training program did not directly purport to change *per se* the material opportunities of our participantsl (e.g. by providing new skills that opens up alternative employment opportunities) or to orient their aspirations or goals in any specific direction. Secondly, as noted in Section 5.1, we find no impact on self-reported aspirations of the treatment group relative to the control as well as baseline measures. On the other hand, self-reported happiness improved. If aspiration levels were being raised as a result of our training program, then one would expect the opposite impact on happiness due to the fact that the gap between current and desired outcomes would have increased.

6.2 Group Effects

Our program by design uses a group format for delivering psychological training, and thus provides a natural platform for social interaction. Given that in the baseline there is greater interaction among sex workers living in the same house rather than across houses, this may also present an opportunity to meet new people learn from their experiences. Hence, it is possible that the effect of the training program on savings behaviour was being driven by such "exposure to new people" and any new signal imbibed therein. To examine this point in greater detail, we exploit experimental variation in the fraction of co-resident women (i.e. women coming from the same house as the participant) at the training group level, since members of the same house could have ended up in different groups as a result of random assignment. We find no differential impact on savings choices

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by group composition measured in this way (Table 10). This suggests that our findings are unlikely to be driven by the greater potential for interaction with new people presented by the group format of the training program.

It may be contended that the amount of money offered to the participants (Rs. 100 approx. 1.60 USD per week for 8 week) was too small to reflect choices over the available savings options in any credible way. However, this amount is equal to 40% of their median daily earnings of approx. Rs. 250 (approx. 4.17 USD), and hence not entirely insignificant. Moreover, due to the nature of their trade, sex workers manage their finances on a day-to-day basis (Evans and Lambert, 2008), including savings decisions as borne out by the popularity of daily savings schemes in these red-light areas. Hence the decision regarding the choice of savings product offered as part of the experiment is a very real one.

7 Conclusion

In this paper, we take seriously the view that psychological constraints imposed by social exclusion and marginalization may be one reason for low effort and apathy among those affected, hence contributing to worse outcomes. We examine whether psychological empowerment - specifically, a training program focused on reducing the sense of stigma (raising self-esteem) and exploring pathways to greater individual agency - can change self-perceptions and behaviour of a group that faces 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 agency, self-esteem and happiness, as well as in terms of effort to improve life outcomes in the foreseeable 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, ethnic and racial minorities and women. 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 in life.

In future work, we plan to estimate the impact of such a psychological training program on medium-term outcomes, e.g. voluntary savings activity, investment

in children's education etc., in order to shed light on the sustainability of such initiatives. We also intend to implement similar training programs for other poor and excluded groups as well as the non-poor in order to extend our understanding on the generalizability of our current findings.

