Parenting Skills and Women's Empowerment: Evidence from a Randomised Intervention in Bangladesh

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Abstract

This paper provides an evaluation of the spillover effects on women's empowerment of a randomised intervention, Save the Children's Early Childhood Stimulation Programme, which offered to Bangladeshi mothers opportunities to develop parenting skills and improve parental knowledge. Results show that the programme empowered women in terms of their decision-making power, and parenting-related education is found to be the mechanism underlying this effect. There is also suggestive evidence of a relationship between fathers' previous migrations and mothers' bargaining power, since the intervention had an empowerment impact only on women whose partner had not migrated before the baseline survey.

Keywords: parenting knowledge, empowerment, decision-making, migration, Bangladesh

JEL Classification: D04, D1, J16, O15

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1 Introduction

Save the Children's Early Childhood Stimulation (ECS) Programme, an intervention implemented in Bangladesh in 2014 and 2015, aimed to improve child development by promoting changes in parenting behaviours. Households with children aged 3–18 months were randomly selected to receive materials and counselling services that could facilitate cognitively stimulating parent-child interactions (Chinen and Bos, 2016). Besides the intended objectives of the programme, the training could have affected parents' behaviours in situations other than child-rearing. In particular, it could have provided mothers, who were the main recipients of the treatment, with information and skills that can also be used in the processes of intra-household bargaining.

Employing recently released and under-used data, this work investigates whether the ECS programme led to women's empowerment, thus providing policy-relevant insights into the spillover effects of an intervention that was relatively inexpensive and that can represent a replicable strategy to obtain multiple outcomes at individual- and household-level. The assessment of the impact on empowerment is particularly interesting since the programme gave opportunities for improvements in knowledge and did not provide economic benefits.

Furthermore, this paper also contributes to the growing body of literature on the relationship between men's migration and women's power (Antman, 2018). Indeed, it analyses whether men's previous migration experiences played a role in shaping the empowerment effect of the programme.

Results show that the intervention increased women's decision-making autonomy and decreased their exclusion from household bargaining. The effect was particularly large on low-educated women, living in poorer households.

The mechanism explaining this impact is found to be the parenting-related education: indeed, mothers with low parenting knowledge at baseline were affected the most by the training. Moreover, this channel is also supported by suggestive evidence of improved parental ability for treated mothers.

The effect on decision-making power concerns only mothers who, at the time of the baseline survey, cohabited with their partner, whereas women living in households where their child's father was absent did not experience any improvement. Similarly, for women who at baseline reported that their partner had migrated during the previous year, the impact of the programme was either null or small, because these women were relatively more empowered even before the intervention: this is consistent with previous studies, which find a positive relationship between men's migration and women's power, and provides insights into the heterogeneity of the effect of the training.

2 Women in Bangladesh

Bangladesh ranks 129, out of 162 countries, in terms of equality between men and women, considering the 2018 Gender Inequality Index, a multidimensional measure that is calculated by using outcomes related to reproductive health, empowerment and labour market (UNDP, 2019). Cultural norms have contributed to defining the status of women within the society: as described by Heintz et al. (2018), in a context in which patrilineal inheritance and female seclusion have been practiced, women are likely to be economically dependent on men and to face poor living conditions in case of loss of the main wage-earner male household member – a concept that Cain et al. (1979) refer to as "patriarchal risk". Data from 2014 Bangladesh Demographic and Health Survey show that 34% of female respondents aged 15-49 years were working at the time of the survey, compared to 85% of their

male counterparts. Among ever-married women who were involved in some forms of employment, 8% of them were unpaid and, when they received remuneration, they made decisions on how to allocate these resources autonomously in 32% of cases (National Institute of Population Research and Training et al., 2016). Social pressures to adhere to purdah, a practice that restricts female mobility and presence in public places, play a role in determining the types of occupation that women are engaged in (Anderson and Eswaran, 2009). Home-based activities, such as the rearing of livestock, are indeed the most common tasks that women perform, and female employment out of the house may signal family's economic destitution, since working outside the dwelling – taking low-skilled and informal jobs, in particular – is generally avoided unless it is necessary for meeting household's basic needs (Heintz et al., 2018).

Intimate partner violence is common, with a higher prevalence in rural areas and poorer households. According to the Report on Violence Against Women published by the Bangladesh Bureau of Statistics, in 2015 72.6% of Bangladeshi ever-married women aged 15 years and over have experienced, at least once in their lifetime, any form of partner violence, which remained undisclosed – to both local authorities and close people – in the vast majority of cases. More specifically, 54.7% of them have been victims of physical or sexual aggressions, 55.4% of controlling behaviour, and 28.7% of emotional violence. Besides abuses perpetrated by the spouse, Bangladeshi women are also likely to face non-partner assaults, experienced by nearly 30% of them during their life. Highly-educated women are less likely to experience both partner and non-partner violence against them (Bangladesh Bureau of Statistics, 2016).

Like violence, early marriage is also negatively associated with female education: in 2014, the median age at first marriage of Bangladeshi women with at least secondary education was nearly five years higher than the one of lower-educated

women. Marriage before 18 years has been largely practiced in Bangladesh: although the minimum marriage age for women is indeed 18, slightly less than three-fourths of women aged between 20 and 49 years got married before having reached the legal age (National Institute of Population Research and Training et al., 2016). Marriage at young ages may lead to a greater power imbalance within the household, given a possibly large age gap between spouses (Bangladesh Bureau of Statistics et al., 2017) .

It is not easy to measure female empowerment, since the process is not directly observable (Mahmud et al., 2012). Previous studies on Bangladesh have highlighted the existence of conditions and resources, representing the determinants of empowerment, such as women's age, education, membership of non-governmental organisations, economic security and access to media. Decision-making is the most common way to measure power dynamics in Bangladeshi households, while control over assets, mobility and participation in social and political life have also been used as proxies for women's power (Bose et al., 2009; Schuler, Islam, et al., 2010; Mahmud et al., 2012; Head et al., 2015; Kabeer, 2017; Kabeer et al., 2018; Ambler et al., 2021). Examples of ways in which women's empowerment has been obtained are improved access to credit, in-kind and cash transfers, and paid job opportunities (Kabeer, 2001; Pitt et al., 2006; Porter, 2016; Kabeer, 2017). Among the benefits of empowerment, besides positive changes for women themselves, there also are improvements in nutrition and food security, for the household and children in particular (Sraboni et al., 2014; Holland and Rammohan, 2019).

