MICROCREDIT AND GENDER BIAS: EVIDENCE FROM TAMIL NADU

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ABSTRACT

Much research shows the positive impact of microfinance or microcredit programmes upon poor women in South Asia and the rest of the world. There is no gainsaying that self-help groups have provided the much-needed peer group to incentivise savings and promote some kind of social solidarity. We also know that the individual routes to empowerment of participating women are not necessarily linear, and can be arduous and challenging as they confront rigid norms and conservative structures.

Over the past two decades, there has been an increasing interest in understanding biases and prejudices that go beyond standard social science quantitative approaches. Psychological tests and methods have increasingly been used to better understand the resilience and depth of biases associated with race, nationalism, and gender in a variety of settings such as the workplace, schools, laboratories, and other public spaces.

Based on evidence gathered from a survey and a psychological test among women participating in a micro-credit programme in northern Tamil Nadu, we argue that micro-credit may empower women in terms of financial decision-making but such a transformation may not necessarily lead to a reduction in an implicit gender bias against women. Conflating empowerment with reductions in gender bias obfuscates the two and can undermine the real potential of the design and delivery of the microcredit programme. We conclude by pointing out that incorporating peer-based mechanisms within programme design may be one relatively under-explored way of tackling gender bias through micro-credit programmes.

1. INTRODUCTION

India has probably the largest number of microfinance programmes in the world. However, the dark underside of India's gender bias against women keeps rearing its ugly head in the press from time to time. Considering that India has witnessed more than two and half decades of various kinds of microfinance led interventions, it is pertinent to ask whether microfinance has indeed succeeded in bringing about a fundamental shift in gender attitudes among those participating in such programmes.

Based on evidence from the State of Tamil Nadu in India, we argue that microfinance has the proven capacity to usher in explicit changes,[1] but has relatively lower impact upon implicit biases. Women participating in microfinance programmes are able to understand and appreciate the social and economic norms that encourage gender equity, but their attitudes, which are much more resilient, towards the same seem to be relatively unchanged. Such a result is not surprising considering that studies on other biases lead to similar results, but it helps provide the insight that gender empowerment does not automatically reduce an implicit bias.

This paper has the following sections. Following the Introduction, the second section on literature review summarises some results on the issue of gender empowerment through microfinance and the usefulness of the Implicit Association Tests (IATs) to further explore microfinance interventions. The third section contains a description of the data sources, sampling, and collection procedure for the paper. The third section outlines the research design and empirical strategy. The final section presents an overview of the results from the data and possible conclusions.

2. LITERATURE REVIEW

It can be said without any doubt that much has been achieved since the Women's Conference in Beijing 25 years ago, but also that much more still needs to be done, especially in the context of the #MeToo movement. The most recent UN Human Development Report points out, "On the positive side women are catching up in basic areas of development. But progress has been uneven as women pull away from basic access into enhanced ones, where gaps tend to be wider" (UNDP, 2019, p. 149). The world is not on track to achieve gender equality by 2030 and it may very well take another 202 years to close the gender gap in economic opportunity (UNDP, 2019, p. 147). The report also highlights an important dimension of gender equality, which is that gender-biased social norms are correlated with a high level of gender inequality. Even though women, in general, are skewed towards a less general bias, 14 per cent of all women exhibit no gender social norms bias as compared to a corresponding figure of 10 per cent for all men, and the share of both with no bias has fallen over the past decade.2 Therefore, gender equality norms and basic capabilities may be improving, but their pace of change is being dragged down as long as biased norms remain resilient.

Microfinance has clearly been one of the most directed interventions aimed at improving the welfare of women and their families. However, there is enough evidence to show that the empowerment of women through microfinance is not conclusive, even if there is potential for such transformation (Beck, 2015). In areas where there is clear and significant evidence that microfinance has empowered women, contextual, behavioural, and programme design characteristics have proven important (Swain & Fan, 2007) (Kabeer, 2005). On the flip side, other scholars point out that empowering women in certain activities can create family-level conflicts and potentially reinforce commonplace gender biases, apart from the well-known double burden argument (Guerin & Palier, 2007). Further, while empowerment does generate agency among women to question the status quo, it seems to have little impact on gender norms (Swain & Garikipati, 2019).