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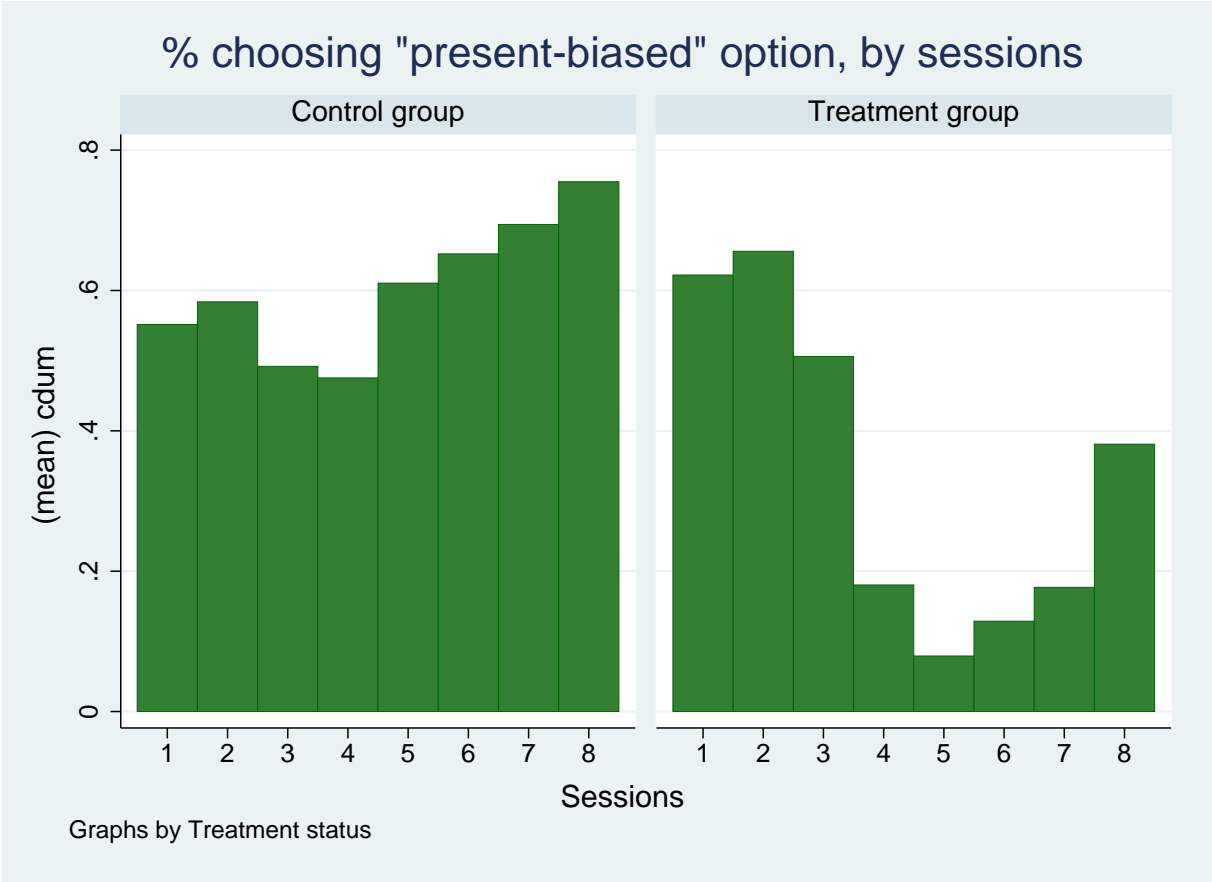
Figure 1: Percentage of sex workers choosing Product 1 (present-biased option) as opposed to Products 2 and 3 (future-oriented options), by session
