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Do Self-Help Groups Work on Achieving Economic Goals? New Evidence from a Field Experiment in Medellin, Colombia

Paulina Aguinaga Lezcano
mpaguinagalezcano@usfca.edu

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New Evidence From a Field Experiment in Medellin, Colombia

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Maria Paulina Aguinaga Lezcano

Faculty Advisor: Alessandra Cassar

Department of Economics
University of San Francisco
2130 Fulton St.
San Francisco, CA 94117

e-mail: *mpaguinagalezcano@usfca.edu*

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Abstract: This research is the first study to introduce an experimental setting to test the implication of a poverty alleviation model inspired by the Family Independence Initiative (FII) in a developing country. The FII is a poverty alleviation approach that has shown remarkable results in improving the living conditions of low-income individuals in three cities of the United States. It promotes self-improvement through setting goals, incentive schemes, and self-help groups (SHGs). The results suggest that the FII model can be successfully implemented as a poverty alleviation policy in a developing country. The model does have a positive and significant effect on debt reduction, savings, as well as business performance. The most effective components of the model are the goal and incentive treatments; meanwhile, SHGs present a negative effect on goal achievement, a poor effect on business outcomes, but a positive and significant effect on social ties.

1. Introduction

It is estimated that currently 1.29 billion people around the world live in poverty and extreme poverty (World Bank, 2012). Despite the efforts of governments, international organizations and civil society, 22 percent of the worldwide population is poor. In recent years, the war against poverty has gained significant importance on the international development agenda and different approaches for poverty alleviation have been developed. The Family Independence Initiative (FII) is one of these approaches. The FII is a poverty alleviation program that has shown remarkable results in reducing poverty in three different cities of the United States.

The FII approach promotes self-improvement through setting goals, incentive schedules, and self-support groups. It focuses on family strengths and social networks rather than on professional staff (Miller, 2011). The FII is centered on the idea that families can lift themselves out of poverty with minimal help if they are able to change their attitudes and behaviors, as well as harness the social capital in their neighborhood in a more efficient way. The program was first implemented in Oakland in 2001, and over time it has been replicated in other locations such as Boston, San Francisco, and Honolulu.

Self-impact evaluations of the program have shown remarkable results in all locations. After two years of enrollment, a sample of 86 households showed significant increases in income, savings, and homeownership. On average, household income increased by 23 percent; savings by 240 percent, and homeownership by 17 percent (Miller, 2011). The First Lady, Michelle Obama, recognized the FII model for showing tangible results in improving the living conditions of low-income families at the White House Social Innovation Fund event in 2010. In addition, Maurice Lim Miller, founder and CEO of the FII organization, won the Genius Award from the MacArthur Foundation in 2012.

Given the recognition that this approach has gained in recent years, we wanted to study its functioning in a scientific manner through a field experiment in Medellin, Colombia. According to the World Bank, Colombia is considered an upper middle-income country. About 37.2 percent of the 46.5 million inhabitants of Colombia live in poverty, and 12.3 percent in extreme poverty (DANE, 2012). Like most countries in Latin America, income distribution in Colombia is highly unequal; its Gini coefficient is

equal to 0.56. Medellin is the second largest city in Colombia. About 38.4 percent of its 2.4 million inhabitants live in poverty and 10.2 percent in extreme poverty (Municipality of Medellin, 2010). In recent years Medellin has emerged as a pioneer for local economic growth in Latin America, through the establishment of a paradigm for community-based economic development (The Guardian, 2012).

This study has two main objectives. First, to investigate in a scientific manner a potentially revolutionary idea for poverty alleviation based on the FII approach in a developing country. In other words, whether or not a program like the FII can be successful as a poverty alleviation policy in a developing country like Colombia. Second, to assess the extent to which self-help groups (SHGs) contribute to promote attitudinal and behavioral changes on low-income individuals.

There has been some substantial academic work conducted on the effects of all three components of the FII model: setting goals, receiving monetary incentives, and the support and accountability of a group. However, limited research has been done based on the interactions of these three components. The support and accountability of the peer group is an extremely important component within the FII framework. Similarly, the concept of SHGS has been developed from different poverty initiatives. Tripathy and Padhi (2011) studied the impact of SHGs in a village in India. They claim that SHGs have a marked and substantial impact on poverty when combined with other community-based organizations and programs. In addition, several studies have found that SHGs are an invaluable resource for women's empowerment and poverty reduction.

However, the results of the field experiment in Colombia reveal that SHGs might have a negative effect on promoting attitudinal and behavioral changes on individuals. In other words, being a member of a SHG lowers the probability of achieving goals related to improving the living conditions of low-income individuals. Moreover, SHGs present a poor effect on business outcomes, but a positive and significant effect on the level of social capital.

The remainder of this paper is organized as follows. Section 2 presents the review of relevant literature. Section 3 describes our field experiment, subjects and experimental settings. Section 4 explains our identification strategy. Section 5 presents our results, and Section 5 summarizes and concludes.

2. Review of the Literature

This section analyses relevant literature on social capital as a poverty alleviation tool, Self-Help Groups, and its relation with the Goal-Setting theory. Poverty implicates many dimensions. According to the World Bank, poverty involves a lack of human and physical assets and inadequate material means to acquire food and other necessities, as well as vulnerability to ill-health, drought, job loss, economic decline, violence, and societal conflict (Granzow, 2000). In recent years the war against poverty has gained significant importance on the international agenda and different approaches of poverty alleviation have been developed. Most of these approaches have privileged the role of social capital as a tool for alleviating poverty in different cultures.

There are multiple interpretations of social capital among economists. Some economists have focused on the definition of social capital as social networks and others have focused on social capital as social norms. Coleman (1990) states that, unlike other forms of capital, social capital inheres in the structure of relations between persons and among persons. Similarly, Warren, Thompson, and Saegert (2001) define social capital as the set of resources that inhere in relationships of trust and cooperation between people. Wetterberg (2006) gives a broader definition, affirming that social capital is composed of two parts: the network of social ties to which a person has access to and the resources that flow through that link. Therefore, the volume of social capital available to any one person is a function of both the size of her network and of the resources held by other members of the network.

On the other hand, Putnam (1993) defines social capital as the features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit. In general, empirical research on social capital has focused on the measurement of at least one of the following types of variables: 1) trust and trustworthiness or credibility; 2) membership in formal and/or informal groups; 3) acceptance of moral rules and norms or adherence to certain values (Staveren, 2003). The aim of this paper is to assess the extent to which social capital in the form of SHGs contribute to promote attitudinal and behavioral changes on low-income individuals and, therefore, improve their living conditions.

As for poverty alleviation, it is commonly asserted that poor people, while lacking material assets, can generally call on close relations with family, neighbors, and

friends as a form for guarding against vulnerability. The World Bank suggests that social capital generated by families is used among the poor to insure themselves against shocks such as bad health, inclement weather, or government cutbacks.

Inspired by the Grameen Bank, SHGs are based on associations of low-income individuals formed voluntarily in communities, often facilitated by non-governmental organizations (Bauer, Chytilová, and Morduch, 2012). SHGs bring together people with common experiences, often between 10 and 25 individuals that gather regularly, typically every week, to pool their savings and lend from their accumulated pot to members at an interest rate designed to cover costs (Seibel and Karduck, 2005). The Self Help generally refers to groups that involve people with similar needs and are operated on an informal and nonprofit basis (Tripathy and Padhi, 2011).

SHGs are a widely accepted strategy for microfinance and micro enterprise development programs. The delivery of microfinance to the poor is effective and less costly if its clients are organized into SHGs (Tripathy and Padhi, 2011). Different studies have found that SHGs are an invaluable resource for empowerment of women and poor rural communities. Kumar (2009) studied the impact of women's participation in SHGs on household welfare in rural India. The results show that women's participation in SHGs generates substantial improvement in income and household welfare regarding the quantity and quality of food consumed, health of household members, and children's education.

Similarly, a World Bank study (Narayan, 1997) among 6,000 people living in 87 villages in Tanzania found a large quantitative effect of peer-groups membership, 20 to 30 percent increase in expenditure per person for each household in the village. The study suggests that higher group membership rates imply more enjoyment of public services, the use of more advanced agricultural practices, joining in communal activities, and participation in credit programs. Likewise, in Paraguay, survey data from 104 peasant co-operations have shown that the level of co-operation depends on social capital, where social capital is measured by characteristics of group membership. The study concluded that the social capital accumulated in the peasant co-operations compensated for government failures in the provisioning of public goods and market failures in the supply of credit (Molinas, 1998).

On the other hand, different studies have analyzed the impact of group

formation on repayment rates of microcredit by comparing outcomes of self-selected formed groups and randomly formed groups. Abbink, Irlenbush and Renner (2006) conducted a lab experiment that found that groups of strangers do as well as groups of friends. Similarly, Wydick (1999) found that social ties have little impact on repayment rates in Guatemala. In other words, friends do not necessarily make a more reliable group of members. By contrast, Gomez and Santor (2003) found default is less likely if there is greater trust and social capital and if members have known each other before joining the group.