If microfinance indeed has provided agency to women to negotiate their daily household lives but gender norms remain mostly unaffected, what still needs to be examined is whether such daily negotiations are deep enough to help pave the way for successive generations within the same household. Are the changed attitudes among the women enough to bring about transformations within a family even if large-scale structural transformations pose an insurmountable challenge? In other words, have the women changed to such an extent that their hard-won empowerment was indeed worth the fight as it ensures that their children need not go through the same cycle again? Or– counter intuitively but nevertheless quite realistically— was the transformation good for them but possibly not something they would wish upon their daughters to have to go through? Does microfinance bring about a change from within or is it a necessary evil that helps them to adapt to life's complex challenges? In sum, has microfinance brought about an implicit change or is the change an explicit but nevertheless a real change?

Implicit attitudinal changes can prove elusive to capture through standard quantitative approaches, especially survey-based approaches. In this context, IATs, which are psychological tests that measure automatic associations between concepts (Maina, Belton, Ginzberg, & Singh, 2017) , can be used to assess the implicit biases of respondents. Implicit attitudes manifest as actions or judgments that are under the control of automatically activated evaluations, without the performer being aware of that causation (Greenwald & Banaji, 1995). Proponents of the test argue that implicit

biases are biases that are wired into our brains and, in fact, constitute part of the cognitive map of an individual. Such tests have been undertaken to understand a variety of identity-based biases such as race, gender, nationalism, and so on. While such habits of the mind seem to be beyond our control, they are not necessarily permanent, and as medical research on neuroplasticity seems to indicate, even hard-wired attitudes can change with the right kinds of interventions.3

There is very little research on the formation of gender attitudes in developing countries, and even lesser on the use of IAT which tests such attitudes. From a recent study, we know that parental influence and peer effects have strong effects on the transmission of attitudes, and that awareness-based interventions can make the attitudes of both boys and girls more progressive, especially in the areas of gender roles, employment, and education (Dhar, Jain, & Jayachandran, 2018). Another study based on IATs showed that exposure to women leaders in local village councils does not alter preferences for male leaders but tends to weaken gender roles in the public and domestic spheres, especially among men (Beaman, Chattopadhyay, Duflo, & Topalova, 2009).

Our results show that participating in self-help group (SHG)-based microcredit programmes has certainly brought about an explicit change in gender attitudes among participating members. However, despite their participation in such programmes for more than a decade, the gender biases of the concerned members remain unaffected by microcredit.

The next section outlines the research design and methodology used in this paper. The subsequent section overviews the results from the data and possible conclusions.

3. DATA

3.1. Study Site

The study was conducted in three districts of Tamil Nadu in collaboration with a Non- Governmental Organisation (NGO) called the Integrated Village Development Project (IVDP), which was founded by Mr Kulandei Francis in the early 1970s. After observing the poor livelihood conditions and high levels of indebtedness prevalent among women in the concerned districts of the State, Mr Francis (who was then a priest but subsequently left the priestly order to fully dedicate himself to social work) decided to organise SHGs for women as a strategy to financially empower households in the area. As of 2018, IVDP had more than 2,00,000 women

members and had distributed almost ₹6000 crores as loans. Mr Francis was bestowed with the Magsaysay Award in 2012, which brought him well-deserved international recognition, but the fact that IVDP has grown in scope and scale over the years is evidence enough of the good work being done by the organisation in northern Tamil Nadu.4

3.2. Sampling

In the study, we used data on explicit and implicit bias collected through a survey conducted on a sample of 513 SHG women, spanning the Krishnagiri, Dharmapuri, and Vellore districts of Tamil Nadu, and comprising the total catchment area for IVDP. The implicit bias of women was recorded via the IAT whereas the explicit bias was measured through a questionnaire. These measurements were part of the survey conducted during November 2018.

We aimed to create our treatment and control groups by ensuring that the women were equally representative on most counts except IVDP membership. To do this, we split the entire list of IVDP

women members based on the number of years of their membership into four quartiles. We then chose members in the top quartile as those who had been sufficiently exposed to IVDP's programme. These women have been members of IVDP for more than 13 years. The bottom quartile consisted of women who have been in the programme for less than two years and formed the population for our control group.

