Title: Does Girls' Self-Efficacy Enhance her Educational Attainment? : Findings from a Conditional Cash Transfer Program Evaluation in North India

Authors: Priya Nanda*, Priya Das*, Lakshmi Gopalakrishnan*, Nitin Datta*, Pranita Achyut*, Anurag Mishra*

***International Center for Research on Woman, Asia Regional Office, New Delhi**

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Abstract:
India has the largest proportion (46%) child brides. Poor levels of educational attainment for girls are both a cause and a consequence of child marriage. Data from evaluation of a conditional cash transfer program entitled Apni Beti Apna Dhan (ABAD) was analyzed with a sample size of 9, 466 girls age 14-18 years. We examined the effect of girls' self-efficacy on their educational attainment. Multivariate analysis found that self-efficacy was a significant predictor of girls' educational attainment. It remained a significant predictor even after controlling for other independent variables such as gender equitable attitude score (GEMS), knowledge of rights score and socio-economic status. Self-efficacy is particularly important in the context of girls in rural Haryana due to the many social and gender pressures that condition their ability to fulfil their own aspirations. Higher levels of self-efficacy may empower girls to negotiate these challenges to fulfil their educational aspirations.

Background:

Education is crucial for everyone, especially for girls and women. This is important because girls who are educated are more likely to marry later and to have smaller and healthier families. Not only does education also offer them other opportunities, educational achievements can have ripple effects within families and across generations.

In India, approximately, 48% of girls do not complete schooling, dropping out at Class X. [1] Girls drop out of school and are forced into early marriage. Investing in girls' higher education is still perceived as a waste of resources by her parents since the value would accrue to her husband's household and not the natal family. [2] India has the largest proportion of child brides (46% girls married under age 18 years) in the world. Child marriage not only violates girls' human rights, but also hampers the achievement of the Millennium Development Goals of education, gender equality and maternal mortality. Child marriage also stifles girls' educational attainment and makes them less equipped to benefit from employment or economic opportunities. [3] Poor levels of educational attainment for girls are both a cause and a consequence of child marriage. According to the NFHS 3 (2005-2006), the median age at first marriage among women of age 25-29 is at 15.5 years for women with no education. Further, child marriage also constrains girls' from realizing their potential beyond their roles as wives and mothers. A child bride's lack of education restricts her skills and peer support systems, and without skills, mobility, and connections, she is constrained in her ability to overcome poverty for herself, her children, or her family. [4] Many girls who drop out may be doing so against

[1] Education Statistics At a Glance. 2013. Ministry of Human Resource Development, Government of India.
[2] Child Marriage, UNICEF Information Sheet. 2011.
[3] Nanda, P., P.Das, A.Singh and R.Negi. 2012. Addressing Comprehensive Needs of Adolescent Girls in India: A Potential for Creating Livelihoods. ICRW, New Delhi
[4] Malhotra et al. 2011. Solutions to End Child Marriage. ICRW

their desire as they may have aspirations to study and work. Girls who may wish to continue may be unable to negotiate the family expectations around their marriage.

Apni Beti Apna Dhan (ABAD) – meaning 'our daughter, our wealth' was initiated by the Government of Haryana in 1994, to enhance the value of the girl child, with the implicit goal of delaying age of marriage at least to the legal threshold of 18 years. The scheme was a conditional cash transfer program that provides to girls and their families' cash incentives that are conditional on the daughters remaining unmarried until age 18. The scheme involved the government investing in a bond of Rs. 2,500 in the name of a girl child born among the first three children in an eligible household. If the girl remained unmarried until she turned 18, the bond value of Rs.25, 000 could be cashed out by the family member of the beneficiary.

India has been a forerunner in exploring solutions to early marriage. Over the past 15 years, there have been multiple national and state sponsored Conditional Cash Transfers (CCTs) programs initiated with delaying age of marriage. [5] Most evaluated CCTs target health and nutrition outcomes through direct cash transfers to families, conditional on visits to health facilities, immunization, and/or school enrollment [6] and have shown mixed results in terms of their effectiveness. Evaluation of ABAD presents an opportune time to study a CCT experience in India to test whether CCTs can be used as a policy instrument to delay child marriage on a large scale throughout India, and potentially in other settings as well.

This study titled, 'Impact on Delayed Marriage: Program Assessment of Conditional Cash Transfers (IMPACCT)' explored the link between beneficiary and eligible non beneficiary girls' self-efficacy and their education attainment. Few studies have explored this link.

This study assesses the effect of girls' self-efficacy on their educational attainment controlling for all other important variables such as wealth index, caste, age, score on knowledge of rights, gender equitable attitudes (GEMS), mother's schooling.