Social support in the form of a SHG has been adopted in different disciplines for multiple purposes. This is the case of self-help-influenced treatments that offer an alternative to professional treatment for alcohol and drug addictions. The most common example of this mutual-help group approach to support abstinence is Alcoholics Anonymous (McCrady and Miller, 1993). Alcoholics Anonymous was created in 1935 as a self-help group for individuals in alcohol recovery to maintain sobriety through its emphasis on spirituality and social support (Groh, Jason and Keys, 2008).

Similar to the SHGs that have been observed in microfinance and poverty alleviation programs, self-help therapy groups are voluntarily-attended gatherings characterized by working together on a common problem, self-directed leadership, and the sharing of experiences (Humphreys 2004). Different studies suggest that self-help therapy is more effective and less expensive than traditional therapy led by professionals (Humphreys, 2004). In general, social support may be defined as a process in which aid is exchanged with others in order to facilitate goals (Cohen, Underwood, and Gottlieb, 2000).

Support for goal-setting effects has been found on more than 88 different tasks, involving more than 40,000 male and female participants in both laboratory and field settings around the world (Locke & Latham, 1990). According to the Goal-Setting theory, there is a strong relationship between goals, self-satisfaction, and performance. In describing this relationship, Locke (2006) affirms that high or hard goals lead to greater effort than do moderately difficult or easy goals. Likewise, goals direct attention, effort, and action toward goal-relevant actions at the expense of non-relevant actions. Since performance is a function of ability and motivation, goal effects depend upon having the requisite task knowledge and skills. Additionally, goals may simply

motivate one to use one's existing ability, and/or may motivate people to search for new knowledge.

Goals might come from different sources; they can be assigned by others, they can be set jointly through participation, and they can be self-set. All of these mechanisms appear to be equally effective. However, group goals might be more complex in the sense that goal conflicts may occur among the group's members (Locke 2006). Seijts and Latham (2000) examined the effects of conflict versus no conflict between an individual and group goals in a laboratory task. They found no main effect for goal setting. However, having high personal goals that were compatible with the group's goal enhanced group performance, while having personal goals that were incompatible with the group's goal had a negative effect on how well the group performed.

In conclusion, several studies have analyzed the role of SHG in different disciplines; however, none of them have studied the effects of SHGs on goal achievement under a poverty alleviation framework. Therefore, the primary objective of this paper is to test the effects of SHGs on goal achievement. Based on the current literature, there is no previous research analyzing the implications of a poverty alleviation model inspired by the FII in a developing country, which will allow for policy implications of programs that focus on social network approaches in psychology, sociology, and development economics.

3. The Experiment

3.1. Study Location and Study Population

The study took place in Medellin, Colombia. Medellin is the second largest city in the country. About 38.4 per cent of the 2.4 million inhabitants live in poverty and 10.2 percent in extreme poverty (Municipality of Medellin, 2010). In recent years Medellin has emerged as a pioneer for local economic growth, through the establishment of a new paradigm for community-based economic development. The city was named in as The Innovative City of the Year for 2013, beating fellow finalists New York City and Tel Aviv, in a global competition carried out by the Wall Street Journal in conjunction with the Urban Land Institute and the Citi Group.

Public policies and programs for poverty alleviation in the city have focused on different areas. The city has built public libraries, parks, and schools in poor hillside neighborhoods and constructed a series of transportation links from these zones to its commercial and industrial centers. Similarly, the city has developed a special strategy to promote entrepreneurship initiatives among low-income populations, by establishing a municipal microfinance institution to allow poor people to access credit. This institution is a bank named "El Banco de los Pobres – El Banco de las Oportunidades" (The Bank of the Poor – The Bank of Opportunities). The goal of the Bank is to promote the development and strengthening of small businesses owned by low-income individuals.

The field experiment was conducted in conjunction with the Bank between June and December of 2012. The subjects of the experiment were randomly selected from the database of the Bank, consisting of low-income individuals between 18 and 65 years of age who own a small business.

3.2. The Bank of the Poor – Bank of the Opportunities

The Municipality of Medellin set up the *Bank of the Poor* in 2002. Since 2002, the main objective of the Bank has been to facilitate access to credit to the poorest individuals in the city who want to set up or expand a business. Presently, the Bank is one of the biggest microfinance institutions operating in Medellin. Between 2002 and 2011 the Bank provided over 79,164 loans, lending more than 52.5 million dollars. As a result, about 76,871 businesses were strengthened and 3,293 new businesses were set up. The default rate for this period was 3.89 percent, and about 68 percent of its clients were females (Banco de los Pobres – El banco de las Oportunidades, 2012).

Currently, the amount of loans ranges from 330 USD to 3,250 USD, and the Bank has five main programs to address the needs of different kind of clients. These programs are Microcredit, Seed Capital, Solidary Circles, Artisans and Local Centers for Business Development called CEDEZOS. The aim of the regular Microcredit program is to lend money to expand a previous business. The Seed Capital is a grant to set up a new business. The Solidarity Circles is a group-lending program for the poorest individuals that live in the same neighborhood. The Artisan program is an exclusive line of credit for artisans, and the Local Centers for Business Development are facilities located in

different areas of the city, which offer technical assistance and free training on entrepreneurship, accounting, marketing, sales and other business venues. The subject pool of the experiment was selected from the database of the five different programs.

3.3 Sampling

In order to recruit our subject pool, the Bank selected 250 clients from its five different programs. These clients were invited to participate in an orientation meeting[1] in early June. About 60 percent of the 250 clients participated in these meetings. During the orientation meeting subjects were first required to fill out a survey that included information about demographic data, contact details, household and business characteristics, plus a set of questions asking them about were the three main problems or difficulties they had with their businesses and households, as well as any problems on a personal level.

Once the subjects completed the orientation survey, they were informed that the main purpose of the meeting was to invite them to participate in a new project, which was going to be executed by the Bank and the University of San Francisco. They were informed that the main objective of the project was to help them strengthen their own capabilities to improve their living conditions. Finally, they were required to sign a consent form, where they agreed to participate in the project under the following conditions: 1) being randomly assigned to one of the five treatment groups of the project, 2) attending regular meetings, 3) filling out regular surveys, and 4) Receiving a small compensation for participating in the project, depending on the treatment group they were assigned to. Two weeks later in late June, we invited all the people who signed the consent form to participate in a follow-up meeting. About 140 people attended this follow-up meeting. These 140 people are our subject pool; individuals that did not attend this meeting were excluded from the sample.

In order to control for any kind of bias among subjects assigned to the control group, we recruited a new group of subjects in December during the last round of the project. Again, the Bank selected 30 clients from its database. These clients were invited to participate in an orientation meeting. About 21 clients attended the orientation

[1] It was necessary to carry out three different orientation meetings to recruit the total number of people to set

meeting. This meeting followed the same protocol of the previous orientation meetings; the only difference was that subjects were required to complete additional surveys.

3.3. Experimental Design and Timeline

The experiment had in total six rounds, one every four weeks from late June to December. After recruiting our subject pool during the orientation meetings, each of the subjects was randomly assigned to one of the five treatment groups. On average, each of the groups was composed of 30 subjects. The matrix below shows the organization of the control and treatment groups for the experiment.

Table 1: Experimental Design Matrix

Control Groups: No Goals, No SHG, No Prizes **Control Group I.A:* Beginning of the project (n=19) **Control Group I.B*: End of the project *(n=21)*		**Self-Help Groups - SHG (Social Capital)**	
		No SHG	**SHG**
Individual Incentives	**No prizes**	***Treatment Group II*** Goals, No SHG, No Prizes (n=27)	***Treatment Group III*** Goals, SHG, No Prizes (n=32)
	Prizes	***Treatment Group IV*** Goals, No SHG, Prizes (n=30)	***Treatment Group V FII model*** Goals, SHG, Prizes (n=30)

By comparing the outcomes of the *Treatment Group V and* the two *Control Groups*, we will be able to estimate the overall effect of the FII program. Additionally, by comparing the outcomes of the *Treatment Groups II* and *IV* to the *Treatment Groups III* and *IV*, we will be able to assess the marginal effect of SHGs. Finally, by comparing the results of the *Treatment Groups II* and *III* to the *Treatment Groups IV* and *V* we will be able to estimate the marginal effect of economic incentives or prizes. A more detailed description of the control and treatment groups is provided in an Appendix.

3.3.1. Goals

The information collected throughout the orientation survey allowed us to construct a list of 14 different goals. These goals are related to different activities, such as attending a training program offered by the Bank, purchasing a durable good for home or business, debt reduction, savings, and other initiatives. The complete list of

goals is presented in the Appendix Table A1. All the goals are at the individual level, even subjects that are members of a SHG select and accomplish individual goals. It is important to note that only subjects assigned to treatment groups II to through V are required to set an individual goal every four weeks; subjects assigned to the control groups do not set any goal.

