

Using monetary incentives to motivate female Entrepreneurs: An experimental test of incentives in Abuja, Nigeria



By: Imuetinyan Aiguwuhuo
Department of Economics, University of San Francisco

Motivation

- A Nigerian education survey in 2009 revealed that about 1.5 million children making 8.1% of children within the age 4-6 years old were out of school and 53% were girls.
- In Nigeria, with regards to income, for every dollar a man makes, a woman earns 60 cents, and it is interesting to note that, it is 20 cents less than the world's average.

Introduction

- In this study we employ the use of the Family Independence Initiative (FII) model, which uses goals setting, incentive and support groups as a tool to alleviate households from poverty.
- This experiment studies a program we implemented in Nigeria among a group of female entrepreneurs which was inspired by the Family Independence Initiative (FII).
- Our study estimates the effectiveness of monetary incentives and how it motivates female entrepreneurs in Nigeria in achieving their business goals.

Relevant Literature

- The incorporation of goal setting, cash rewards and self help group revealed the highest outcome for both achieving individual outcomes and an increase in business sales (Alessandra Cassar et al 2016).
- The reason why women face difficulties as entrepreneurs is due to lack of management experience (lack of knowledge on how to draw up a business plan) and training. These are barriers linked with unsuccessful female businesses, this is also associated with male entrepreneurs (Borges et al 2005).

Subject Pool /Location

- The experiment took place in Abuja the capital city of Nigeria.
- The experiment was implemented through collaboration between the National center for women development (NCWD) and our research team between June and August 2017.
- The subjects in the experiment were mostly female entrepreneurs receiving training at the center between 20-55 years of age with a total number of 167 subjects.

Experimental Design/Treatment

Control Groups: No goal, No cash prize, No group		Support Group	
Control group 1: Survey at base/ mid/ end line		No Group	Group
Control group 2: Survey at end line			
Monetary Incentive	No Incentive	Treatment Group III Goals, No Incentive, No group	Treatment Group I Goals, No Incentive,
	Incentive		Treatment Group II Goals, Incentive, Group

Figure 2 Experimental Design

Experimental Treatment:

- Monetary Incentives/ Goal setting.

Subjects in all treatment arms were asked to set a goal every week. Goals could be chosen from a list of 8 goals that was created during the piloting phase.

Subjects that were assigned to **Group II** received a cash prize of 4,500 Nigerian Naira (US \$14) whenever they achieved their selected business goal and showed a required evidence at every weekly meeting.

Experimental Results:

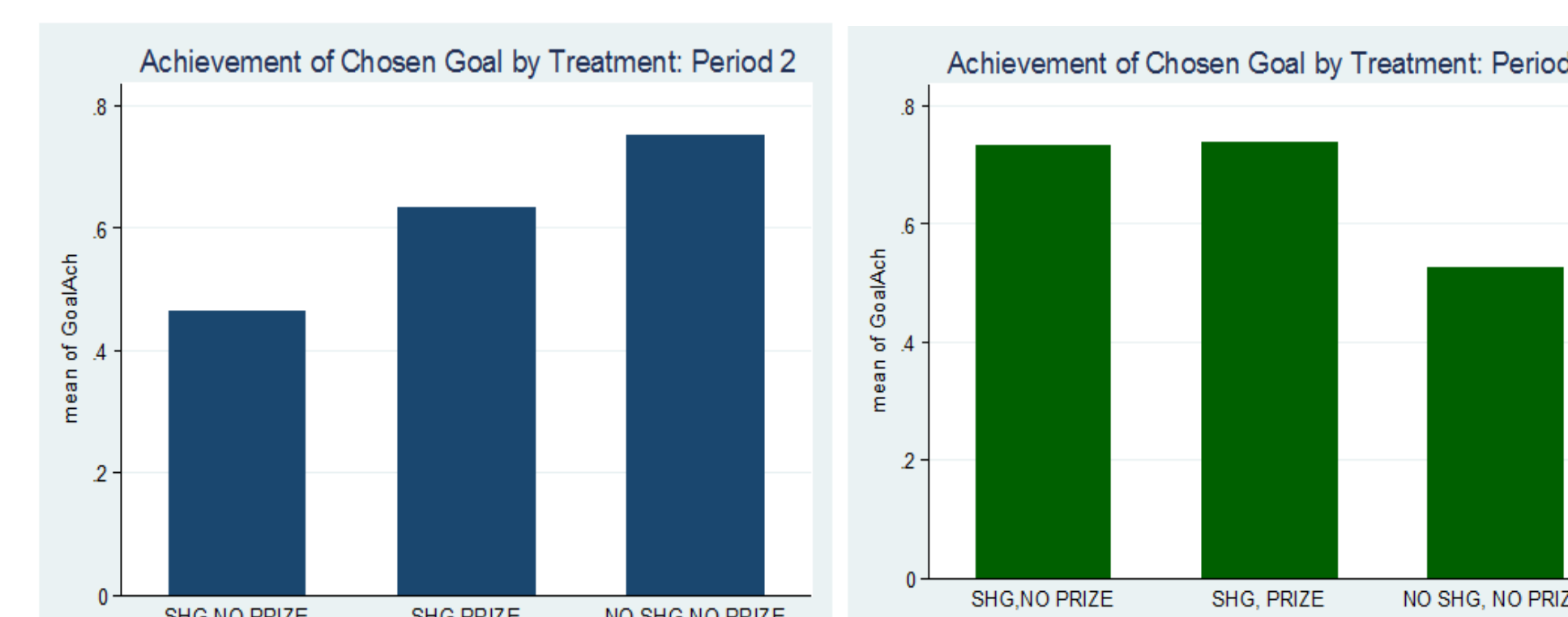


Figure 3: Achievement of Chosen goal by treatment group in period 2.