Female empowerment is likely to be connected also to male migration. The internal migration of Bangladeshi men is generally a tool for looking for economic opportunities and escaping from poverty, and temporary migration may represent a strategy to cope with the lean period and the timing of dry and wet seasons. (Marshall and Rahman, 2013; Bangladesh Bureau of Statistics, 2015b; Khandker

et al., 2012; Bryan et al., 2014). Given the high costs and risks that migrants and their households should bear, international migration from Bangladesh is mainly experienced by wealthier households with considerable asset endowments (Mendola, 2008; Bangladesh Bureau of Statistics, 2015a). In this context, Hadi (2001) finds that husband's international migration is positively correlated with the decision-making power of the wife, and the explanations for this association include the absence of the spouse and the transmissions of different values. Bose et al. (2009) also suggest the existence of a relationship between women's power and their spouse's absence, mainly due to migration. According to Schuler, Lenzi, et al. (2018), Bangladeshi men perceive women's empowerment as a consequence of men's migration, as well as of other changes and interventions at micro- and macro-level. Fakir and Abedin (2020) illustrate that male migration results in women's empowerment, in terms of asset ownership, control over minor expenses, mobility, and lower domestic abuse.

In the following section, I provide the description of the ECS intervention, which offered women the opportunity to improve their knowledge and skills. These potential improvements may have empowered women in terms of bargaining power, thus making them more likely to make decisions.

3 Early Childhood Stimulation Programme

The objective of the ECS Programme, created by Save the Children, was to improve the development of Bangladeshi children through changes in parents' behaviours. As described in the final report of the programme (2016), this intervention was integrated into a government programme, the National Nutrition Services (NNS), in collaboration with the Ministry of Health and Family Welfare. The treatment consisted of the distribution of programme materials and of the provision of

counselling services at community clinics or during visits to households.

The programme involved three sub-districts in Bangladesh – Muladi, Satkania and Kulaura[1] – and, in each of these sub-districts, the treatment was randomised at union-level[2]: 78 community clinics were randomly assigned to treatment and control groups[3]. Within the catchment area of each clinic, households with children aged 3–18 months were randomly selected and mothers were the main recipients of the training[4]. Two surveys were conducted, a baseline survey – during the period between November 2013 and January 2014 – and an endline survey – during the period September–December 2015[5] (Chinen and Lane, n.d.; Chinen and Bos, n.d.). The programme implementation started in January 2014 and lasted approximately one year and a half, until August 2015.

Three types of materials were distributed: the child development card, the picture books and the key message picture booklet. The child development card provided examples of cognitively stimulating practices and included simple recommendations with pictures. Illustrations in the household and nature picture books could be used by mothers to teach words and promote children's language development, and the key message picture booklet helped mothers to learn the key messages of the programme[6].

Counselling services were offered during routine households visits, visits to community clinics, and Expanded Programme of Immunisation events, during which

[1] These sub-districts were selected because the NNS programme was piloted there (Chinen and Bos, 2016).

[2] Bangladesh is composed of 7 divisions, which are subdivided into districts. Districts are divided into sub-districts (upazilas), which are divided into unions.

[3] 39 to treatment and 39 to control.

[4] 2,574 household were randomly targeted. Around 92% of the families live within 3 km from clinics.

[5] Attrition is low (3.4%) and is mainly due to migration.

[6] (i) Taking care of yourself during pregnancy, (ii) giving love and affection to the child, (iii) playing games with the child, (iv) talking with the child, (v) practicing positive discipline, (vi) practicing responsive feeding, (vii) practicing hand washing, (viii) sharing the knowledge with others.

health workers[7] showed mothers how to use programme materials. During the implementation of the intervention, other activities were added, such as counselling services during Growth Monitoring Promotion events and community support groups.

The effects of the ECS programme were evaluated by the American Institutes for Research. Cognitive and anthropometric benefits for children were found, and parenting knowledge and health were the only outcomes about parents that were investigated. While no effect on parental knowledge was found, findings from focus groups suggested mothers' increased awareness of child development practices, only in the treatment group (Chinen and Bos, 2016).

In the analysis that follows, I examine whether the programme was beneficial not only to children but also to mothers themselves. In particular, I investigate whether there was an increase in mothers' participation in intra-household decision-making due to the acquisition of new skills. To this purpose, given that the outcome that I analyse highly depends on the presence of other decision-makers, I consider only mothers who, at the time of the baseline survey, were cohabiting with their partner. I need to acknowledge that, as shown in *Table A1*, these mothers were less educated, less empowered and less likely to go outside to visit friends or relatives, compared to mothers whose partner was absent, thus being more in need of empowerment.

4 Methodology

I estimate two types of effects, the intention to treat effect (itt) – β_1 in *equation (1)* –, which is assessed by regressing the outcome on the random assignment to treatment, and the local average treatment effect ($late$) – β_2 in *equation (2)* –, which is

[7]Community health care providers, health assistants or family welfare assistants.

needed to address imperfect compliance (Imbens and Angrist, 1994; Angrist et al., 1996; Duflo et al., 2007). Indeed, non-compliers represent 25% of the sample that is used in the analysis[8]: there are 486 no-shows (assigned to the treatment group but untreated – nearly 47% of the treatment group) and 29 cross-overs (assigned to the control group but treated)[9]. Therefore, I use the random assignment to treatment, A_{ihcs}, as an instrument for the actual treatment, T_{ihcs}, and I obtain the effect of the intervention only on compliers[10].

$$y_{ihcs}^{t+1} = \alpha_1 + \beta_1 A_{ihcs}^{t} + \gamma_1 I_{ihcs}^{t} + \delta_1 H_{hcs}^{t} + \zeta_1 C_{cs}^{t} + \phi_{1s} + \epsilon_{1ihcs} \tag{1}$$

$$y_{ihcs}^{t+1} = \alpha_2 + \beta_2 T_{ihcs}^{t} + \gamma_2 I_{ihcs}^{t} + \delta_2 H_{hcs}^{t} + \zeta_2 C_{cs}^{t} + \phi_{2s} + \epsilon_{2ihcs} \tag{2}$$

$$T_{ihcs}^{t} = \theta + \kappa A_{ihcs}^{t} + \lambda I_{ihcs}^{t} + \mu H_{hcs}^{t} + \pi C_{cs}^{t} + \rho_s + \eta_{ihcs} \tag{2.1}$$

where i=mother, h=household, c=community, and s=sub-district

Information about household decisions is used to measure mothers' power, which is the outcome of interest. During the interviews at the time of the endline survey, mothers were asked which household member usually made ten different decisions, related to food, children and expenditures[11]. I consider two dimensions of decision-making power, autonomy and exclusion: autonomy refers to the fact that mothers make decisions on their own, whereas exclusion indicates that they do not participate in intra-household bargaining[12]. Therefore, I create two indexes, one for

[8] The sample is composed of 2,055 mothers living with their partner.