Subjects selected only one of the 14 goals per round every four weeks from June to December. In total, there were six rounds. Subjects could only change their goals during the follow-up meetings (every four weeks). All the 14 goals are easy to track and subjects were required to document and provide proofs of the achievement of their goals. Some of the goals are repeatable and others are one time goal. In order to control for the level of difficulty of the goals, before the subjects selected their first goal, they were required to rank the level of difficulty of each goal. Additionally, every four weeks they ranked from 1 to 5 with respect to how difficult it was for them to achieve the goal from the previous four weeks.

3.3.2. Self-Help Groups

Subjects assigned to the Treatment Groups III and V were placed in Self-Help Groups. On average, these SHGs were composed of 15 individuals. The purpose of the SHGs is to promote attitudinal and behavioral changes via motivation, information sharing and public accountability. Every four weeks during the follow-up meetings, subjects were required to stand up in front of their group, and tell their peers what was the selected goal for the previous four weeks, how difficult it was for them to accomplish it, and which goal they were going to select for the next four weeks. The subjects led their own discussions; the role of the enumerators was to help them establish the discussions at the beginning, but they were not allowed to lead the discussions.

The dynamics of these SHGs are quite similar to the dynamics of Alcoholics Anonymous Groups – AAGs, in the sense that every member has an individual goal to accomplish, but they work together on a common problem. Both SHGs and AAGs are voluntarily attended gatherings characterized by, self-directed leadership, and the sharing of experiences.

3.3.3. Incentives and Flat Fees

Subjects assigned to the *Control Group I.A* received a flat fee equal to 13 USD per survey. In total, they completed three different surveys, the baseline survey, midpoint survey and the endline survey. Similarly, subjects assigned to the *Control Group I.B* received a flat fee equal to 13 USD for completing only the endline survey. Subjects assigned to *Treatment Groups II* and *III* received a flat fee equal to 17 USD every four weeks for completing the goal-related survey regardless of the goal achievement. Contrary, subjects assigned to *Treatment Groups IV* and *V* received a prize equal to 19 USD every four weeks only if they achieve their goal; otherwise they received only 3 USD as compensation for transportation expenses.

It is important to note that subjects assigned to the different treatment groups received on average the same amount of money. The idea of the economic incentive was to compensate subjects for transportations expenses, and the time they spent completing the surveys, collecting the proofs of the achievement of their goals and attending the meetings. In overall, the compensation or prize is equivalent to the daily wage rate of an unskilled worker in Medellin, which is between $17 USD and $19 USD. Therefore, the improvement of the living conditions of the subjects during the experiment cannot be attributed to the compensation or prize that they received.

3.3.4. Follow-up Meetings

The experiment had in total six different rounds of setting goals and seven follow-up meetings from June to December. All of these meetings were run at the Bank facilities. During the first follow-up meeting we required subjects to set their first goals. Subsequently, we ran other six follow-up meetings every four weeks. The protocol was the same for all of these meetings. Firstly, we asked subjects to fill up a goal-related survey. Then, depending on the treatment group, subjects discussed their progress toward the achievement of the goal. After de discussion, subjects summited to the enumerators the documentation that proved the achievement of their goal; and finally they receive either the flat fee or the prize depending on the treatment group to which they were previously assigned.

3.4 Data Collection

All the data were collected though the surveys described in the table below during the orientation and follow-up meetings. (All surveys are provided in an appendix).

Table 2: Data Collection

Survey	Information	Frequency
Orientation Survey	Contact details, personal information, household and business characteristics	Orientation Meeting (Beginning of June)
Demographic Survey	Demographic data of the household of the subject	1st Follow-up meeting (Late June)
Baseline, Midpoint and Endline Survey	Income, poverty index, social capital, reference point, self-esteem, risk aversion and patience	1st Follow-up meeting (Late June) 5th Follow-up meeting (Mid October) 7th Follow-up meeting (Mid December)
Goal Rank Survey	Rank of difficulty for each of the 14 goals	1st Follow-up meeting (Late June)
Goal-Related Survey	Questions related to all the 14 goals, regardless of the selected goal.	All of the follow-up meetings from June to December

4. Impact: Identification Strategy

This section estimates the effect of SHGs on three different aspects; achievement of goals, level of social capital, and business outcomes. Subsequently, we will estimate the overall effect of the program inspired by the FII model.

4.1. Impact of SHGs on the Achievement of Economic Goals

In order to estimate the impact of SHGs on the achievement of goals, we will look at the effect of the treatment over time, by comparing the outcomes of the subjects placed in the SHG treatment (*Groups III* and *V)* to the outcomes of the subjects that were not placed in the SHG treatment (*Groups II and IV)*. We will assess the marginal effect of SHGs using a bivariate Probit model with panel data to estimate the following equation:

$$\Pr(Achieved = 1|x_{it}) = \propto +\beta_1 SHG_i + \beta_2 Prize_i + \beta_3 FII_i + \beta_4 Achi\_Diff_{it} + \beta_5 Bef\_Prog_i + \beta_6 SE_{it} + \beta_7 Risk_{it} + \gamma x_i + e_i \quad (1)$$

Where the dependent variable is a binary outcome of 1 achieving a goal and 0 is not achieving a goal for time *t*; $\propto$ is the constant. *SHG*, *Prize* and *FII* are dummy variables with a value of 1 for an *i* subject randomly placed in the SHG treatment, Prize treatment or FII treatment (*Group V*), respectively, for all periods of time. *Achi_Diff* is a rank of difficulty for goal achievement. The higher the value, the more difficult for an *i* subject to achieve his/her goal for time *t*. *Bef_Prog*, is a dummy variable with a value of 1 for an *i* subject who knew other subjects before the program and 0 otherwise. *SE* is an index created by calculating the mean of the survey answers concerning to self-esteem. The higher the value the more confident an individual *i* is for time *t*. *Risk* is an index created from the mean of the answers to risk questions included in the survey. The higher the value the more risk-loving an individual *i* is for time *t*. γx_i is a vector of control variables for age, gender, education, and socio-economic strata[2]. Finally, e_i is the error term.

4.2. Impact of SHGs on Social Ties

We will measure the impact of SHGs on social ties using a bivariate Probit model to estimate the following equation:

$$\Pr(Relitionship = 1|X_i) = \propto +\beta_1 SHG_i + \beta_2 Prize_i + \beta_3 Goal_i + \beta_4 FII_i + \beta_5 Bef\_Prog_i + \beta_6 SE_{it} + \beta_7 Risk_{it} + \gamma x_i + e_i \quad (2)$$

The dependent variable in equation (2) is a binary outcome of 1 if an *i* subject established either a friendship or a business relationship with other subjects in his/her treatment group during the course of the program and 0 otherwise. Once again, *SHG*, *Prize*, *Goal*, and *FII* are dummy variables with a value of 1 for an *i* subject randomly placed in the SHG, Prize, Goal or FII treatment groups, respectively, for all periods of time. *Bef_Prog*, is a dummy variable with a value of 1 for an *i* subject who knew other subjects before the program and 0 otherwise. *SE* and *Risk* are the self-esteem and risk-loving indices, respectively. γx_i is the vector of control variables for age, gender, education, and socio-economic strata.

[2] The Colombian population is divided into seven levels of socio-economic strata according to the characteristics of housing and its location. This is a standard measure of purchasing power and income.

4.4 Impact of SHG on Business Outcomes

We will assess the effect of SHGs and FII model on business outcomes using an Ordinary Least Squares model to estimate the following equation:

$$RankSales = \propto +\beta_1 SHG_i + \beta_2 Prize_i + \beta_3 Goal_i + \beta_4 FII_i + \beta_5 Consider\_Bus_{it} + \beta_6 Marketing_{it} + \beta_7 Bef\_Prog_i + \beta_8 SE_{it} + \beta_9 Risk_{it} + \gamma X_i + e_i \quad (3)$$

In this case, the dependent variable is a rank of weekly sales in Colombian Pesos, broken into a range of 1 to 6. Once again, α is the constant and *SHG*, *Prize*, *Goal*, and *FII*, and are dummy variables with a value of 1 for an *i* subject randomly placed in the SGH, Prize, Goal or FII treatments, respectively, for all time periods of time. *Consider_Bus*, is a ranked variable for how an *i* subject perceives his/her own business for time *t*. The higher the value the more positive an individual *i* perceives his/her business for time *t*. *Marketing* is a dummy variable with a value of 1 for an *i* subject who designs and implements a marketing strategy for time *t* and 0 otherwise. *Bef_Prog*, is a dummy variable with a value of 1 for an *i* subject who knew other subjects before the program and 0 otherwise. *SE* and *Risk* are the self-esteem and risk-loving indices, respectively, for time *t*. γXi is the vector of control variables for age, gender, education, and socio-economic strata.