Figure 4: Achievement of Chosen goal by treatment group in period 3.

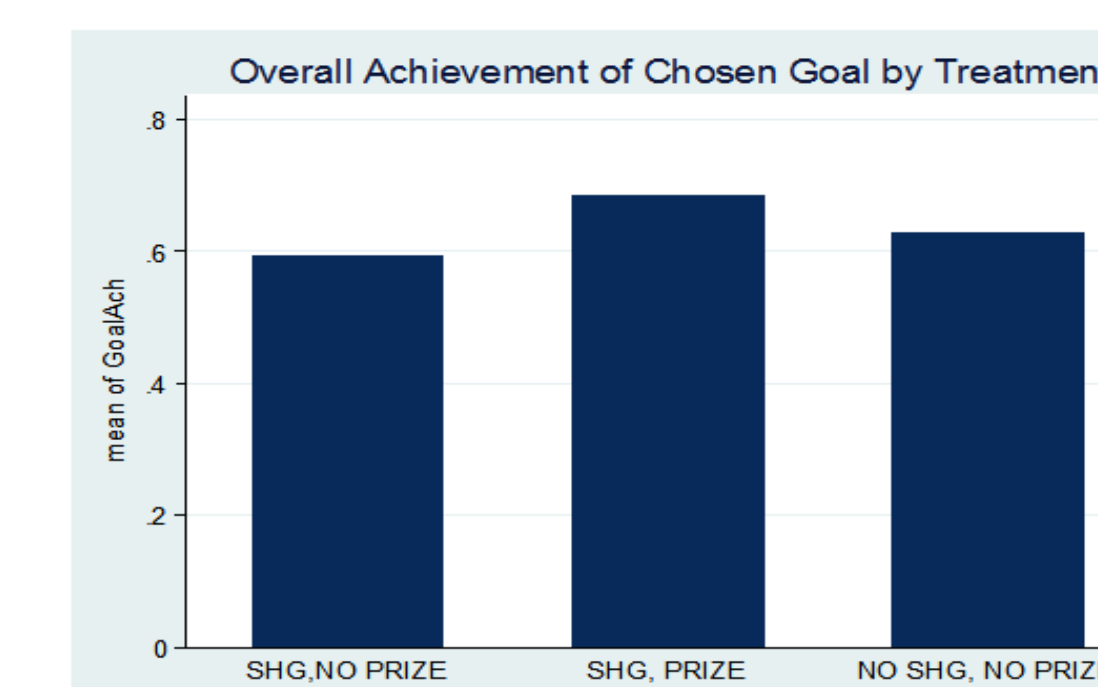


Figure 5: Average Achievement of Chosen goal. Average of individual average achievement of selected objective by Treatment Group.

Table 3: Average Achievement of Selected Goal by Treatment Group

VARIABLES	1 GoalAch	2 GoalAch	3 GoalAch	4 GoalAch	5 GoalAch	6 GoalAch
Incentive	0.498 (0.660)	0.401 (0.690)	0.173 (0.641)	0.302 (0.594)	0.214 (0.582)	0.221 (0.660)
SHG	-0.223 (0.661)	-0.146 (0.669)	-0.532 (0.657)	-0.515 (0.590)	-0.514 (0.573)	-0.691 (0.696)
AGE		0.138 (0.397)	0.326 (0.387)	0.568 (0.377)	0.580 (0.370)	0.535 (0.433)
College			0.815 (0.583)	0.647 (0.526)	0.811 (0.541)	1.002 (0.640)
numofmeals				0.536 (0.483)	0.474 (0.473)	0.488 (0.553)
Bas esteem					-0.640 (0.524)	-0.739 (0.598)
riskmean						-0.117 (0.127)
Constant	0.691 (0.525)	0.416 (0.925)	-0.0987 (0.960)	-1.329 (1.179)	0.0714 (1.596)	1.384 (2.177)
Observations	127	119	115	113	113	107
Number of Subjects	73	68	66	65	65	62

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusion:

- Our results suggest that being in a peer support group, setting a goal and being issued a cash reward does not increase a subjects probability of achieving a selected business goal.
- Shortcomings: short period of time. Prior studies have conducted this experiment between 6 months to a 1 year to actually see the effect of the Family Independence Initiative model, whereas our experiment was conducted within one (1) month.

References:

- Borges, C., Filion, L. J., & Simard, G. (2005). Cr ation d'entreprises - Femmes entrepreneurs Rapport de Recherche 2005. *Cahier de Recherche 2005-16*, HEC: Montreal.
- Aguinaga, P. et al. (2016). Raising achievement among microentrepreneurs: An experimental test of goals, incentives and support groups in Medellin Colombia. 1-36.