[9] See *Table A2* for an analysis of compliance.

[10] *Equations 2.1* and *2* describe this two-step procedure, representing first- and second-stage regressions respectively. The binary variable A_{ihcs} is equal to 1 when the mother is assigned to the treatment and is equal to 0 when the mother is not assigned to the treatment. The binary variable T_{ihcs} is equal to 1 when the mother is treated and is equal to 0 when the mother is not treated.

[11] (i) what food is prepared every day, (ii) how much money the household spends on food, (iii) what food is bought for household consumption, (iv) the food the child is fed with, (v) buying important things for the family, (vi) how earnings are spent, (vii) what to do when your child is seriously ill, (viii) when to take your child to a health facility for checks or Immunisation, (ix) buying toys and any play material for the child, and (x) taking the child outside the house to visit family or friends.

[12] This means that mothers do not make decisions, neither alone nor with other household members.

autonomy and the other for exclusion, through principal component analysis, and I also generate a set of other outcome variables in order to check the sensitivity of results[13]. Furthermore, in order to provide a more clear picture of intra-household dynamics, variables representing each decision are created. Indeed, for each choice, three different indicators are constructed: the first one compares autonomous decision and exclusion, the second one compares collective decision and exclusion, and the third compares autonomous and collective decisions[14].

The characteristics of mothers (I_{ihcs}), households (H_{hcs}), and communities (C_{cs})[15], as well as sub-district fixed effects (ϕ_{2s}), are included in the regressions. While the outcome refers to the endline survey ($t+1$), all controls are taken from the baseline survey[16](t). Linear probability models are estimated.

I check the robustness of results by improving the balance of baseline observables with propensity score weights[17]. In order to explore the potential mechanism explaining the impact of the programme, an index for baseline parenting knowledge is created using principal component analysis (further details can be found in *Table A6*). I also examine the nexus between female empowerment and male migration

[13]The indexes are normalised: 1 stands for highest autonomy (or exclusion) and 0 stands for the lowest autonomy (or exclusion). The other variables that I create represent the shares of decisions – all, child-related and expenditure-related – that are made autonomously by the mother or for which the mother is excluded. See *Table A3* for further details.

[14]The first one is equal to 1 when the decision is made by the mother and is equal 0 when the mother is excluded. The second one is equal to 1 when the decision is made by the mother and other household members jointly, and is equal to 0 when the mother is excluded. The third one is equal to 1 when the decision is autonomous and is equal to 0 when the decision is collective.

[15](1) Mother characteristics: age, education, employment, decision-making power, mobility, depression, time preference. (2) H_{hcs} stands for the characteristics of the household, the child and the father. Household: size, presence of mother-in-law, Muslim, wealth, liquidity constraint, magazines and newspapers at home. Child: age, gender, siblings. Father: previous migration. (3) Community characteristics: main economic activity. See *Table A3*.

[16]Except for the characteristic the community, which refers to the endline survey. However, given the preponderance of agriculture, this variable represents a good proxy.

[17]See *Table A4* for the analysis of baseline observables. I compute propensity score weights as follows: $w_i^1 = \frac{1}{\widehat{ps}}, w_i^0 = \frac{1}{(1-\widehat{ps})}$, where $\widehat{ps}$ is the propensity score. w_i^1 is assigned to the treatment group and w_i^0 is assigned the control group. This check concerns only the estimates of *itt*.

by investigating whether the empowerment effect of the intervention varies according to the migration behaviour of fathers. Finally, I examine whether the impact of the training is heterogeneous according to a number of characteristics of the mothers and the households.

5 Results

I distinguish between autonomy and exclusion, in order to allow a comprehensive understanding of the changes in intra-household dynamics that resulted from the programme. Considering both of these dimensions, the intervention empowered mothers, as shown in *Table 1.* Controlling for observable characteristics and including sub-district fixed-effects, a positive impact of the training is found and is not sensitive to the type of outcome variables that is used. The ECS Programme increased indeed mothers' autonomy in all decisions, as the results referring to the autonomy index and the share of all decisions suggest, and reduced their exclusion from the process of decision-making. While the empowerment effect on child-related decisions is consistent with the objectives of the intervention, the positive impact on mothers' participation in the process of making choices about expenditures is less expected and represents a major spillover effect, given that Bangladeshi women have generally low decision-making power in the intra-household allocation of resources.

The intention to treat and local average treatment effects are similar, although the latter is larger. Considering the magnitude of the local average treatment effect, the autonomy index is 27% higher for treated mothers, while the exclusion index is 25% lower. Moreover, as regards the proportion of decisions that are made by the mother on her own, receiving the treatment increased the share of total decisions by 26%, and raised the shares of child- and expenditure-related decisions

– by 25% and 62%, respectively. Mothers became not only more autonomous but also in general more included in the decision-making, either on their own or with other family members, since their exclusion decreased by 25% for all decisions, by 35% for child-related choices, and 27% for expenditure-related ones. Propensity score weighting is used to check the robustness of results, which do not change even when the balance of baseline observables improves[18].

Table 1: Impact of the ECS Programme on mothers' empowerment

	Index	Share of decisions		
		All	Child	Expenditures
		Autonomy		
itt	0.0201**	0.0271***	0.0352***	0.0173**
	(0.0084)	(0.0091)	(0.0119)	(0.0083)
	0.0503	*0.0604*	*0.0575*	*0.0463*
late	0.0395**	0.0551***	0.0694***	0.0344**
	(0.0167)	(0.0182)	(0.0241)	(0.0165)
	0.0891	*0.1104*	*0.1021*	*0.0827*
		Exclusion		
itt	-0.0237***	-0.0292***	-0.0223***	-0.0567***
	(0.0081)	(0.0091)	(0.0079)	(0.0145)
	-0.0589	*-0.0650*	*-0.0592*	*-0.0823*
late	-0.0514***	-0.0636***	-0.0470***	-0.1212***
	(0.0164)	(0.0186)	(0.0159)	(0.0298)
	-0.1152	*-0.1273*	*-0.1125*	*-0.1584*
Observations	1,992	1,992	1,992	1,992
Controls and sub-district FE	yes	yes	yes	yes

Note: Linear probability models. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

[18]See *Table A5*.