4.5 Overall impact of the FII model

In order to estimate the overall effect of the FII model on the improvement of subjects' living conditions, we will look at the effect of the three components of the program and their interaction on each one of the 14 goals regardless of the selected goals by subjects. We will use a bivariate Probit model with panel data and time fixed effects to estimate the following equation:

$$\Pr(Y = 1|x_{int}) = \propto +\beta_1 SHG_i + \beta_2 Prize_i + \beta_3 Goal_i + \beta_4 FII_i + \beta_5 Bef\_Prog_i + \gamma x_i + e_i \quad (4)$$

The dependent variable in equation (4) is a binary outcome of 1 completing goal *n* and 0 otherwise for time *t*, where *n* is one of the 14 goals regardless of the selected goal for time *t*. Once again, α is the constant and *SHG*, *Prize*, *Goal*, and *FII*, and are dummy variables with a value of 1 for an *i* subject randomly placed in the SGH, Prize,

Goal or FII treatments, respectively, for all time periods of time. *Bef_Prog*, is a dummy variable with a value of 1 for an i subject who knew other subjects before the program and 0 otherwise. γx_i is the vector of control variables for age, gender, education, and socio-economic.

By considering each of these empirical estimations, we can determine if the FII model can be successfully implemented as a poverty alleviation policy in a developing country, as well as to estimate the impact of SHGs on the achievement of goals, the level of social capital, and business outcomes.

5. Results

5.2. Subject Backgrounds

The subject pool of the experiment consists of 159 subjects. About 58 percent of the subjects are women and 42 percent are men. The average age of the participants is 40 years, with age varying from18 to 67 years of age. Nearly 21 percent of the subjects have primary education, 36 percent have high school education, and about 35 percent of the subjects attended technical or technology courses after high school. The vast majority of the subjects are classified into the socio-economic stratas two and three. Table 3 and Table 4 present the summary statistics by SHG treatment and baseline and endline survey, respectively.

Table 3: Summary Statistics Control Variables

---Means with Standard Deviations in Parentheses---

Control Variables	***SHG Treatment***	***No - SHG Treatment***	**t-test** *SHG No-SHG*	***Control I.A.***	***Control I.B.***	**t-test** *SHG Control IA -IB*
Age	41.15 (11.84)	38.82 (11.29)	1.08	42.63 (10.25)	40.52 (11.01)	0.16
Gender[1]	0.50 (0.50)	0.68 (0.47)	2.06	0.53 (0.50)	0.62 (0.49)	0.74
Education[2]	2.89 (1.12)	3.30 (0.92)	2.16	3.42 (0.88)	3.14 (0.71)	1.87
Socio-Economic Strata	2.31 (0.93)	2.75 (0.86)	2.58	2.39 (0.89)	2.24 (0.97)	0.02
Homeownership[3]	0.50 (0.50)	0.43 (0.50)	0.23	0.76 (0.43)	0.38 (0.50)	0.02
Observations	62	57		19	21	

1. Females=1
2. Illiterate=1, Primary=2, High Scholl=3, Associate degree=4 University and Postgraduate=5
3. Yes=1, No=0

Table 4: Summary Statistics Baseline and Endline

---Means with Standard Deviations in Parentheses---

	Variables	*SHG Treatment* Mean (Std. Dev.)	*No-SHG Treatment* Mean (Std. Dev.)	t-test *SHG No-SHG*	*Control I.A.* Mean (Std. Dev.)	*Control I.B.* Mean (Std. Dev.)	t-test *SHG Control IA-IB*
	Baseline						
Social Capital Variables[1]							
1	Community organization membership	0.16 (0.37)	0.23 (0.43)	0.97	0.11 (0.32)		0.60
2	In financial hardship borrow money from family member	0.46 (0.50)	0.59 (0.50)	1.41	0.42 (0.51)		0.29
3	In financial hardship borrow money from friends	0.20 (0.40)	0.13 (0.33)	1.05	0.21 (0.42)		0.13
4	In financial hardship borrow money from neighbors	0.05 (0.22)	0.04 (0.19)	0.36	0.05 (0.23)		0.06
5	Consider can be a community leader	0.65 (0.48)	0.64 (0.48)	0.08	0.74 (0.45)		0.70
Business Variables							
6	Rank Sales[2]	2.50 (1.48)	2.41 (1.37)	0.34	2.42 (1.12)		0.21
7	Rank how subjects consider their Businesses are going[3]	1.82 (0.53)	1.96 (0.42)	1.61	1.74 (0.56)		0.58
8	Marketing Strategy[1]	0.55 (0.50)	0.53 (0.50)	0.24	0.58 0.51		0.72
Income Variable							
9	Rank how subjects consider their income to cover basic needs[4]	1.59 (0.56)	1.73 (0.59)	1.34	1.58 (0.51)		0.08
	Endline						
Social Capital Variables[1]							
10	Community organization membership	0.17 (0.38)	0.30 (0.46)	1.42	0.13 (0.35)	0.10 (0.30)	0.80
11	In financial hardship borrow money from family member	0.35 (0.48)	0.61 (0.49)	2.69	0.33 (0.49)	0.67 (0.48)	1.71
12	In financial hardship borrow money from friends	0.27 (0.45)	0.11 (0.32)	1.92	0.07 (0.26)	0.10 (0.30)	2.21
13	In financial hardship borrow money from neighbors	0.15 (0.36)	0.00 0.00	2.80	0.07 (0.26)	0.05 (0.22)	1.43
14	Consider can be a community leader	0.60 (0.50)	0.59 (0.50)	0.05	0.60 (0.51)	0.62 (0.50)	0.14
15	In financial hardship would borrow money from group member	0.17 (0.38)	0.07 (0.25)	1.55	0.07 (0.26)	0.05 (0.22)	1.65
16	Knew other subjects before project started	0.13 (0.34)	0.36 (0.49)	2.69	0.00 0.00	0.24 (0.44)	0.06
17	Established relationship with other subjects during the project	0.77 0.43	0.50 (0.51)	2.83	0.27 (0.46)	0.29 0.46	5.18
Business Variables							
18	Rank of Weekly Sales[2]	3.06 (1.73)	2.80 (1.58)	0.77	2.93 (1.44)	2.71 (1.85)	0.68
19	Rank how subjects consider their Businesses are going[3]	1.94 (0.54)	1.86 (0.46)	0.76	1.87 (0.52)	2.00 (0.45)	0.02
20	Marketing Strategy[1]	0.52 (0.50)	0.77 (0.42)	2.64	0.47 (0.52)	0.33 (0.48)	1.20
Income Variable							
21	Rank how subjects consider their income to cover basic needs[4]	1.67 (0.58)	1.77 (0.64)	0.80	1.40 (0.51)	1.67 (0.66)	0.91
	Observations	62	57		19	21	

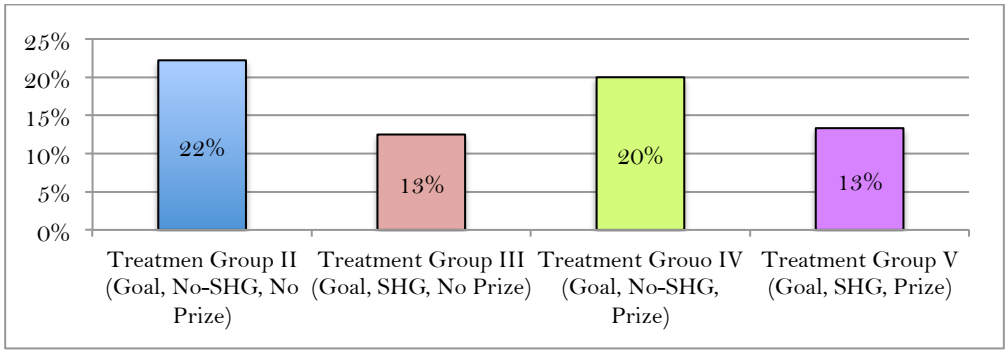
1 Yes=1, No=0
2 Range of 1 to 6
3 Has a lot of problems=1, Doing well=2, Does not have any problem=3
4 insufficient=1, sufficient=2, and more than Sufficient=3

Looking at the Social Capital variables at the beginning of the program, there are no statistical differences between subjects in the SGH treatment and subjects in the No-SHG treatment. However, at the end of the program, there is a significant difference in the variable related to the establishment of new relationships (friendship and business relationships) with other subjects during the program. Similarly, there are no significant differences at the beginning of the project between subjects in the SHG and subjects in the control group; however, at the end of the program, once again the variable for new relationships exhibits a statistical difference. This suggests that SHGs might have a significant effect in the establishment of new relationships among group members.