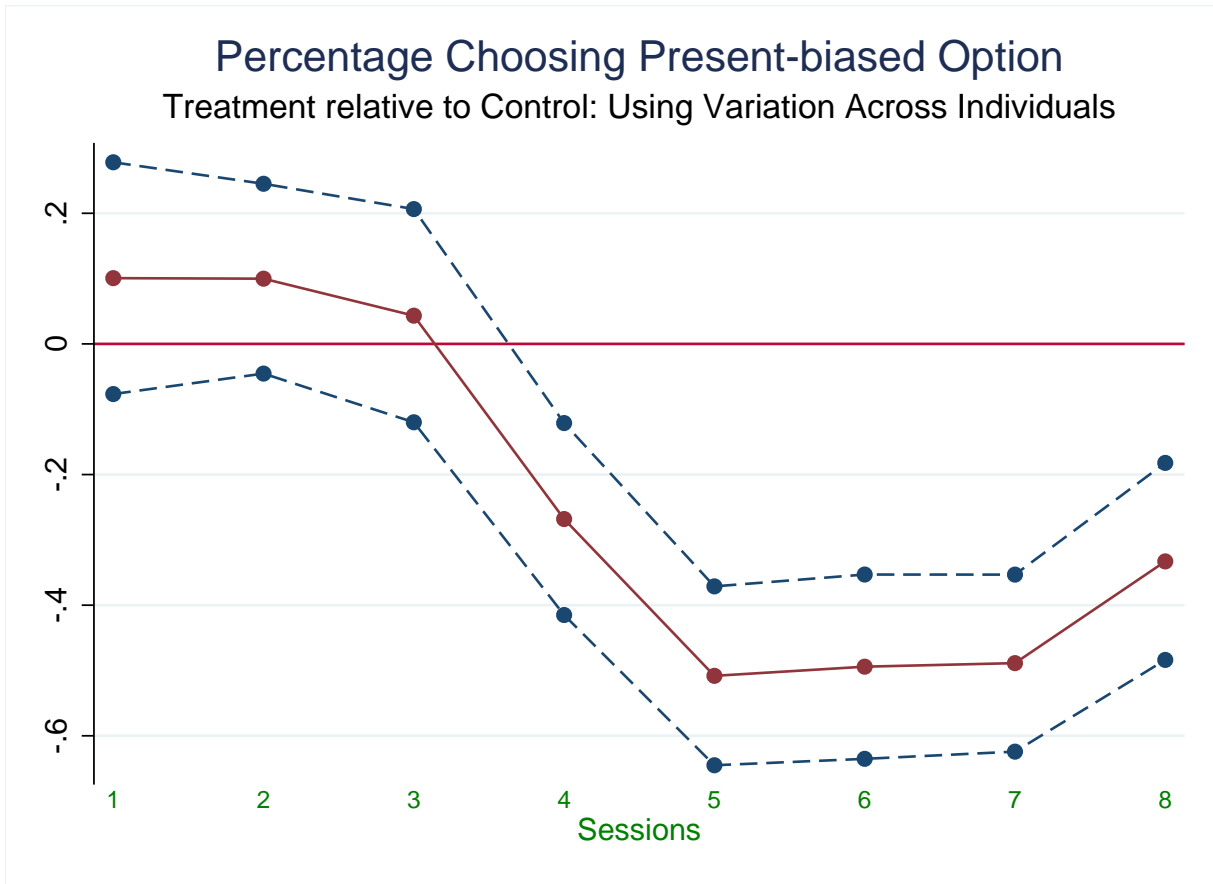
Figure 2: Coefficients of Interactions of Treat*Session Dummy in Savings Equation
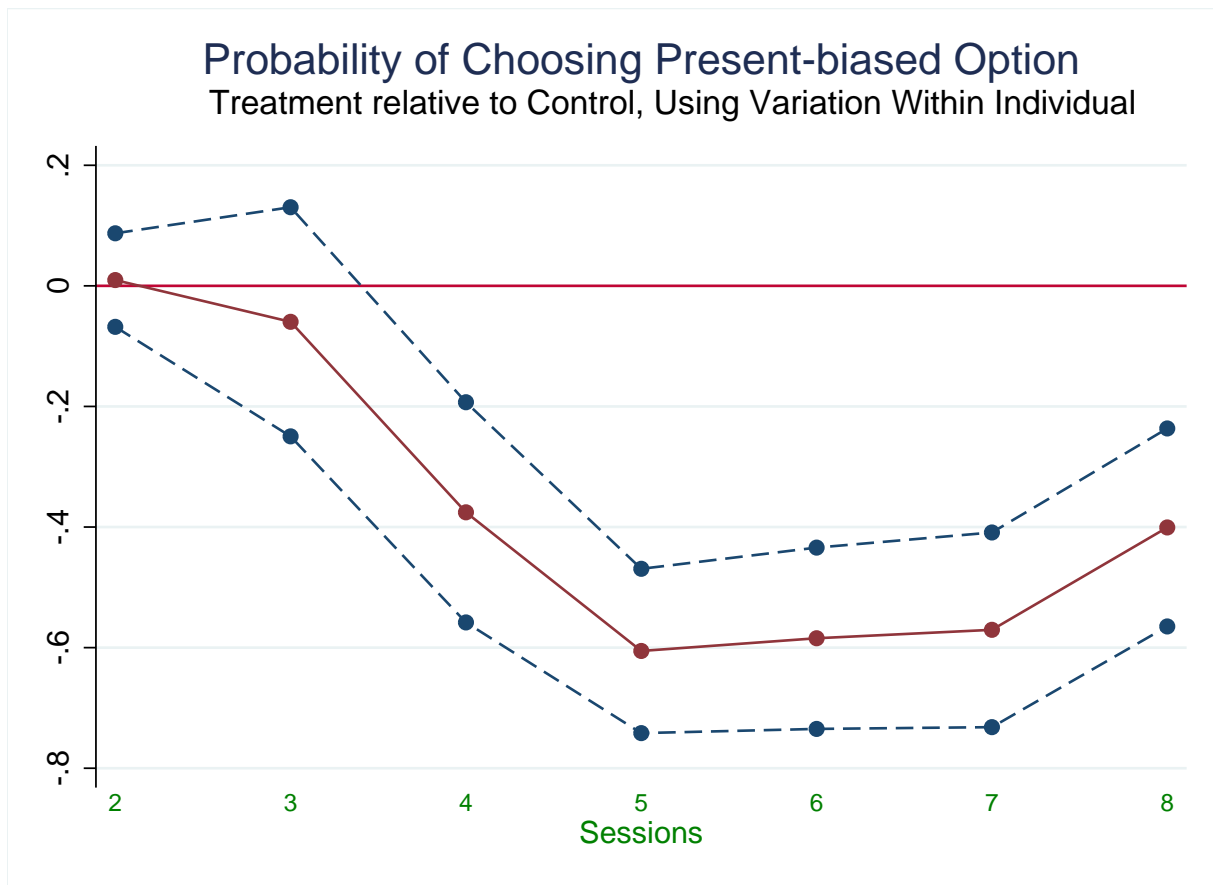
Figure 3: Coefficients of Interactions of Treat*Session Dummy in Savings Equation, with Individual Fixed Effects