Next, we restricted this population of the top and bottom quartiles to women residing in similar panchayats. We defined these as panchayats having similar gender-based characteristics namely, the sex ratio, percentage of population of females belonging to the Scheduled Caste (SC) and Scheduled Tribe (ST) categories, the literacy rate of females, and percentage of the working female population. Using a one on one propensity matching technique controlled on these variables, we matched 20 similar panchayats, comprising 136 SHGs and 2060 members) in the treatment group to 18 panchayats, comprising 66 SHGs and 1031 members in the control group. Finally, at a minimum detectable impact size of 0.25 and an assumed standard deviation of 1, we arrived at a sample size of 571 members, including 380 in the treatment and 191 in the control groups. These members were then surveyed for their bias measurements.5

3.3. Data Collection

Our goal was to determine the effect of membership of women in the microcredit SHGs on their implicit and explicit gender biases. We narrowed the meaning of gender bias to be understood as the difference in the attitudes of the respondents in associating a man and a woman in relation to their household and professional work, that is, we wanted to estimate how women perceive gender roles associated with their household and professional work. We measured the implicit bias among women in our sample by employing the IAT, which measures the difference in association speeds of the respondent between targets (man or woman) with the attributes (household work and professional work). We measured the explicit bias of women through a survey-based questionnaire asking the women to respond to a set of pro-male and pro-female-biased statements and vignettes, with the responses being recorded on a five- point Likert scale (Completely Disagree to Completely Agree), which was then quantified.

Since we were unable to conduct a baseline survey for our sample, we used individual-level data of each of these respondents provided by IVDP as baseline covariates for further analysis.

3.4. Descriptive Statistics

Table 1 summarises all the variables used in the study. The mean age of respondents was around 42 years in the treatment group and 31 years in the control group. We used data on the respondents provided by IVDP to generate the indicator variables for education and employment status. Around 67 per cent of the members in the treatment group were educated. The control group had a larger proportion of educated women, at around 76 per cent. A majority of the women in both groups were employed. Only around 2.6 per cent and 7.14 per cent of the women were unemployed in the treatment and control groups, respectively.

The percentages of members in the sample belonging to the SC/ST category were much lower than those of members in the Backward Caste (BC)/Most Backward Caste (MBC) category. More than 95 per cent of the women in the treatment group belonged to the BC/MBC categories. The figure was slightly lower in the control group where around 85 per cent of the women belonged to the BC/MBC

categories. The proportion of women having at least one girl child was similar in both the groups. The treatment group had around 3 per cent more women, with at least one girl child. Around 50 per cent of the women in the control group had their mothers as members of an SHG, whereas the treatment group had only 36 per cent of women with mothers as members in SHGs.

Table 1:Summary Statistics of Respondents		Treatment	Control
Variables		**Treatment**	**Control**
Mean D-Score		0.504	0.552
Mean Likert Score		2.11	2.25
Mean Age		42.24	31.44
Education	Educated	67.35%	75.59%
	Uneducated	32.64%	24.40%
Employment Status	Employed	97.32%	92.85%
	Unemployed	2.67%	7.14%
Caste Group	SC/ST	3.85%	15.47%
	BC/MBC	96.14%	84.52%
Has at least one girl child		73.59%	70.23%
Mother is an SHG member		36.79%	50.59%

Source: Data collected from field visits conducted in November 2018.

4. EMPIRICAL STRATEGY

The aim of the specifications mentioned below is to determine the effect of IVDP SHG membership on the explicit and implicit gender biases of its women beneficiaries. We estimate the treatment effects in the following way:

Model 1: $Y_{implicit} = \alpha_1 + \beta_1 T + \Sigma\, Y_i Z + \epsilon$

Model 2: $Y_{explicit} = \alpha_2 + \beta_2 T + \Sigma\, Y_i Z + \epsilon$

Here Yimplicit and Yexplicit represent the measure of implicit gender bias and explicit gender bias of the women beneficiaries, respectively. The implicit bias is recorded as the D-score of the IAT and ranges from -2 to +2. The bias is measured as a strength of association between the two categories, Male and Female, and attributes household work and professional work. Primarily, the test determines the difference in the average association speeds of the respondents between the categories and attributes, that is, the D score is essentially a score of the time taken (which is usually in seconds or fractions of seconds) by the respondents to make the associations between genders and their roles. A positive D-score indicates that the respondent associated females with household work and males with professional work to be stronger than females with professional work and males with household work, hence indicating a pro-male bias. Similarly, a negative D-score indicates a pro-female bias.