Analyzing the Business variables, there are not statistical differences between subjects in the SHG treatment and subjects in the No-SHG treatment, nor between subjects in the SHG treatment and subjects in the control group. By the end of the program, there is a significant difference between SHG and No-SHG only in the variable related to a marketing strategy. There is no a statistical difference in sales, either between subjects in SHGs and subjects in No-SHGs or between subjects in SHGs and subjects in any of the two control groups. This implies that SHGs might not have a significant effect on the rank of weekly sales.

Moreover, looking at the drop rate of the program, 20 subjects in the *Treatment Groups II* through *V* dropped out the program[3]. This represents about 17 percent of the treated subjects. The No-SHG treatment groups exhibit a higher drop rate than the SHG treatment groups. Figure 1 illustrates the drop rates of each one of the treatment groups.

Figure 1: Drop Rates by Treatment Groups



[3] A subject drops out the program when he/she misses more than one follow-up meeting.

5.2. Impact of SHG on the Achievement of Economic Goals

Since subjects in the *Control Groups I.A* and *I.B* did not set any goals, this section only includes the outcomes of subjects in the *Treatment Groups II* thought *V*. Figure 2 shows the percentage of achieved goals per treatment for each round of the experiment. The percentage of the achieved goals was considerably lower in the initial rounds for all treatment groups. However, subjects assigned to the *Treatment Group V* (FII model) performed much better than subjects in any other group during the first round of the program. As time went by, the percent difference of achieved goals between all the treatment groups went down. Surprisingly, subjects assigned to the No-SHG treatment (*Groups II* and *IV)* performed much better than subjects in the SHG treatment *(Groups III* and *V)*. Therefore, SHG might not have a significant effect on the achievement of goals.

Figure 2: Percentage of the Achievement of Goals per Treatment Group Per Month

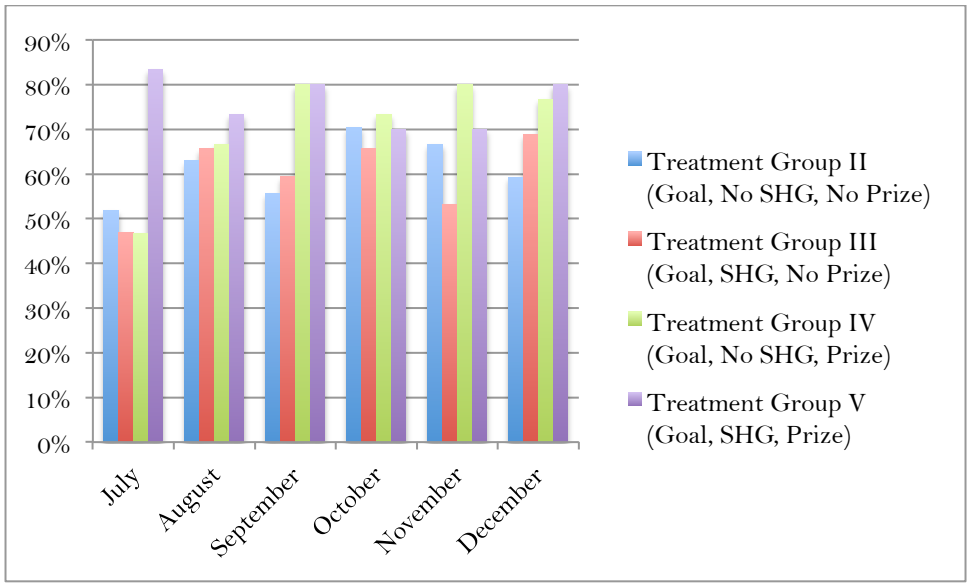


Table 5 shows the t-tests on average achievement of goals by treatment component. Note that there is no statistical difference between the SHG Treatment and the No-SHG treatment groups, which indicates that SHGs might not have a significant effect on the achievement of the goals. By contrast, there is a significant difference between the Incentive Treatment and the No-Incentive treatment groups meaning that

economic incentives or prizes might have a significant effect on the achievement of the goals.

Table 5: T-test on average achievement by treatment components

	Mean (Std. Dev.)	SHG Treatment	No-SHG Treatment	Prize Treatment	No-Prize Treatment
SHG Treatment	0.82				
	(0.38)		1.14		
No-SHG Treatment	0.86				
	(0.35)	1.14			
Prize Treatment	0.93				
	(0.26)				5.93***
No- Prize Treatment	0.75				
	(0.43)			5.93***	

*** p<0.01, ** p<0.05, * p<0.1

Similarly, Table 6 shows the t-tests on the average achievement of goals by treatment group. Note that *Treatment Group V*, which is the FII model, presents statistical differences from *Treatment Groups II* and *III*. These differences are an indicator of the efficiency of the model; however, this efficiency might be due to the incentive component and not due to the SHG component. Comparing *Treatment Groups IV* and *V*, there is not a statistical difference between the two groups even though *Group V* is in the SHG treatment, whereas Group IV is not. Equally, there is not a statistical difference between *Treatment Groups II* and *III*, although *Group III* is in the SHG treatment.

Table 6: T-test on average achievement by treatment groups

	Mean (Std. Dev.)	Treatment Group II	Treatment Group III	Treatment Group IV	Treatment Group V -FII
Treatment Group II (Goal, No SGH, No Prize)	0.80 (0.40)		1.71	2.53***	3.73***
Treatment Group III (Goal, SGH, No Prize)	0.71 (0.46)	1.71		4.41***	5.61***
Treatment Group IV (Goal, No SGH, Prize)	0.91 (0.29)	2.53***	4.41***		1.22
Treatment Group V – FII (Goal, SGH, Prize)	0.94 (0.23)	3.73***	5.61***	1.22	

*** p<0.01, ** p<0.05, * p<0.1

In addition, the empirical model shows similar results. Table 7 presents the results of the Probit estimation with standard errors clustered at the level of subject and

time fixed effects. Column (1) shows that without adding any other variables, SHGs do not have a significant effect on the achievement of goals. Once the *Prize*, *FII* and control variables are included in the regression in Column (5), SHGs become significant, but the sign of the coefficient is always negative. This implies that being a member of a SHG lowers the probability of achieving a goal by at least 8.6 perceptual points. The marginal effects of the Probit estimation are presented in Table 8.

Table 7: Bivariate Probit Estimation on Goal Achievement

VARIABLES	(1) Achieved	(2) Achieved	(3) Achieved	(4) Achieved	(5) Achieved	(6) Achieved	(7) Achieved
SHG Treatment	-0.165	-0.116	-0.306	-0.302	-0.510***	-0.596***	-0.605***
	(0.163)	(0.153)	(0.211)	(0.195)	(0.195)	(0.213)	(0.210)
Prize Treatment		0.831***	0.541***	0.505**	0.298	0.380*	0.411**
		(0.142)	(0.200)	(0.208)	(0.194)	(0.196)	(0.198)
FII			0.555*	0.634**	0.778**	0.697**	0.703**
			(0.301)	(0.312)	(0.305)	(0.297)	(0.300)
Achieved Difficulty Rank				-0.349***	-0.339***	-0.337***	-0.330***
				(0.0562)	(0.0577)	(0.0589)	(0.0626)
Age					-0.00543	-0.00846	-0.00884
					(0.00673)	(0.00686)	(0.00660)
Gender					-0.486***	-0.485***	-0.471***
					(0.160)	(0.161)	(0.162)
Education					0.00257	0.00201	0.0203
					(0.0937)	(0.0845)	(0.0890)
Socio-economic Strata					-0.0257	-0.0546	-0.0799
					(0.0882)	(0.0853)	(0.0836)
Knew others before project						-0.177	-0.138
						(0.167)	(0.171)
Self-esteem mean							0.136
							(0.171)
Risk-Loving mean							-0.0606
							(0.0373)
Constant	1.294***	0.993***	1.105***	2.243***	3.053***	3.330***	3.177***
	(0.197)	(0.208)	(0.236)	(0.304)	(0.522)	(0.531)	(0.899)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SE Clustered by Subject	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	571	571	571	569	552	535	528
Pseudo R2	0.0272	0.101	0.108	0.213	0.230	0.234	0.239

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

By contrast, the *Prize Treatment* variable is significant in most of the cases, meaning that subjects in the prize treatment have a higher probability of achieving their goals than subjects that receive a flat fee. Looking at the *FII* variable, which is the

interaction of the three treatments: goals, SHGs, and prizes, this variable is always positive and significant. This suggests that the FII model works on promoting attitudinal and behavioral changes in low-income individuals. Therefore, subjects assigned to *Treatment Group V* are more likely to achieve their goals by at least 9 perceptual points than subjects assigned to any other treatment groups.

Contrary to the predictions of the Goal-Setting theory, the results suggest that the harder the goal, the less likely it is to be achieved; the *Achieved Difficulty Rank* variable is negative and significant in all the cases. On the other hand, the *Gender* variable is negative and significant, which means that women have lower probabilities of achieving goals than men.