Table 1: Summary Statistics - Individual Characteristics at Baseline

	Control	Treatment	Difference
Age (years)	32.47	32.08	0.38
	(7.09)	(7.62)	(0.69)
Muslim (%)	0.13	0.22	-0.09
	(0.34)	(0.41)	(0.04)
SC/ST (%)	0.42	0.35	0.06
	(0.49)	(0.48)	(0.05)
Education (years)	2.11	1.73	0.38
	(2.92)	(2.81)	(0.27)
Married (%)	0.67	0.75	-0.09
	(0.47)	(0.43)	(0.04)
Age at marriage (years)	15.75	15.77	-0.02
	(3.33)	(3.01)	(0.31)
Has fixed client (%)	0.26	0.31	-0.05
	(0.44)	(0.46)	(0.04)
Years in profession	9.36	8.87	0.49
	(8.06)	(7.57)	(0.73)
Adhiya contract (%)	0.06	0.18	-0.12
	(0.24)	(0.38)	(0.03)
Self-employed contract (%)	0.57	0.47	0.10
	(0.50)	(0.50)	(0.05)
Flying contract (%)	0.37	0.36	0.01
	(0.48)	(0.48)	(0.05)
Rate per sex act (w/ condom, Rs.)	129.13	121.06	8.07
	(128.54)	(54.90)	(8.90)
Rate per sex act (w/o condom, Rs.)	175.00	150.00	25.00
	(91.57)	(50.00)	(56.05)
No. of customers	3.13	3.14	-0.01
	(1.24)	(1.16)	(0.12)
Monthly income (Rs.)	8576.63	9701.32	-1124.69
	(5617.70)	(19434.31)	(1431.87)
Uses condom (%)	0.99	1.00	-0.01
	(0.10)	(0.00)	(0.01)
Member of Durbar (%)	0.81	0.77	0.04
	(0.39)	(0.42)	(0.04)
Has bank a/c (%)	0.43	0.45	-0.02
	(0.50)	(0.50)	(0.05)
Observations	203	264	.