Self-efficacy was defined as the belief in one's capacity to succeed in tasks and is supposed to be a predictor of better performance. To determine self-efficacy, twelve statements were asked to girls with responses coded as 'always', 'sometimes', and 'never'. Examples of statements include, "I can meet friends outside the house", "I can go for higher studies if I wish to", "I can express choice in type of clothing for myself". Self-efficacy index was created using these twelve attitudinal statements with a higher score indicating higher self-efficacy and was categorized into low, medium and high. We hypothesized that girls with higher self-efficacy score was most likely to have higher educational attainment.

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[5] Sekher T.V. 2010, Special Financial Incentives for the Girl Child in India: A Review of Select Schemes, International Institute for Population Sciences, Mumbai. This report was for the Planning Commission of India and was supported by UNFPA.

[6] Lichand, Guilherme (2010) "Decomposing the Effects of CCTs on Entrepreneurship" http://siteresources.worldbank.org/EXTPREMNET/Resources/EP41.pdf; Gustavo J. Bobonis (2011) The Impact of CCTs on Marriage and Divorce. http://ejournals.ebsco.com/Article.asp?ContributionID=22857190; Adato, Michelle et al (2010) Understanding use of health services in conditional cash transfer programs: Insights from qualitative research in Latin America and Turkey, *Social Science & Medicine*; Baird, Sarah et al (2009) the short term impacts of a schooling conditional cash transfer on the sexual behaviour of young women. *Health Economics*; Lim SS et al (2010) India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. Lancet; Kuenning, Mary- Arends and D Sajeda Amin (2004) School Incentive Programs and Children's Activities: The Case of Bangladesh, Comparative Education Review. World Bank;

In addition, we controlled for a composite gender equitable attitude variable for mother and daughters. To calculate the gender equitable attitude score (GEMS), twenty nine statements about their beliefs and attitudes towards boys/girls and men/women in the society were asked to girls as well as their mothers with responses coded as 'agree' (1), 'partially agree' (2), and 'disagree' (3). Examples of statements include, "A daughter is a burden on the family" and "A woman has a right to remarry if her marriage fails". High scores represent high support for gender equitable norms. Certain items where the high score would reflect low support for gender equity were reverse-scored so that for all items a high score represents high support for gender equitable norms. The composite GEMS score variable was created combining the values for mothers and daughters and was categorized into 4 levels – mother-low and girl-low indicating low GEMS score for both mother and daughter; mother-low and girl-high indicating low GEMS score for mother and high score for the daughter; mother-high and girl-low indicating high score for mother and low score for daughter and mother-high and girl-high indicating high GEMS score for both mother and daughter. We hypothesized that composite GEMS score variable with higher scores for both mothers and daughters were most likely to have higher educational attainment.

Method:

A quasi-experimental evaluation design was used for the impact evaluation. Two rounds of surveys was used to collect data from samples of 9, 466 beneficiary and non-beneficiary households from the villages in rural areas of the four selected districts in Haryana (Ambala, Panipat, Bhiwani and Sirsa). The beneficiaries and non-beneficiaries sample are fairly similar in terms of their status except a higher proportion of beneficiary households (60%) belong to the most vulnerable social group, scheduled castes, compared to the non-beneficiaries (46%).

The first round which has been completed in 2012-13 includes the households of beneficiaries and non-beneficiaries born during 1994-98. In the second round, we have initiated the tracking of beneficiaries and non-beneficiaries who were born during 1994-96. This study makes use of the data from the first round. For this analysis, we used a multivariate logistic regression to examine the effects of self-efficacy on girls' educational attainment controlling for composite GEMS score and other variables mentioned earlier.

The results from bivariate and multivariate analyses are discussed below.

Results and discussion:

As conceptualized, we found that girls' with higher self-efficacy were more likely to be in school as indicated in the table below:

Table 1: Bivariate analysis of self-efficacy and girls' educational attainment

	Current school		CHI SQR WAS SIG
Self-efficacy	No	Yes	
low	1,157	2,079	3,236
	35.75	64.25	100
medium	580	3,181	3,761
	15.42	84.58	100
high	226	2,024	2,250
	10.04	89.96	100

Total	1,963	7,284	9,247
	21.23	78.77	100

The multivariate analysis was conducted to test the effect of self-efficacy on girls' educational attainment. In model 1, as conceptualized, we found that girls' with higher self-efficacy was the most significant predictor of the girls' educational attainment controlling for knowledge of rights score, age of the girl and the composite GEMS score. GEMS score may also have an independent effect on the girls' education and hence has been added as a control in the model. Girls' with high self-efficacy score have more than 3.8 times the odds of being in school than girls' with low self-efficacy (OR 3.8, 95% CI: 3.2-4.6). To assess the effects of her socio-economic status, wealth index and caste was added in model 2. Even after adjusting for these variables, it was found that self-efficacy remained the strongest predictor of girls' educational attainment (OR 3.3, 95% CI: 2.8-3.9). To assess the effects of being a beneficiary and mother's schooling, it was added into the final model (model 3), self-efficacy remained the strongest predictor of girls' education attainment (OR 3.3, 95% CI: 2.8-4.0). It is important to note that the mother's schooling also has a significant effect on girls' self-efficacy.