Table 8: Marginal Effects for the Bivariate Probit Estimation in Table 7

VARIABLES	(1) MFX	(2) MFX	(3) MFX	(4) MFX	(5) MFX	(6) MFX	(7) MFX
SHG Treatment	-0.039	-0.025	-0.066	-0.056	-0.086***	-0.099***	-0.100***
	(0.039)	(0.033)	(0.045)	(0.036)	(0.033)	(0.035)	(0.036)
Prize Treatment		0.182***	0.117**	0.094**	0.052	0.065*	0.071**
		(0.035)	(0.046)	(0.040)	(0.034)	(0.035)	(0.035)
FII			0.103**	0.098**	0.107***	0.096***	0.097***
			(0.046)	(0.038)	(0.033)	(0.032)	(0.032)
Achieved Difficulty Rank				-0.065***	-0.059***	-0.057***	-0.056***
				(0.010)	(0.009)	(0.009)	(0.010)
Age					-0.001	-0.001	-0.002
					(0.001)	(0.001)	(0.001)
Gender					-0.078***	-0.076***	-0.074***
					(0.025)	(0.024)	(0.024)
Education					0.000	0.000	0.003
					(0.016)	(0.014)	(0.015)
Socio-economic Strata					-0.004	-0.009	-0.014
					(0.015)	(0.015)	(0.014)
Knew others before project						-0.032	-0.025
						(0.032)	(0.032)
Self-esteem mean							0.023
							(0.030)
Risk-Loving mean							-0.010
							(0.006)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SE Clustered by Subject	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	571	571	571	569	552	535	528
Pseudo R2	0.0272	0.101	0.108	0.213	0.230	0.234	0.239

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

5.3. Impact of SHG on Social Ties

This section assesses the effect of SHG on the level of social capital. Table 9 presents the results of the Probit estimation on the establishment of new relationships (friendship and business relationships) with other subjects during the project. The marginal effects of this estimation are presented in Table 10. The findings suggest that it is more likely that subjects assigned to the SHG treatment establish new relationships with other group members than subjects in the No-SHG treatment. In other words, SHGs increase the probability of establishing new relationships by at least 36 perceptual points at the five percent level. As a result, SHGs might increase the level of social capital of the group members Similarly, subjects that knew other participants before the project started are more likely to establish new relationships.

Table 9: Bivariate Probit Estimation on New Relationships

	(1)	(2)	(3)	(4)	(5)
VARIABLES	New Relationships	New Relationships	New Relationships	New Relationships	New Relationships
SHG Treatment	0.990***	1.095***	1.024**	1.187***	1.160**
	(0.239)	(0.385)	(0.431)	(0.446)	(0.456)
Prize Treatment		0.579	0.655	0.640	0.623
		(0.384)	(0.418)	(0.425)	(0.433)
Goal Treatment		0.286	0.193	0.090	0.075
		(0.356)	(0.393)	(0.408)	(0.412)
FII		-0.696	-0.585	-0.632	-0.595
		(0.544)	(0.570)	(0.574)	(0.588)
Age			0.014	0.019	0.018
			(0.012)	(0.013)	(0.013)
Gender			0.009	-0.034	-0.036
			(0.256)	(0.258)	(0.258)
Education			-0.162	-0.136	-0.132
			(0.154)	(0.155)	(0.157)
Socio-economic Strata			0.091	0.081	0.088
			(0.154)	(0.156)	(0.159)
Knew others before project				0.544*	0.547*
				(0.306)	(0.307)
Self-esteem mean					-0.027
					(0.320)
Risk-Loving mean					-0.018
					(0.064)
Constant	-0.253*	-0.589***	-0.860	-1.179	-0.972
	(0.142)	(0.223)	(0.845)	(0.880)	(1.511)
Observations	132	132	128	128	128
Pseudo R2	0.0992	0.135	0.157	0.175	0.176

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

Table 10: Marginal Effects for the Bivariate Probit Estimation in Table 9

VARIABLES	(1) MFX	(2) MFX	(3) MFX	(4) MFX	(5) MFX
SHG Treatment	0.369***	0.405***	0.381***	0.435***	0.426***
	(0.080)	(0.126)	(0.144)	(0.142)	(0.146)
Prize Treatment		0.223	0.250*	0.245	0.239
		(0.141)	(0.152)	(0.155)	(0.159)
Goal Treatment		0.114	0.076	0.036	0.030
		(0.141)	(0.156)	(0.162)	(0.164)
FII		-0.271	-0.230	-0.247	-0.234
		(0.199)	(0.216)	(0.215)	(0.222)
Age			0.006	0.007	0.007
			(0.005)	(0.005)	(0.005)
Gender			0.004	-0.013	-0.014
			(0.101)	(0.102)	(0.102)
Education			-0.064	-0.054	-0.052
			(0.061)	(0.061)	(0.062)
Socio-economic Strata			0.036	0.032	0.035
			(0.061)	(0.062)	(0.063)
Knew others before project				0.206*	0.207*
				(0.108)	(0.109)
Self-esteem mean					-0.011
					(0.126)
Risk-Loving mean					-0.007
					(0.025)
Observations	132	132	128	128	128
Pseudo R2	0.0992	0.135	0.157	0.175	0.176

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

5.4. Impact of SHG on Business Outcomes

This section assesses the effect of SHGs on the weekly sales of the businesses owned by the subjects. Table 11 presents the t-tests on the average rank of weekly sales by treatment component. Note that there is not a statistical difference between the SHG Treatment and the No-SHG treatment. However, there is a significant difference between the Prize treatment and the No-Prize treatment. This implies that the SHG treatment might not have a significant effect on the rank of weekly sales, whereas the Prize treatment might have a significant effect.

Similarly, Table 12 shows the t-tests on the average rank of weekly sales by treatment group. Note that the FII model, *Treatment Group V* presents statistical differences from the other groups. Since there were no differences in the value of sales among the control and treatment groups at the beginning of the experiment (Table 2),

it is possible to state that the FII model is effective in improving the outcomes of the businesses owned by the subjects.

Table 11: T-test on Average Weekly Sales Value by Treatment Components

	Mean (Std. Dev.)	SHG Treatment	No-SHG Treatment	Prize Treatment	No-Prize Treatment
SHG Treatment	2.75 (1.56)		1.88		
No-SHG Treatment	2.56 (0.35)	1.88			
Prize Treatment	2.79 (1.52)				2.314**
No-Prize Treatment	2.55 (1.55)			2.314**	

*** p<0.01, ** p<0.05, * p<0.1

Table 12: T-test on Average Weekly Sales Value by Treatment Group

	Mean (Std. Dev.)	*Control Group I.A*	*Control Group I.B*	*Treatment Group II*	*Treatment Group III*	*Treatment Group IV*	*Treatment Group V - FII*
Control Group I.A (No goal, No SHG, No Prize)	2.61 (1.47)		0.48	0.42	1.21	1.10	2.85***
Control Group I.B (No goal, No SHG, No Prize)	2.71 (1.81)	0.48		0.89	1.67	1.55	2.14**
Treatment Group II *(Goal, No SHG, No Prize)*	2.54 (1.51)	0.42	0.89		0.81	0.67	3.47***
Treatment Group III (Goal, SHG, No Prize)	2.41 (1.45)	1.21	1.67	0.81		0.15	4.60***
Treatment Group IV (Goal, No SHG, Prize)	2.43 (1.35)	1.10	1.55	0.67	0.15		4.44***
Treatment Group V (Goal, SHG, Prize)	3.14 (1.59)	2.85***	2.14**	3.47***	4.60***	4.44***	

*** p<0.01, ** p<0.05, * p<0.1

Table 13 presents the results of the OLS estimation on the rank of sales. The findings suggest that SHGs do not have a significant effect on the rank of weekly sales, whereas the FII variable, which is the interaction of all the three treatment components, Goals, SHGs, and Prizes, does have a positive and significant effect on sales at the 10 and 5 percent level. Therefore, subjects in *Treatment Group V* present a higher value in the rank of sales than subjects in any other groups. On the other hand, the *Consider Business* variable is positive and significant at the 5 percent level in columns (5) and (6), indicating that how subjects perceive their own businesses might affect business outcomes; the more positive their perception, the higher the value of the sales rank. Looking at the control variables, the *Socio-economic Strata* is positive and significant at

the 5 and 10 percent level in columns (7) and (8), respectively. This suggests that the higher the socio-economic strata (the less poor a subject is), the higher the value of the weekly sales.