Notes: Standard deviations/errors are in parentheses. * significant at 10 percent, ** significant at 5 percent, *** significant at 1 percent. Default group for religion is Hindu. Bank account refers to account with USHA, Durbar's banking arm. Adhiya contract is a sharing contract where the sex worker splits her monthly earnings 50:50 with the owner of the brothel. Self-employed contract implies that the sex worker pays the owner a fixed rent from her monthly earnings and keeps the rest for herself. Flying contract implies that the sex worker does not reside in the brothel but comes to work there from outside the red-light area.

Table 2: Means of Psychological Outcomes at Baseline

	Control	Treatment	Difference
Agency raw score	0.43	0.41	0.02
	(0.25)	(0.24)	(0.02)
Agency z-score	-0.02	-0.11	0.09
	(1.00)	(0.99)	(0.09)
Decision-making raw score	0.77	0.78	-0.01
	(0.15)	(0.15)	(0.01)
Decision-making z-score	-0.11	-0.06	-0.05
	(0.98)	(1.01)	(0.09)
Mobility raw score	0.56	0.56	0.00
	(0.24)	(0.24)	(0.02)
Mobility z-score	0.49	0.49	0.01
	(1.02)	(1.03)	(0.10)
Happiness (0/1)	0.48	0.51	-0.02
	(0.50)	(0.50)	(0.05)
Aspiration (0/1)	0.77	0.75	0.02
	(0.42)	(0.43)	(0.04)
Self-esteem (0/1)	0.15	0.20	-0.04
	(0.36)	(0.40)	(0.04)
Comfort in public raw score	0.41	0.38	0.03
	(0.27)	(0.28)	(0.03)
Comfort in public z-score	0.01	-0.11	0.11
	(0.98)	(1.04)	(0.10)
Ashamed (0/1)	0.66	0.61	0.05
	(0.48)	(0.49)	(0.05)
Frequent health check (0/1)	0.76	0.77	-0.01
	(0.43)	(0.42)	(0.04)
Observations	203	264	.

Notes: Standard deviations/errors are in parentheses. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 3: Means of Psychological Outcomes at Endline

	Control	Treatment	Difference
Agency raw score	0.39	0.50	-0.10
	(0.24)	(0.24)	(0.02)
Agency z-score	-0.16	0.26	-0.42
	(0.98)	(0.98)	(0.09)
Decision-making raw score	0.80	0.80	-0.01
	(0.15)	(0.15)	(0.01)
Decision-making z-score	0.06	0.10	-0.04
	(0.97)	(1.02)	(0.10)
Mobility raw score	0.33	0.32	0.01
	(0.14)	(0.16)	(0.01)
Mobility z-score	-0.49	-0.54	0.05
	(0.59)	(0.70)	(0.06)
Happiness (0/1)	0.48	0.61	-0.13
	(0.50)	(0.49)	(0.05)
Aspiration (0/1)	0.77	0.79	-0.02
	(0.42)	(0.41)	(0.04)
Self-esteem (0/1)	0.23	0.91	-0.68
	(0.42)	(0.29)	(0.03)
Comfort in public raw score	0.38	0.47	-0.09
	(0.27)	(0.26)	(0.03)
Comfort in public z-score	-0.13	0.21	-0.34
	(0.98)	(0.96)	(0.09)
Ashamed (0/1)	0.57	0.17	0.40
	(0.50)	(0.38)	(0.04)
Frequent health check (0/1)	0.79	0.87	-0.09
	(0.41)	(0.33)	(0.04)
Observations	192	245	.

Notes: Standard deviations/errors are in parentheses. * significant at 10 percent, ** significant at 5 percent, *** significant at 1 percent.