The explicit bias of the respondent recorded through the Likert score ranges from 1 (Strongly Disagree) to 5 (Strongly Agree). After standardisation of the outcome results, the average Likert score

of all the outcomes serves as the indicator for explicit bias. A higher score indicates that the respondent agrees with the pro-male biased statements, exhibiting a pro male bias. Similarly, a lower score indicates that the respondent has a pro-female bias.

In order to increase the robustness of the model, we use logarithmic transformations of the outcomes. The key regressor is the treatment variable (T), with value 1 indicating that the respondent has been in IVDP's programme for more than 13 years, and value 0 indicating that the respondent has been in IVDP's programme for less than 2 years. β is the average treatment effect, which measures the effect of IVDP membership on implicit and explicit gender bias. Z represents the set of control variables, including the individual-level characteristics of subjects like their caste, employment status, and the employment and education status of the parents and husbands of the respective individuals. It also includes dummy variables, indicating the presence of a girl child and the respondent's self-reported financial standing in the family, measured through questions in the survey.

In order to account for differences in the age and education status between the treatment and control groups, we ran weighted linear regressions on both the outcome variables. We generated the weights through the inverse propensity weighting technique using the age and education variables of the subjects. The propensity score p was calculated to be the probability of finding the respondents in the treatment group conditioned on the age and education status. Subjects with Treatment = 1 received weight 1/ p and subjects with Treatment = 0 received weight 1/ (1- p).

5. RESULTS

This section contains the results of our analysis. Table 2 represents the effect of treatment on the variables of interest after being weighted for age and education status.

Model 1 indicates the effect of Treatment on the implicit bias of women. The most important finding from this model is that our Treatment effect is statistically insignificant. This means that the members may continue to exhibit the same implicit bias even after being the beneficiaries of IVDP's microcredit programme. To further verify if that indeed is the case, we ran a balance test to check the differences of the means of the D-scores between the treatment and control groups. We found that this test yields a statistically insignificant p-value of 0.37, thereby rejecting the null hypothesis. Hence, we conclude that statistically, the average D-score obtained by women in the treatment group was not different from that for those in the control group.

This model also shows the effect of other covariates on implicit bias. Among all the covariates, we found that the employment indicator is negatively correlated to the implicit bias measure. Employed women seem to have a lower implicit bias than women who are unemployed. Similarly, women belonging to the SC/ST categories seem to have a significantly lower implicit bias than women in the BC/MBC caste category. We believe that while this finding could be due to the low proportion of SC/ST members in the sample, it is an important result that requires further examination through field work and data collection.

While we controlled for the educational status of respondents through weights in the regression, we added the educational status of family members of women as additional controls to the model. We found that the husband's education status is positively associated with the member's D-score. This means that women whose husbands are educated seemed to have a larger implicit bias than women whose husbands were uneducated. Similarly, the mother's education   status was also positively associated with implicit bias. Does education reinforce the existing implicit bias in individuals and

households? While we were unable to answer why we found this association through this study, we believe that this is an important question that needs to be examined further. We also believe that this finding opens up avenues for future research on the effect of education on societal bias.

Women whose mothers were part of an SHG seemed to have a larger implicit bias than others. Since this is counter-intuitive, it is difficult to explain why this is the case. Why would a daughter who has been participating for several years, and whose mother has also been a member, tend to be more biased than others? We are unable to explain this result but we wanted to share this result in case it has some implications for understanding gender roles intersecting by age. We find this result to be counter-intuitive.