Table 13: OLS Estimation on Sales Rank

VARIABLES	(1) Sales	(2) Sales	(3) Sales	(4) Sales	(5) Sales	(6) Sales	(7) Sales	(8) Sales
SHG Treatment	0.201	0.162	0.292	-0.135	-0.106	-0.343	-0.412	-0.415
	(0.229)	(0.224)	(0.245)	(0.344)	(0.347)	(0.361)	(0.386)	(0.390)
Prize Treatment		0.226	0.348	-0.106	-0.146	-0.319	-0.302	-0.296
		(0.224)	(0.245)	(0.341)	(0.333)	(0.347)	(0.370)	(0.368)
Goal Treatment			-0.353	-0.112	-0.070	0.041	0.068	0.042
			(0.338)	(0.367)	(0.397)	(0.414)	(0.449)	(0.450)
FII				0.848*	0.890*	1.122**	1.225**	1.230**
				(0.483)	(0.471)	(0.484)	(0.512)	(0.514)
Marketing Strategy					-0.060	0.006	0.002	0.005
					(0.161)	(0.163)	(0.163)	(0.162)
Consider Business					0.526**	0.451**	0.343	0.323
					(0.202)	(0.199)	(0.209)	(0.203)
Age						-0.006	-0.007	-0.007
						(0.010)	(0.011)	(0.011)
Gender						-0.343	-0.377	-0.377
						(0.238)	(0.256)	(0.257)
Socio-economic Strata						0.212	0.292**	0.287*
						(0.129)	(0.147)	(0.152)
Education						-0.227	-0.251	-0.252
						(0.149)	(0.159)	(0.160)
Knew others before project							-0.302	-0.290
							(0.284)	(0.284)
Self-esteem mean								0.113
								(0.266)
Risk-Loving mean								-0.018
								(0.054)
Constant	2.361***	2.280***	2.472***	2.471***	1.498***	2.228***	2.370***	2.142
	(0.145)	(0.175)	(0.253)	(0.253)	(0.469)	(0.811)	(0.844)	(1.320)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SE Clustered by Subject	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	936	936	936	936	817	796	737	737
R-squared	0.015	0.020	0.026	0.040	0.079	0.113	0.135	0.137

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

5.5. Overall Effect of the FII model in Different Aspects

This section assesses the effect of the three components of the FII program on each one of the 14 goals. Table 14 presents the results of a bivariate Probit estimation on each goal, and Table 15 presents the marginal effects of this estimation. The results suggest that SHGs do have a positive and significant effect only on the goal-related to

required licenses to operate the business. As a result, subjects in the SHG treatment have a higher probability of applying for a required license than subjects in the No SHG treatment. Meanwhile, the Prize treatment presents a significant effect on the goals related to required licenses, as well as on the improvement of credit score. However, the effect on the credit score goal is negative. Given the fact that subjects might have had an adequate credit score before the rollout of the program, and therefore, did not need to improve it over the course of the program, the negative coefficient in the Prize treatment does not mean that subjects in this treatment are more likely to have lower credit scores.

The *Goal Treatment* seems to have a positive and significant effect on most of the 14 goals with a few exceptions. This suggests that in general, setting goals contributes to accomplishing attitudinal and behavioral changes, and therefore, subjects in *Treatment Groups II* through *V* are more likely to improve their living conditions than subjects in the *Control Groups*. On the other hand, the *FII* treatment does have a positive and significant effect on the goal-related to debt reduction, as well as on the goal-related to credit scores, meaning that subjects in *Treatment Group V* have a higher probability of at least 33 more perceptual points of reducing their liabilities than subjects in any other groups.

Looking at the control variables, *Age* presents a positive and significant effect on three goals: Literacy programs, social security enrollment, and higher education applications. Since the vast majority of the illiterate subjects are between 42 and 65 years of age, older subjects are more likely to enroll in literacy programs. Similarly, older subjects are more likely to enroll in the national social security system that includes health insurance and pensions.

On the other hand, Education is positive and significant uniquely for the goal of marketing strategies, suggesting that more educated subjects are more likely to design and implement marketing strategies for their businesses. Finally the *Socio-economic Strata* variable is positive and significant solely on social security. Given the fact that the Social Security System in Colombia is not free, and that people have to pay a monthly fee according to their level of income and type of job, subjects in higher socio-economic strata might be more likely to enroll in the system because they can afford the fees.

Table 14: Bivariate Probit Estimation on Each of the 14 Goals

VARIABLES	(1) Training Program	(2) Business Plan	(3) Accounting	(4) Debt Reduction	(5) Machine Purchase	(6) Marketing Strategy	(7) Licenses	(8) Trade Fair	(9) Savings	(10) Credit Score	(11) Durable Good for Home	(12) Literacy Program	(13) Social Security Enrollment	(14) Application for higher education
SHG Treatment	0.291	0.185	-0.278	-0.437	0.167	-0.049	0.322*	0.065	0.259	-0.555	-0.256		-0.224	-0.191
	(0.232)	(0.246)	(0.261)	(0.289)	(0.237)	(0.229)	(0.167)	(0.234)	(0.292)	(0.398)	(0.249)		(0.362)	(0.303)
Prize Treatment	-0.049	0.277	-0.063	-0.241	0.188	-0.032	0.555***	0.228	0.287	-0.673**	0.006	1.133	0.150	0.015
	(0.208)	(0.255)	(0.296)	(0.282)	(0.271)	(0.257)	(0.197)	(0.244)	(0.292)	(0.336)	(0.246)	(0.795)	(0.366)	(0.400)
Goal Treatment	0.557**	0.790***	0.858***	0.883***	-0.177	0.931***	0.584***	0.498*	0.526*	-0.375	0.604***		0.079	0.435
	(0.224)	(0.227)	(0.260)	(0.276)	(0.209)	(0.243)	(0.200)	(0.283)	(0.273)	(0.377)	(0.215)		(0.348)	(0.349)
FII	-0.311	-0.364	0.355	0.798**	-0.025	0.177	-0.851***	-0.278	0.196	1.659***	0.389		-0.467	0.428
	(0.315)	(0.346)	(0.392)	(0.378)	(0.344)	(0.354)	(0.249)	(0.330)	(0.403)	(0.452)	(0.346)		(0.496)	(0.461)
Knew others before project	0.220	0.054	-0.428*	-0.380*	0.104	0.137	0.301*	0.575***	0.022	0.349	0.108	0.981	-0.520*	0.558**
	(0.149)	(0.187)	(0.220)	(0.212)	(0.174)	(0.197)	(0.162)	(0.207)	(0.206)	(0.256)	(0.164)	(0.635)	(0.297)	(0.240)
Age	-0.008	0.000	-0.013	0.009	0.002	-0.005	-0.001	0.009	0.013	0.013	-0.004	0.053*	0.039***	0.034***
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.006)	(0.008)	(0.009)	(0.011)	(0.008)	(0.030)	(0.011)	(0.013)
Gender	-0.006	-0.082	-0.090	-0.009	0.005	-0.063	-0.130	0.094	-0.193	-0.457**	-0.190	-0.873	-0.374*	0.753***
	(0.146)	(0.161)	(0.186)	(0.162)	(0.148)	(0.162)	(0.124)	(0.176)	(0.178)	(0.203)	(0.152)	(0.564)	(0.220)	(0.292)
Education	0.076	0.086	-0.006	-0.065	0.152	0.241**	-0.040	0.105	0.067	-0.164	0.031	-0.275	0.197	0.176
	(0.087)	(0.094)	(0.121)	(0.097)	(0.096)	(0.108)	(0.087)	(0.091)	(0.108)	(0.136)	(0.095)	(0.308)	(0.150)	(0.118)
Socio-Economic Strata	0.145	0.006	0.017	-0.136	-0.029	0.108	-0.088	0.103	-0.059	0.052	-0.058	-0.690	0.390***	-0.177
	(0.089)	(0.097)	(0.109)	(0.107)	(0.088)	(0.103)	(0.079)	(0.094)	(0.106)	(0.146)	(0.088)	(0.440)	(0.123)	(0.118)
Constant	-1.463***	-1.655***	-0.154	0.239	-1.323**	-1.458**	1.599***	-2.704***	1.361**	0.539	1.834***	-2.990*	3.507***	-4.320***
	(0.501)	(0.560)	(0.668)	(0.587)	(0.542)	(0.632)	(0.520)	(0.543)	(0.624)	(0.710)	(0.635)	(1.787)	(0.735)	(1.025)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SE clustered by subject	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	853	853	853	852	853	874	874	853	853	529	853	299	853	852
Pseudo R2	0.0594	0.0705	0.0775	0.0804	0.0231	0.180	0.319	0.274	0.0953	0.170	0.0595	0.324	0.287	0.148

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 15: Marginal Effects for the Probit Estimation on Table 14