Table 4: Impact on Psychological Outcomes 1

	Panel A: ENDLINE				Panel B: DIFF-IN-DIFF			
	Agency	Self-esteem	Comfort in Public	Shame	Agency	Self-esteem	Comfort in Public	Shame
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treat	0.43***	0.68***	0.30***	-0.40***	-0.05	0.05	-0.15*	-0.05
	(0.09)	(0.04)	(0.09)	(0.04)	(0.10)	(0.04)	(0.08)	(0.04)
Post					-0.14	0.07*	-0.13	-0.09
					(0.09)	(0.04)	(0.08)	(0.06)
Treat*Post					0.51***	0.64***	0.45***	-0.35***
					(0.13)	(0.05)	(0.12)	(0.06)
Area fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contr. mean (raw)	0.39	0.23	0.38	0.57	0.43	0.15	0.41	0.66
Contr. mean (z-sc)	-0.16	-	-0.13	-	-0.02	-	0.01	-
Adj. R-sq	0.05	0.47	0.04	0.17	0.04	0.43	0.03	0.16
N	437	435	437	429	896	895	895	891

Notes: "Treat" indicates if individual was invited to training workshop. The outcome variables, agency and comfort in public, are constructed using multiple questions, hence presented as standardized z-scores. Standard errors, in parentheses, are clustered at the house level. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 5: Impact on Psychological Outcomes 2

| | Panel A: ENDLINE | | | | Panel B: DIFF-IN-DIFF | | | |
| | Happy | Aspire | Decision-making | Mobility | Happy | Aspire | Decision-making | Mobility |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treat	0.12**	0.03	0.04	-0.03	0.03	-0.00	0.04	0.00
	(0.05)	(0.04)	(0.10)	(0.07)	(0.05)	(0.04)	(0.09)	(0.09)
Post					-0.00	-0.00	0.17*	-0.98***
					(0.04)	(0.03)	(0.10)	(0.06)
Treat*Post					0.11	0.04	-0.01	-0.04
					(0.07)	(0.05)	(0.14)	(0.10)
Area fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contr. mean (raw)	0.48	0.77	0.80	0.33	0.48	0.77	0.77	0.56
Contr. mean (z-sc)	-	-	0.06	-0.49	-	-	-0.11	0.49
Adj. R-sq	0.02	0.01	-0.01	0.01	0.01	0.02	0.00	0.26
N	437	434	437	437	897	893	896	897

Notes: "Treat" indicates if individual was invited to training workshop. The outcome variables, decision-making and mobility, are constructed using multiple questions, hence presented as standardized z-scores. Standard errors, in parentheses, are clustered at the house level.* significant at 10%, ** significant at 5%, *** significant at 1%.

Table 6: Impact on Saving Choice

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
				Present-bias				
Treat	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
Mean for control group	0.55	0.58	0.49	0.48	0.61	0.65	0.69	0.75
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

Notes: "Treat" indicates if individual was invited to training workshop. Standard errors, in parentheses, are clustered at the house level.* significant at 10%, ** significant at 5%, *** significant at 1%.

Table 7: Impact on Saving Choice: Heterogeneous Treatment Effects, by Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Present-bias			
	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
Treat*Kalighat	0.05	0.11	0.29***	-0.13	-0.62***	-0.60***	-0.68***	-0.58***
	(0.11)	(0.09)	(0.08)	(0.08)	(0.10)	(0.10)	(0.07)	(0.10)
Treat*Bowbazar	0.06	0.10	-0.04	-0.35***	-0.52***	-0.54***	-0.48***	-0.26***
	(0.10)	(0.10)	(0.10)	(0.09)	(0.09)	(0.08)	(0.09)	(0.08)
Treat*Chetla	0.19	0.04	-0.02	-0.16**	-0.32***	-0.19**	-0.19	-0.44***
	(0.12)	(0.10)	(0.10)	(0.08)	(0.10)	(0.09)	(0.12)	(0.16)
Kalighat	0.14	0.00	-0.26***	-0.02	0.30**	0.31**	0.36***	0.19
	(0.13)	(0.09)	(0.09)	(0.09)	(0.14)	(0.12)	(0.12)	(0.14)
Bowbazar	0.19	0.11	0.25**	0.41***	0.34***	0.40***	0.43***	-0.01
	(0.12)	(0.10)	(0.11)	(0.09)	(0.12)	(0.10)	(0.13)	(0.16)
Constant	0.41***	0.52***	0.41***	0.24***	0.33***	0.33***	0.35***	0.73***
	(0.09)	(0.06)	(0.08)	(0.06)	(0.10)	(0.08)	(0.11)	(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