Since the variable about decisions on expenditures includes the purchase of children's toys, I separate this child-related expenditure from the others: in this way, I intend to check whether mothers' empowerment in terms of decision-making on resource allocation is driven by a type of purchase that is closely related to the training programme. To this purpose, I create four new variables. The first two concern autonomy and exclusion regarding decisions about food spending, major purchases and earnings allocation; and the other two are similar to the last variables, but I also exclude the decision about food spending, since food-related

Table 2: Impact of the ECS Programme on decisions about expenditures

	Share of decisions about expenditures		
		Excluding expenditures about	
		Child	Child and food
	Autonomy		
late	0.0344**	0.0104	0.0043
	(0.0165)	(0.0157)	(0.0153)
	0.0827	*0.0269*	*0.0114*
	Exclusion		
late	-0.1212***	-0.1159***	-0.1113***
	(0.0298)	(0.0345)	(0.0350)
	-0.1584	*-0.1297*	*-0.1223*
Observations	1,992	1,992	1,992
Controls and sub-district FE	yes	yes	yes

Note: Linear probability models. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

activities, similar to child-related ones, are generally assigned to women. Results presented in *Table 2* show that, on the one hand, the empowerment effect regarding autonomy is no longer found and this suggests that the impact that has been

previously detected may be related to the autonomous decisions on the purchase of toys; on the other hand, as regards exclusion, results are not sensitive to the use of these new dependent variables: this finding implies that the effect on mother's exclusion from decision-making about expenditures persists, even when purchases related to children and food are not considered. I need to underline that, although the impact on autonomy about decisions on expenditures may be linked to buying toys for children, it would be still an important effect in a context in which women's decision-making autonomy is generally low.

Since ten different decisions are considered in the survey, I investigate for which ones mothers have begun to play a more considerable role. *Table 3* shows that mothers have become more powerful in the decision-making about food preparation and child-related outcomes.[19] Given that it is generally more likely for women to be involved in these types of decision-making with respect to others, it may be argued that the programme reinforced a pre-existing specialisation, rather than leading to empowerment. However, it is necessary to acknowledge that, concerning these food- and child-related decisions, mothers may have to compete with other female household members – their mother-in-law, in particular – and this makes the impact of the programme notable also in these cases.

The main spillover effect of the training regards the decisions about the allocation of resources: mothers have indeed experienced an increase in their influence on the process of decision-making about food spending, major purchases, allocation of earnings and purchase of toys. For these choices (except for major purchases), their role as decision-makers has become more considerable in terms of both autonomous and collective decisions.

[19]The results presented in *Table 3* are local average treatment effects. Regressions include control at individual, household and community level, as well as sub-district fixed effects.

Table 3: Impact of the ECS Programme on single decisions

	Autonomous decision *vs* Exclusion	Collective decision *vs* Exclusion	Autonomous decision *vs* Collective decision
Food preparation	0.0879***	0.1176**	0.1423***
	(0.0314)	(0.0543)	(0.0437)
	0.1274	*0.1290*	*0.1342*
Food spending	0.0772**	0.1278***	0.0170
	(0.0387)	(0.0453)	(0.0400)
	0.1080	*0.1152*	*0.0247*
Food to buy	0.0089	-0.0041	0.0340
	(0.0519)	(0.0448)	(0.0404)
	0.0093	*-0.0038*	*0.0417*
Food for the child	0.0131	0.0346	0.0966**
	(0.0228)	(0.0491)	(0.0416)
	0.0257	*0.0501*	*0.0897*
Major purchases	0.0240	0.1087***	-0.0247
	(0.0525)	(0.0373)	(0.0247)
	0.0284	*0.1145*	*-0.0460*
Allocation of earnings	0.0773**	0.1215***	0.0382
	(0.0314)	(0.0432)	(0.0256)
	0.1506	*0.1101*	*0.0821*
Child's illness	0.1380**	0.0169	0.0629**
	(0.0655)	(0.0236)	(0.0308)
	0.1375	*0.0294*	*0.0854*
Child to health centre	0.0874***	0.0594*	0.1076***
	(0.0281)	(0.0594)	(0.0396)
	0.1469	*0.1101*	*0.0996*
Purchase of toys	0.2577***	0.1293***	0.1050**
	(0.0579)	(0.0468)	(0.0414)
	0.2408	*0.1266*	*0.1154*
Child outside	-0.0018	0.0836**	-0.0446
	(0.0420)	(0.0332)	(0.0382)
	-0.0019	*0.1173*	*0.0482*

Note: Linear probability models. Late. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Parenting-related education is assumed to be the channel underlying the effect of the programme on female empowerment: after the training, mothers are likely to be more knowledgeable about child development than before – and more than other household members. This increased knowledge would allow them to have more informed interactions with family members and become more influential in household decision-making. Results presented in *Table 4* support this hypothesis:

Table 4: Potential mechanism

		Baseline parenting knowledge	
		≥median	<median
Autonomy			
Index	0.0395**	0.0155	0.0597**
	(0.0167)	(0.0219)	(0.0256)
	0.0891	*0.0356*	*0.1410*
Share of decisions	0.0551***	0.0267	0.0824***
	(0.0182)	(0.0241)	(0.0285)
	0.1104	*0.0726*	*0.1719*
Share of decisions about the child	0.0694***	0.0487	0.0888**
	(0.0241)	(0.0325)	(0.0374)
	0.1021	*0.0546*	*0.1396*
Share of decisions about expenditures	0.0344**	0.0168	0.00508**
	(0.0165)	(0.0220)	(0.0244)
	0.0827	*0.0404*	*0.1307*
Exclusion			
Index	-0.0514***	-0.0372*	-0.0604**
	(0.0164)	(0.0221)	(0.0274)
	-0.1152	*-0.0855*	*-0.1291*
Share of decisions	-0.0636***	-0.0494**	-0.0683**
	(0.0186)	(0.0251)	(0.0307)
	-0.1273	*-0.1015*	*-0.1320*
Share of decisions about the child	-0.0470***	-0.0348	-0.0602**
	(0.0159)	(0.0214)	(0.0277)
	-0.1125	*-0.0864*	*-0.1349*
Share of decisions about expenditures	-0.1212***	-0.0956**	-0.1185**
	(0.0298)	(0.0403)	(0.0479)
	-0.1584	*-0.1271*	*-0.1537*

Note: Linear probability models. Late. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

mothers who had a parenting knowledge lower than the median at baseline are the ones for which the training had an empowerment effect. Mothers who have already had a high parenting knowledge before the treatment experienced minor or no changes in their role within the household[20].