Clearly, this indicates the girls' self-efficacy influences their educational attainments, perhaps through higher aspirations. Although the studies undertaken previously were not in a similar setting with a slightly different explanatory variable, the current findings concur with previous research findings that have shown that academic self-efficacy is positively associated with grades in college. [7] Another study found that self-efficacy beliefs predicted the motivation to know that partially mediated the relationships between self-efficacy and academic adjustment. [8]

Self-efficacy is particularly important in the context of girls in rural Haryana due to the many social and gender pressures that condition their ability to fulfil their own aspirations. Higher levels of self-efficacy may empower girls to negotiate these challenges to fulfil their educational aspirations. Education can unlock opportunities for girls' to perform their roles beyond being mothers' and wives'. Higher educational attainment also means the girls are in school longer, hence delaying their age of marriage. School and community based programs for girls need to enhance their capacity to negotiate and influence decision-making in their homes' and challenge deep-rooted gender norms that stifle their aspirations. Policy priorities and investments must also support the design of strong rights and skills based education programs that can build girls' confidence and self-efficacy.

[7] Grabowski et al. (2001). Global and Economic Self-Efficacy in the Educational Attainment Process, Social Psychology Quarterly, Vol. 64, No. 2, 164-179

[8] Thomas et al. (2009). Self- Efficacy, Motivation, and Academic Adjustment among African American Women Attending Institutions of Higher Education, Journal of Negro Education, Vol. 78(2), 159-171

RESULTS TABLE: Multivariate logistic regression

	MODEL-1					MODEL-2					MODEL-3			
Currently in school	**Odds Ratio**	**P>z**	**[95% Conf.**	**Interval]**		**Odds Ratio**	**P>z**	**[95% Conf.**	**Interval]**		**Odds Ratio**	**P>z**	**[95% Conf.**	**Interval]**
Self Efficacy - Low (Ref)	Ref					Ref					Ref			
Self Efficacy - Medium	2.555	0.000	2.257	2.893		2.355	0.000	2.077	2.671		2.359	0.000	2.078	2.678
Self Efficacy - High	3.893	0.000	3.292	4.603		3.333	0.000	2.811	3.953		3.381	0.000	2.847	4.015
Rights knowledge score	1.195	0.000	1.156	1.235		1.177	0.000	1.137	1.217		1.189	0.000	1.149	1.230
Wealth Quintile 1 (Low) (Ref)						Ref					Ref			
Wealth Quintile 2						0.967	0.683	0.824	1.136		1.012	0.885	0.861	1.190
Wealth Quintile 3						1.265	0.005	1.072	1.494		1.312	0.001	1.110	1.551
Wealth Quintile 4						1.464	0.000	1.227	1.746		1.489	0.000	1.246	1.779
Wealth Quintile 5 (High)						1.873	0.000	1.525	2.300		1.998	0.000	1.623	2.460
General Caste (Ref)						Ref					Ref			
Scheduled Caste						0.848	0.181	0.666	1.080		0.805	0.081	0.632	1.027
Backward Caste						0.844	0.174	0.661	1.078		0.904	0.422	0.707	1.156
Age of girl (years)	0.502	0.000	0.476	0.528		0.503	0.000	0.477	0.530		0.508	0.000	0.482	0.535
Girl enrolled in ABAD scheme											1.876	0.000	1.664	2.116
Mother attended school						1.589	0.000	1.390	1.817		1.440	0.000	1.257	1.650
GEMS Score (Mother-low & girl-low) (Ref)	Ref					Ref					Ref			
GEMS Score (Mother-high & girl-low)	1.388	0.000	1.202	1.603		1.296	0.000	1.121	1.499		1.331	0.000	1.149	1.541
GEMS Score (Mother-low & girl-high)	2.254	0.000	1.904	2.668		2.118	0.000	1.786	2.512		2.093	0.000	1.763	2.485
GEMS Score (Mother-high & girl-high)	2.382	0.000	2.035	2.789		2.055	0.000	1.749	2.414		2.104	0.000	1.789	2.475
Constant	45549.640	0.000	19949.210	104002.600		43594.680	0.000	18283.860	103943.900		27278.790	0.000	11437.870	65058.620

		Pseudo R2 = 0.0366					Pseudo R2 = 0.1907					Pseudo R2 = 0.2021			