Notes: "Treat" indicates if individual was invited to training workshop. Standard errors, in parentheses, are clustered at the house level. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 8: Impact on Health-seeking Behaviour

	ENDLINE	DIFF-IN-DIFF
	Health check	Health check
	(1)	(2)
Treat	0.09**	-0.00
	(0.04)	(0.04)
Post		0.03
		(0.05)
Treat*Post		0.08
		(0.07)
Area fixed effects	Yes	Yes
Contr. mean (raw)	0.79	0.76
Adj. R-sq	0.01	0.01
N	424	882

Notes: "Treat" indicates if individual was invited to training workshop. The outcome variable is whether or not the individual has visited a health facility in the last 1 month. Standard errors, in parentheses, are clustered at the house level. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 9: Impact on Saving Choice: Heterogeneous Treatment Effects by Durbar Membership

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
				Present-bias				
Treat	0.184	0.102	0.131	-0.165	-0.501***	-0.518***	-0.547***	-0.302**
	(0.127)	(0.133)	(0.112)	(0.118)	(0.0881)	(0.0867)	(0.0979)	(0.120)
Treat*Member	-0.115	-0.000751	-0.0837	-0.102	-0.00488	0.0306	0.0845	-0.0776
	(0.124)	(0.133)	(0.114)	(0.117)	(0.0895)	(0.0985)	(0.1000)	(0.125)
Member	0.0814	0.0338	0.0130	0.0782	0.0414	0.00567	-0.0731	0.0245
	(0.0958)	(0.111)	(0.0887)	(0.0963)	(0.0671)	(0.0652)	(0.0623)	(0.0736)
Area fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-sq	0.01	0.01	0.08	0.19	0.35	0.31	0.31	0.13
N	445	429	431	424	409	391	393	360

Notes: "Treat" indicates if individual was invited to training workshop. Standard errors, in parentheses, are clustered at the house level.* significant at 10%, ** significant at 5%, *** significant at 1%.

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Table 10: Impact on Saving Choice: Heterogeneous Treatment Effects by Group Composition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
					Present-bias			
Treat	-0.00	-0.08	0.05	-0.13	-0.55***	-0.52***	-0.50***	-0.41**
	(0.14)	(0.12)	(0.17)	(0.17)	(0.12)	(0.13)	(0.17)	(0.15)
Treat X % of women	0.21	0.43	0.05	-0.41	0.06	0.02	-0.06	0.06
from same house	(0.35)	(0.34)	(0.35)	(0.32)	(0.26)	(0.27)	(0.36)	(0.38)
% of women	-0.03	-0.11	0.31	0.25	0.02	0.05	0.02	-0.07
from same house	(0.23)	(0.23)	(0.30)	(0.25)	(0.23)	(0.24)	(0.29)	(0.25)
Adj. R-sq	0.00	0.01	0.01	0.11	0.32	0.29	0.27	0.13
N	448	432	434	427	412	394	396	361

Notes: "Treat" indicates if individual was invited to training workshop. Standard errors, in parentheses, are clustered at the house level.* significant at 10%, ** significant at 5%, *** significant at 1%.

A Appendix

A.1 Additional Tables

Table A.1: Impact on Savings Choice: Cluster by training group

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
				Present-bias				
Treat	0.09	0.09	0.06	-0.25***	-0.51***	-0.50***	-0.48***	-0.36***
	(0.09)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)
Area fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean for control group	0.55	0.58	0.49	0.48	0.61	0.65	0.69	0.75
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

Notes: "Treat" indicates if individual was invited to training workshop. Standard errors, in parentheses, are clustered at the group level. * significant at 10%, ** significant at 5%, *** significant at 1%.