Given that a previous impact evaluation of the programme did not find improvements in parenting knowledge (Chinen and Bos, 2016), I investigate whether there has been a variation in parental ability. Due to several differences in questions about parenting between endline and baseline surveys, I consider every answer about parental knowledge given at endline and I look for comparable ones given at baseline[21]. Then, I regress dummy variables – representing each statement that the mother agreed with at the time of the endline survey – on the actual treatment (using the treatment assignment as an instrument), as well as on a dummy for the same (or comparable) statement at baseline and on all controls used in the main analysis. The estimates presented in *Table 5* show improvements in parenting knowledge[22] and increases in the probability of positive responsive feeding. These results support the proposed education-related mechanism, since the training actually allowed mothers to learn more about parenting. It is also worth noting that during focus groups treated mothers appeared to be more knowledgeable in terms of parenting with respect to untreated ones. However, I also need to acknowledge that the limitations due to the different questionnaires may have affected the results, thus causing a possible underestimation of the real effect of the training on parental knowledge. Therefore, it would be interesting to replicate this analysis considering the direct observation of mother's behaviours, in order to provide further evidence of improvements in parenting ability.

[20]See *Table A6* for the description of the index for baseline parenting knowledge.
[21]See *Table A7.*
[22]Improvements: "Parents can teach things by playing with children", "Singing to children is good for their development", "Parents can teach things to their children by reading to them", "Mothers can teach things to the child while doing household chores", "Children can learn while playing", "Children benefit from books only when they learn how to read".

Table 5: Improvements in parenting ability

Mother agrees with the following statements	Cognitive Stimulation	
Concerning childcare, fathers are naturally clumsy	0.0600	(0.0414)
	0.0560	
Parents can teach things by playing with children	0.0297**	(0.0126)
	0.0852	
Children understand only words they can say	-0.0258	(0.0440)
	-0.0234	
Singing to children is good for their development	0.0671***	(0.0220)
	0.1179	
Talking to children (< 3 yo) is not important: they do not understand	-0.0433	(0.0277)
	-0.0612	
Teaching names of simple objects is good for child development	0.0033	(0.0140)
	0.0090	
Children should only play with toys not with household utensils	0.0310	(0.0422)
	0.0284	
Parents can teach things to their children by reading to them	0.0242*	(0.0144)
	0.0668	
Soothing crying children by talking is spoiling	-0.0066	(0.0265)
	-0.0097	
Mothers can teach things to the child while doing household chores	0.0294**	(0.0149)
	0.0765	
Children (< 3 yo) can learn from picture books	0.0166	(0.0176)
	0.0365	
Children can learn while playing	0.0217**	(0.0109)
	0.0722	
Children benefit from books only when they learn how to read	-0.0803*	(0.0445)
	-0.0728	
Children learn more from the TV than from parents	-0.0368	(0.0359)
	-0.0404	
	Responsive Feeding	
Caressing	0.1041***	(0.0390)
	0.1071	
Playing	0.1297***	(0.0438)
	0.1181	
Entertaining	0.0481	(0.0441)
	0.04389	
Giving other food	0.0038	(0.0446)
	0.0035	

Note: Linear probability models. Late. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Considering fathers' migration experience, results in *Table 6* suggest that fathers' migration determined whether female empowerment occurred or not: indeed, the programme had a positive effect on mothers only when fathers had never migrated before the baseline survey. Given that nearly all households in which fathers were absent at baseline include previously migrated fathers, this heterogeneous impact is consistent with the previous results.

Table 6: Fathers' previous migrations

	Autonomy		*Exclusion*	
	Index	Share of decisions	Index	Share of decisions
At baseline, the father was				
Absent	0.0280	0.0537	0.0571	0.0707
	(0.0621)	(0.0608)	(0.0400)	(0.0437)
	0.0123	*0.0679*	*0.1161*	*0.1316*
Present	0.0395**	0.0551***	-0.0514***	-0.0636***
	(0.0167)	(0.0182)	(0.0164)	(0.0186)
	0.0891	*0.1104*	*-0.1152*	*-0.1273*
Before baseline, the father				
Migrated	-0.0208	-0.0096	-0.0002	0.0022
	(0.0339)	(0.0342)	(0.0249)	(0.0282)
	-0.0322	*-0.0147*	*-0.0004*	*0.0044*
Did not migrate	0.0604***	0.0804***	-0.0517***	-0.0655***
	(0.0198)	(0.0215)	(0.0194)	(0.0219)
	0.1356	*0.1604*	*-0.1126*	*-0.1286*
Migrated $\geq$ 3 months	-0.0179	-0.0122	0.0005	0.0032
	(0.0400)	(0.0396)	(0.0272)	(0.0307)
	-0.0260	*-0.0171*	*0.0011*	*0.0063*
Did not migrate or	0.0601***	0.0801***	-0.0450**	-0.0572***
migrated $<$ 3 months	(0.0188)	(0.0205)	(0.0183)	(0.0207)
	0.1356	*0.1610*	*-0.0991*	*-0.1132*

Note: Linear probability models. Late. Controls and sub-district fixed effects included. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

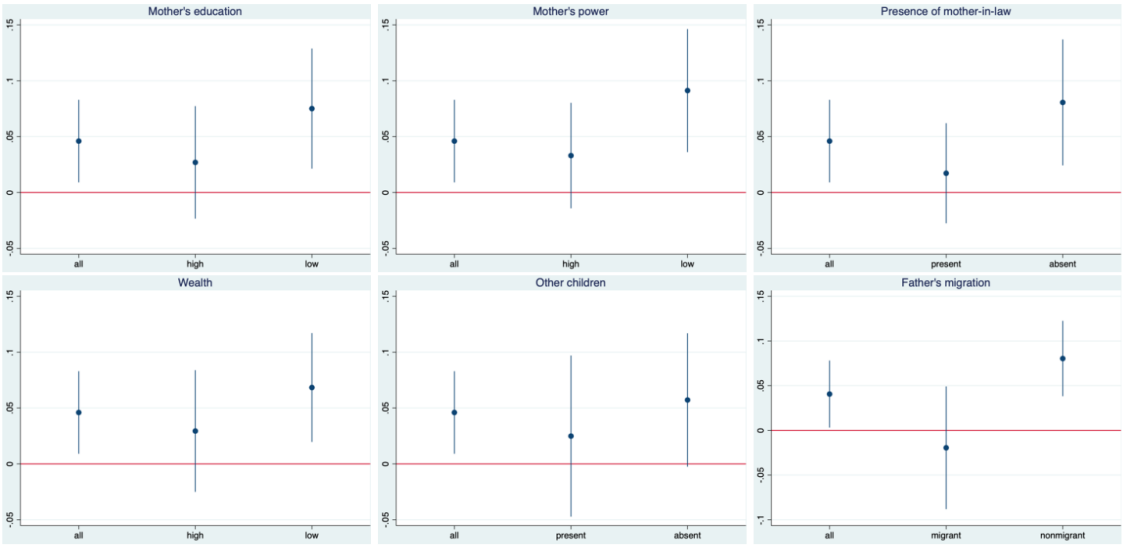
Moreover, this finding is connected to the fact that women's power and their partner's migration are likely to be intertwined: consistent with the existence of a

positive association between male migration and female empowerment found in previous studies, the wives of men with migration experience had already been relatively more powerful and, for this reason, the training may have not provided scope for further improvements[23].