Model 2 indicates the effect of treatment on the explicit bias of women. We found the average treatment effect to be highly significant and negatively correlated. This means that the members in the treatment group exhibited a significantly lesser explicit bias than members in the control group. This is inconsistent with the result obtained on implicit bias. However, it is also intuitive and nevertheless reassuring. Members who had participated in IVDP's programme for more than 13 years consciously expressed lesser biased views than women in the control group.Model 2 indicates the effect of treatment on the explicit bias of women. We found the average treatment effect to be highly significant and negatively correlated. This means that the members in the treatment group exhibited a significantly lesser explicit bias than members in the control group. This is inconsistent with the result obtained on implicit bias. However, it is also intuitive and nevertheless reassuring. Members who had participated in IVDP's programme for more than 13 years consciously expressed lesser biased views than women in the control group

Women belonging to the SC/ST caste categories seemed to have a significantly lower explicit bias than women in the BC/MBC caste categories. This result is consistent across both our variables of interest. We also found that women who had at least one girl child had a greater explicit bias than women who did not have any female children. Does the presence of a girl child increase the biases placed against women by society? Or can we say that having a girl child tends to make parents more sensitive to biases that are more acceptable to their generations but not to their offspring? This is yet another important finding which we believe needs to be investigated further. Finally, there is a strong negative association between the financial independence indicator and explicit bias. Women who took financial decisions in the household seemed to have a lower explicit bias than women who did not. We believe this finding to be intuitive and a direct consequence of IVDP's financial empowerment programmes.

However, unlike the result obtained in Model 1, there is no significant association between the employment indicator and explicit bias measure. Similarly, the educational status of family members does not have any significant correlation with explicit bias. The association between the indicator of a woman's mother being a part of the SHG and explicit bias is also insignificant, and thereby inconclusive. This further proves that explicit and implicit biases are distinct, and at times contradictory. It may be unfair to conflate these and it is therefore necessary to address the issues with respect to these biases separately.

6. CONCLUSION

In conclusion, we can certainly say that SHG-based microcredit does have a significant impact upon biases at the explicit level. But one should be wary of conflating the explicit talk of gender equality as a reduction in implicit attitudes that inform such biases. Our results show that explicit bias and implicit

bias are indeed quite different from each other. Such a result, though disappointing on the face of it, is not quite different from similar studies that have anticipated results in bias reductions of various kinds of prejudice-based categories but found little to no impact. An experimental study conducted to measure the impact of a gender attitude change programme in government schools of Haryana reveals that the treatment had no significant

	Table 2: Effect of Treatment on Implicit and Explicit Bias	
Independent Variables	**Dependent Variable**	
	Log(D-score)	Log(Likert Score)
	(Model 1)	(Model 2)
Treatment	-0.002	-0.080***
	(0.016)	(0.026)
Employment Status	-0.087**	0.024
	(0.044)	(0.070)
Caste Group–SC/ST	-0.068**	-0.026**
	(0.029)	(0.048)
Husband's Employment Status	0.088**	-0.063
	(0.045)	(0.072)
Husband's Education Status	0.063***	-0.001
	(0.018)	(0.029)
Mother Is Part of an SHG	0.047***	-0.007
	(0.016)	(0.026)
Mother's Education Status	0.055***	-0.020
	(0.019)	(0.031)
Has At Least One Girl Child	0.021	0.079***
	(0.017)	(0.027)
Financially Independent–Self-reported	0.031*	-0.092***
	(0.016)	(0.026)
Constant	1.133***	0.806***
	(0.053)	(0.086)
R^2	0.133	0.085
F Statistic	7.484*** (df = 9)	4.544*** (df = 9)

Source: Data collected from field visits during November 2018.

Note: *$p<0.1$; **$p<0.05$; ***$p<0.01$.

impact on the implicit preference for girls measured by IAT6 (Dhar, Jain, & Jayachandran, 2018).

Another experiment compared the effectiveness of 18 interventions to reduce implicit racial preferences. Nine of the interventions that failed to reduce implicit biases featured engagement with others' perspectives, appeal to egalitarian values, and elevation induction7 (Lai, et al., 2016).

From a policy or programmatic perspective, as mentioned earlier, the significance of design for programme impacts cannot be under-estimated. Much research that is related to changes to implicit attitudes points to the valence of peer effects (Dasgupta & Stout, 2014). It has also been observed that SHGs are peer groups and have been known to be effective because of the solidarity that exists within them. One can perhaps harness this latent capacity inherent to these groups and identify possible small interventions that can be designed for achieving large-scale changes.