Finally, the heterogeneity analysis shown in *Figure 1* suggests that, considering both autonomy and exclusion, the impact of the programme was larger for low-educated and less empowered mothers, living in poorer households. When the mother-in-law was absent at baseline, no differences in the effects are found for the exclusion, while the effect on autonomy was stronger. The impact was not heterogeneous in terms of the presence of other children.

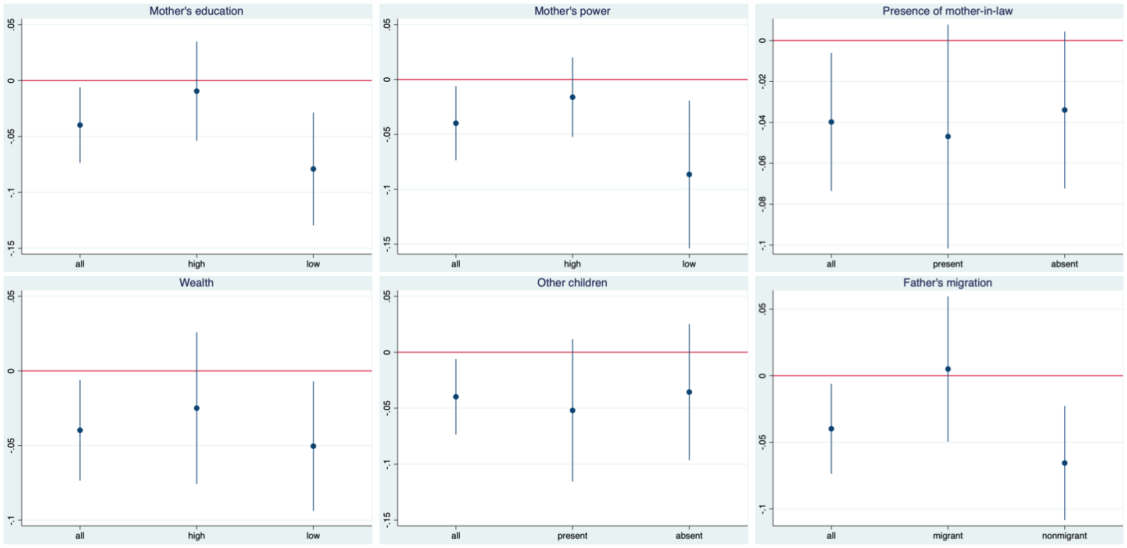
Figure 1: Impact of the ECS Programme on mothers' empowerment, analysis of heterogeneity

Autonomy



[23]See *Table A1* and *Table A8* for comparisons between households where the father had previously migrated (or was absent at the time of the baseline) and households where the father had not migrated (or was present at the time of the baseline).

Exclusion



6 Conclusions

This paper investigates the impact of the ECS Programme on women's empowerment, while also providing insights into the relationship between women's power and men's migration.

Save the Children's intervention offered mothers of children aged 3–18 months opportunities for improvements in parental skills. The training improved mothers' autonomy and participation in decision-making: in a context in which female bargaining power is generally low, mothers' role in intra-household bargaining became more considerable not only for food- and child-related choices but also for decisions about the allocation of resources. This spillover effect is particularly remarkable because the programme did not include cash or in-kind transfers and was relatively inexpensive – it cost nearly 7 dollar per child whose development was intended to be improved (Chinen and Bos, 2016).

Parenting-related education is the channel that underlies the impact on empow-

erment, since mothers with a lower pre-treatment parenting ability experienced the largest improvement. I also find suggestive evidence that parenting knowledge of treated mothers improved. Moreover, the heterogeneity analysis shows that the empowerment impact was stronger on mothers who were less educated and less empowered at baseline, living in poorer households.

This positive spillover effects applies only to mothers whose partner has not migrated before the baseline survey, thus suggesting the existence of a relationship between women's position within the household and men's migration – as shown in previous studies.

Finally, it would be interesting to investigate the effects on women's empowerment of other training programmes, similar in terms of costs and design but addressing topics and tasks that are not generally related to women.

Appendix

Table A1: Comparison between households based on father's presence

	Father			
	Present	Absent		
	Mean	Mean	Difference	(SE)
Mother characteristics				
Age	25.7498	24.8044	0.9454***	(0.2627
Education	6.3296	8.0339	-1.7043***	(0.1489)
Employment	0.0561	0.0484	0.0077	(0.0117)
Decision-making power	0.3495	0.5220	-0.1725***	(0.0209)
Mobility	0.4388	0.5349	-0.0961***	(0.0269)
Depression	0.1574	0.1993	-0.0419***	(0.0097)
Time preference	0.5742	0.5542	0.0200	(0.0268)
Household characteristics				
Size	5.9981	6.0193	-0.0212	(0.1423)
Presence of mother-in-law	0.3966	0.5880	-0.1914***	(0.0265)
Muslim	0.8443	0.9422	-0.0979***	(0.0140)
Wealth	0.4022	0.5705	-0.1684***	(0.0109)
Liquidity constraint	3.1671	2.2313	0.9357***	(0.0801)
Magazines and newspapers at home	0.1816	0.2470	-0.0654***	(0.0229)
Child characteristics				
Age (months)	12.0496	12.4386	-0.3889*	(0.2093)
Female	0.4929	0.4578	0.0351	(0.0269)
Siblings	1.3800	0.9494	0.4307***	(0.0608)
Father characteristics				
Previous migration	35.0823	311.0169	-275.9346***	5.7890
Community characteristics				
Main economic activity	0.9207	0.9422	-0.0215*	(0.0129)

Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Compliance

Treated		
Mother characteristics		
Age	-0.0006	(0.0029)
Education	0.0073*	(0.0041)
Employment	-0.1829***	(0.0554)
Decision-making power	-0.0046	(0.0347)
Mobility	-0.0135	(0.0214)
Depression	0.1514**	(0.0681)
Time preference	-0.0239	(0.0201)
Household characteristics		
Size	0.0012	(0.0059)
Presence of mother-in-law	0.0289	(0.0267)
Muslim	0.0722**	(0.0312)
Wealth	-0.1317*	(0.0704)
Liquidity constraint	-0.0119	(0.0078)
Magazines and newspapers at home	0.0696***	(0.0078)
Child characteristics		
Age (months)	-0.0070***	(0.0025)
Female	-0.0104	(0.0199)
Siblings	0.0086	(0.0121)
Father characteristics		
Previous migration	-0.00001	(0.0001)
Community characteristics		
Main economic activity	0.0020	(0.0400)

Note: Households in which the father was present at the time of the baseline. Sub-district fixed effects included. Marginal effects from probit model. Robust standard errors in parentheses.*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A3: Description of variables

Variable	Mean	SD	Type	Note
Autonomy				
Index	0.1598	0.1991	Continuous	Normalised index, in which 0 expresses the lowest autonomy and 1 the highest. The index is created with PCA, for which the following information about autonomous decisions is used: the mother makes decisions on her own about (i) what food is prepared every day, (ii) how much money the household spends on food, (iii) what food is bought for household consumption, (iv) the food the child is fed with, (v) buying important things for the family, (vi) how earnings would be spent, (vii) when to take your child to a health facility for checks or immunisation, (ix) buying toys and any play material for the child, (x) taking the child outside to visit family or friends.
Share of decisions	0.2297	0.2243	Continuous	Share of decisions that the mother makes on her own. See the description of the autonomy index for all decisions that are considered.
Share of decisions about the child	0.2913	0.3067	Continuous	Share of decisions about the child that the mother makes on her own. The child-related decisions are: (i) the food the child is fed with, (ii) when to take your child to a health facility for checks or immunisation, (iii) buying toys and any play material for the child, (iv) taking the child outside to visit family or friends, (v) taking the child outside to visit family or friends.

Variable	Mean	SD	Type	Note
Share of decisions about expenditures	0.0747	0.1863	Continuous	Share of decisions about expenditures that the mother makes on her own. The expenditure-related decisions are: (i) how much money the household spends on food, (ii) buying important things for the family, (iii) how earnings would be spent, (iv) buying toys and any play material for the child.
Exclusion				
Index	0.1543	0.2003	Continuous	Normalised index, in which 0 expresses the lowest exclusion and 1 the highest. The index is created with PCA. See the description of the autonomy index for all decisions that are considered.
Share of decisions	0.1953	0.2242	Continuous	Share of decisions from which the mother is excluded. See the description of the autonomy index for all decisions that are considered.
Share of decisions about the child	0.0920	0.1875	Continuous	Share of decisions about the child from which the mother is excluded. See the description of the variable relative to autonomy.
Share of decisions about expenditures	0.3333	0.3441	Continuous	Share of decisions about expenditures from which the mother is excluded. See the description of the variable relative to autonomy.
Single decisions				
Autonomous decision *vs* exclusion			Binary	The variable takes the value 1 if the mother makes the decision on her own and 0 if the mother is excluded. Ten variables are created, reflecting the decisions that are considered.

Variable	Mean	SD	Type	Note
Collective decision *vs* exclusion			Binary	The variable takes the value 1 if the mother makes the decision with other household members and 0 if the mother is excluded. Ten variables are created, reflecting the decisions that are considered.
Autonomous decision *vs* collective decision			Binary	The variable takes the value 1 if the mother makes the decision on her own and 0 if the mother makes the decision with other household members. Ten variables are created, reflecting the decisions that are considered.
Mother characteristics				
Age	25.7498	5.1257	Continuous	
Education	6.3296	3.2750	Continuous	Years of education.
Employment	0.0561	0.2302	Binary	
Decision-making power	0.3495	0.3047	Continuous	Normalised index, in which 0 expresses the lowest exclusion and 1 the highest. The index is created with PCA, for which the following information about decisions is used: the mother is the main decision-maker for decisions about (i) what food is prepared every day, (ii) how much money the household spends on food, (iii) buying important things for the family, (iv) how earnings would be spent, (v) what to do when the child is seriously ill.
Mobility	0.4388	0.4964	Binary	This variable takes the value 1 if the mother visits friends/relatives twice a month or more and takes the value 0 if she does not visit or visits friends/relatives less than twice a month.

Variable	Mean	SD	Type	Note
Depression	0.1574	0.1514	Continuous	Normalised index, in which 0 expresses good mental health and 1 poor mental health. The index is created with PCA, for which the following information is used: in the last week, how many days the mother felt (i) sad, (ii) lonely, (iii) like crying, (iv) that she was enjoying life, (v) depressed, (vi) interested in doing things.
Time preference	0.5742	0.4946	Binary	The mother is asked whether she would prefer to receive 500 Taka today, or 750 Taka after 7 days. The variable takes value 1 for the first option, and 0 for the second.
Household characteristics				
Size	5.9981	2.2815	Continuous	
Presence of mother-in-law	0.3966	0.4893	Binary	
Muslim	0.8443	0.3627	Binary	
Wealth	0.4022	0.1967	Continuous	Normalised index, in which 0 expresses the lowest wealth and 1 the highest. The index is created with PCA, for which asset ownership and characteristics of the house are used: (i) ownership of (1) house, (2) land, (3) auto-bike, (4) rickshaw, (5) bicycle, (6) motorcycle, (7) radio, (8) television, (9) cellphone, (10) non-mobile phone, (11) refrigerator, (12) wardrobe, (13) table, (14) chair, (15) electric fan, (16) DVD player, (17) farm animals, (ii) piped water source, (iii) own latrine, (iv) improved latrine, (v) finished floor, (vi) finished walls, (vii) finished roof, (viii) cooking fuel, (ix) rooms per household member, (x) electricity.

Variable	Mean	SD	Type	Note
Liquidity constraint	3.1671	1.5370	Categorical	The mother is asked how easy it would be for a household member to get 500 Taka in cash by the day after. 1: very easy, 2: somewhat easy, 3: neither easy nor difficult, 4: somewhat difficult, 5: very difficult, 6: impossible.
Magazines and newspapers at home	0.1816	0.3856	Binary	
Child characteristics				
Age (months)	12.0496	3.9805	Continuous	
Female	0.4929	0.5001	Binary	
Siblings	1.3800	1.3955	Continuous	
Father characteristics				
Previous migration	35.0823	87.9294	Continuous	Number of days the father spent away from home during the year before the baseline.
Community characteristics				
Main economic activity	0.9207	0.2703	Binary	1: paddy or vegetable cultivation, 0: business or day labour.

Table A4: Balance of baseline observables

	Control	Treatment		
	Mean	Mean	Difference	(SE)
Mother characteristics				
Age	25.7076	25.7913	-0.0837	(0.2263)
Education	6.3307	6.3285	0.002	(0.1445)
Employment	0.0619	0.0504	0.0115	(0.0102)
Decision-making power	0.3420	0.3570	-0.0150	(0.0135)
Mobility	0.4446	0.4331	0.0114	(0.0219)
Depression	0.1544	0.1604	-0.0059	(0.0067)
Time preference	0.5735	0.5749	-0.0013	(0.0218)
Household characteristics				
Size	5.9422	6.0531	-0.1110	(0.1006)
Presence of mother-in-law	0.4069	0.3865	0.0204	(0.0216)
Muslim	0.8275	0.8609	-0.0334**	(0.0160)
Wealth	0.4031	0.4012	0.0020	(0.0088)
Liquidity constraint	3.2149	3.1199	0.0950	(0.0678)
Magazines and newspapers at home	0.1719	0.1911	-0.0192	(0.0170)
Child characteristics				
Age (months)	12.2824	11.8203	0.4621***	(0.1754)
Female	0.5010	0.4850	0.0160	(0.0221)
Siblings	1.3088	1.4502	-0.1414**	(0.0615)
Father characteristics				
Previous migration	36.4976	33.6877	2.8099	(3.8833)
Community characteristics				
Main economic activity	0.9441	0.8976	0.0465***	(0.0119)

Note: Households in which the father was present at the time of the baseline. Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Robustness check with propensity score weights

	Autonomy			
	Index	Share of decisions		
		All	Child	Expenditures
Itt, without weights	0.0201**	0.0271***	0.0352***	0.0173**
	(0.0084)	(0.0091)	(0.0119)	(0.0083)
	0.0503	*0.0604*	*0.0575*	*0.0463*
Itt, with weights	0.0201**	0.0271***	0.0351***	0.0169**
	(0.0083)	(0.0090)	(0.0119)	(0.0082)
	0.0503	*0.0603*	*0.0574*	*0.0451*
	Exclusion			
Itt, without weights	-0.0237***	-0.0292***	-0.0223***	-0.0567***
	(0.0081)	(0.0091)	(0.0079)	(0.0145)
	-0.0589	*-0.0650*	*-0.0592*	*-0.0823*
Itt, with weights	-0.0238***	-0.0292***	-0.0222***	-0.0561***
	(0.0081)	(0.0091)	(0.0079)	(0.0145)
	-0.0591	*-0.0651*	*-0.0589*	*-0.0815*
Observations	1,992	1,992	1,992	1,992

Note: Linear probability models. Controls and sub-district FE included. Standardised coefficients in italics. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table A6: First component from PCA, used to create the index for baseline parenting knowledge

Variables	First component
Mother agrees with the following statements	
Soothing a crying child is spoiling	-0.1558
Child is mischievous	-0.1681
Singing and talking to the child is important	0.0700
Talking helps child development	0.1436
Concerning childcare, father is naturally clumsy	-0.0537
Teaching names is important	0.1365
Playing games is important	0.1256
Mother's responsive child feeding	
Caressing	0.5097
Playing	0.5373
Entertaining	0.4932
Giving other food	0.3050

Table A7: Questions about cognitive stimulation knowledge

E: Fathers are naturally clumsy when it comes to taking care of children B: Fathers are naturally clumsy when it comes to taking care of babies
E: Parents can teach things to their children by playing with them B: It is important to play games with the baby
E: Children understand only words they can say B: Infants understand only words they can say
E: Singing to child is good for him/her development B: It is important to talk and sing to your baby
E: Talking to young children (under 3 years old) is not important because they do not understand words yet B: Talking to a child about things he (she) is doing helps its mental development
E: Teaching your child the names of simple objects is good for him/her development B: It is important to teach the baby names of simple objects and colours
E: Children should only play with toys not with household utensils B: It is important to play games with the baby
E: Parents can teach things to their children by reading to them B: It is important to teach the baby names of simple objects and colours
E: The more you soothe your crying child by talking to him/her, the more you spoil B: A baby should not be held when he (she) is crying because this will make him (her) want to be held all the time
E: Mothers can teach things to the child while doing household chores B: It is important to teach the baby names of simple objects and colours
E: Young children (under 3 years old) can learn things from picture books B: It is important to teach the baby names of simple objects and colours
E: Children can learn several things while playing B: It is important to play games with the baby
E: Children benefit from books only when they learn how to read B: Infants understand only words they can say
E: Children learn more from the TV than from parents B: It is important to talk and sing to your baby

Note: E indicates endline questions, whereas B indicates baseline questions.

Table A8: Comparison between households based on father's previous migration

	Father			
	Non-migrant	Migrant		
	Mean	Mean	Difference	(SE)
Mother characteristics				
Age	25.9492	24.9696	0.9796***	(0.2087)
Education	6.0737	7.5619	-1.4883***	(0.1273)
Employment	0.0656	0.0360	0.0295***	(0.0088)
Decision-making power	0.3564	0.4166	-0.0602 ***	(0.0140)
Mobility	0.4337	0.4932	-0.0596***	(0.0209)
Depression	0.1602	0.1716	-0.0114*	(0.0067)
Time preference	0.5780	0.5584	0.0196	(0.0208)
Household characteristics				
Size	6.0025	6.0000	0.0025	(0.0995)
Presence of mother-in-law	0.3858	0.5056	-0.1198***	(0.0208)
Muslim	0.8293	0.9169	-0.0875***	(0.0133)
Wealth	0.3915	0.4990	-0.1075***	(0.0087)
Liquidity constraint	3.2716	2.5450	0.7265***	(0.0635)
Magazines and newspapers at home	0.1789	0.2162	-0.0373**	(0.0169)
Child characteristics				
Age (months)	12.0571	12.2169	-0.1597	(0.1652)
Female	0.4873	0.4865	0.0008	(0.0210)
Siblings	1.4518	1.0584	0.3933***	(0.0526)
Community characteristics				
Main economic activity	0.9289	0.9157	0.0132	(0.0113)

Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

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