VARIABLES	(1) MFX	(2) MFX	(3) MFX	(4) MFX	(5) MFX	(6) MFX	(7) MFX	(8) MFX	(9) MFX	(10) MFX	(11) MFX	(12) MFX	(13) MFX	(14) MFX
SHG Treatment	0.094	0.064	-0.110	-0.165	0.043	-0.018	0.082*	0.020	0.102	-0.165	-0.037		-0.071	-0.011
	(0.076)	(0.086)	(0.103)	(0.110)	(0.063)	(0.083)	(0.044)	(0.071)	(0.114)	(0.119)	(0.034)		(0.117)	(0.017)
Prize Treatment	-0.016	0.097	-0.025	-0.091	0.049	-0.012	0.146**	0.070	0.112	-0.205**	0.001	0.011	0.046	0.001
	(0.066)	(0.091)	(0.118)	(0.107)	(0.073)	(0.094)	(0.058)	(0.077)	(0.113)	(0.103)	(0.036)	(0.011)	(0.112)	(0.025)
Goal Treatment	0.160***	0.239***	0.330***	0.339***	-0.047	0.350***	0.126***	0.135**	0.207**	-0.100	0.074***		0.025	0.022
	(0.057)	(0.059)	(0.092)	(0.102)	(0.058)	(0.091)	(0.034)	(0.064)	(0.105)	(0.091)	(0.023)		(0.112)	(0.014)
FII	-0.092	-0.117	0.138	0.264**	-0.006	0.063	-0.158***	-0.078	0.077	0.327***	0.068		-0.159	0.035
	(0.086)	(0.103)	(0.147)	(0.103)	(0.087)	(0.121)	(0.037)	(0.086)	(0.155)	(0.064)	(0.069)		(0.180)	(0.045)
Knew others before project	0.073	0.019	-0.169**	-0.147*	0.027	0.049	0.080*	0.191**	0.009	0.093	0.017	0.020	-0.177*	0.048*
	(0.051)	(0.066)	(0.086)	(0.083)	(0.047)	(0.069)	(0.047)	(0.074)	(0.081)	(0.063)	(0.026)	(0.029)	(0.107)	(0.026)
Age	-0.003	0.000	-0.005	0.004	0.000	-0.002	-0.000	0.003	0.005	0.004	-0.001	0.000	0.012***	0.002**
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.001)	(0.000)	(0.003)	(0.001)
Gender	-0.002	-0.029	-0.036	-0.003	0.001	-0.023	-0.032	0.028	-0.076	-0.128**	-0.029	-0.008	-0.114*	0.042**
	(0.047)	(0.056)	(0.073)	(0.061)	(0.038)	(0.058)	(0.031)	(0.052)	(0.070)	(0.056)	(0.024)	(0.010)	(0.065)	(0.015)
Education	0.024	0.030	-0.002	-0.025	0.039	0.088**	-0.010	0.032	0.026	-0.048	0.005	-0.002	0.062	0.011
	(0.028)	(0.032)	(0.048)	(0.037)	(0.025)	(0.039)	(0.021)	(0.028)	(0.043)	(0.040)	(0.014)	(0.003)	(0.046)	(0.007)
Socio-Economic Strata	0.046	0.002	0.007	-0.051	-0.007	0.039	-0.022	0.031	-0.023	0.015	-0.009	-0.004	0.122***	-0.011
	(0.028)	(0.034)	(0.043)	(0.041)	(0.023)	(0.037)	(0.019)	(0.028)	(0.042)	(0.043)	(0.013)	(0.005)	(0.040)	(0.007)
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SE clustered by subject	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	853	853	853	852	853	874	874	853	853	529	853	299	853	852
Pseudo R2	0.0594	0.0705	0.0775	0.0804	0.0231	0.180	0.319	0.274	0.0953	0.170	0.0595	0.324	0.287	0.148

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

Furthermore, analyzing the perception of the subjects about the program. The treated subjects were asked to rate the project in a scale of 1 to 5 during the last follow-up meeting. About 77 percent of the treated subjects ranked the program in 5 and 19 percent in 4; suggesting that the vast majority of subjects have a highly positive perception of the program. Similarly, over 20 percent of the subjects stated that one of the main advantages of the program was to help them set clear and feasible goals and about 15 percent affirmed that the program allowed them to meet and interact with other people. Likewise, above 40 percent of the subjects affirmed that the program helped them to strength their business and 20 percent of the subjects declared to have increased their savings during the program.

6. Summary and Conclusions

In summary, this research is the first study to introduce an experimental setting to test the implication of a poverty alleviation program inspired by the Family Independence Initiative outside of the United States. According to the results, the FII model can be successfully implemented as a poverty alleviation policy in a developing country. The program showed extraordinary results in promoting attitudinal and behavioral changes on low-income individuals, and therefore, in improving their living conditions. Apparently, the most effective mechanism of the model is the combination of the three components, *Goal*, *Prize*, and *SHG*. The *Goal* treatment is effective in promoting behavioral changes on individuals, and the *Prize* treatment supports these behavioral changes. However, the *SHG* component presents ambiguous results. SHGs seem to have a negative effect on goal achievement, a poor effect on business outcomes, and a positive and significant effect on social ties.

These ambiguous effects might be explained with three reasons. First, all SHGs in the experiment were randomly formed. By contrast, groups in the original FII model are self-selected. On the other hand, Gomez and Santor (2003) study the effect of self-selected groups and randomly selected groups on microfinance default rates. They found that self-selected groups perform better than randomly formed groups because there is greater trust and social capital if members have known each other before joining the group. Second, some of the subjects assigned to the No-SHG treatment live in the same area, and it is not possible to control for communication between them outside of

the program. As a result, there might be a kind of peer effect among subjects placed in the No-SHG treatment. Third, according to the Goal-Setting theory, there is a strong relationship between goals, self-satisfaction and performance. Hence, it might be the case that subjects in the No-SHG treatment felt more motived and satisfied for achieving their goals than subjects in the SHG treatment, and therefore they put more effort into accomplishing their goals.

Regarding the limitations of this study, one of the main limitations of the field experiment in Colombia is the short period of program implementation due to budget constraints. In the original FII model, families are enrolled for a period of two years; in our experiment, subjects were enrolled for a period of six months, which might be a short period of time to observe structural changes on living conditions. Future research needs to be done in the sustainability of outcomes over time, through a post-program impact evaluation, and in the potential causes of the negative effects of the SHGs.

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Appendix 1: List of Goals

Table A1: List of Goals

Number	**Goal** (for the next four weeks)	**Verification Method**	**Frequency**
1.	Attend and complete at least ONE of workshops in marketing and sales, accounting, administration or entrepreneurship offered by El Banco de las Oportunidades or your local development center (Cedezo).	Registration form and certificate of completion	Repeatable
2.	Update or create a business plan for your business.	Present documents	One time
3.	Begin or continue to keep accounting of your company or business, and show the gains and losses statement.	Present accounting documents	Repeatable
4.	Pay off an outstanding debt, minimum $ 60,000 in Colombian Pesos (approx. 35 USD).	Receipt (with date)	Repeatable
5.	Purchase a machine, tool, or equipment for your business, minimum $ 60,000 in Colombian Pesos (approx. 35 USD).	Receipt (with date)	Repeatable
6.	Create and implement a marketing strategy for your business (website, social networking sites, etc. for those businesses that apply).	Present documents/ websites	One time
7.	Obtain any of the following licenses or registrations that you do not currently have (only if required for your business): - Registry with tax board - Operation - Sanitation - Food handling - Public space	Present the application to the enumerator and/or group	Repeatable
8.	Participate in a job fair, exhibition, or other business event organized by El Banco de las Oportunidades or your local development center (Cedezo).	Certificate of participation	Repeatable
9.	Save at least $ 15,000 in Colombian pesos (approx. 8 USD) every week for next four weeks in a savings account -- If you do not have a savings account, we suggest you open an account in a cooperative.	Bank statement	Repeatable
10.	Make a payment to improve your credit score. Minimum $ 60,000 in Colombian Pesos (approx. 35 USD).	Credit score data base online	Repeatable
11.	Purchase a durable good for your home, minimum $ 60,000 in Colombian Pesos (approx. 35 USD).	Receipt (with date)	Repeatable
12.	Apply yourself or help a member of your family apply for at least one of the grants or scholarships offered by the municipality for higher education.	Present the application	One time
13.	Attend a course for adult literacy (learning to read and write).	Certificate of attendance	Repeatable
14.	Join the Social Security System (Health and Pension).	Membership certification	One time

Appendix 2: Description of the Control and Treatment Groups

A.1.1. Control Group I.A

Subjects assigned to the *Treatment Group I.1* are not members of any SHGs, do not set any goals, and therefore do not receive any prizes. These subjects were required to complete three surveys, the baseline survey, midpoint survey and the endline survey. They received $13 USD per survey as compensation for their time and transportation expenses.

A.1.2. Control Group I.B

This control group consists of subjects that were recruited in December for the last round of the project. This group follows the same protocol of the *Control Group I.A*. Consequently, they are not members of any SHGs, do not set any goals, and therefore do not receive any prizes. These subjects complete only the endline survey and receive $13 USD as compensation for their time and transportation expenses. The purpose of recruiting this group at the end of the project is to control for any kind of bias among the *Control Group I.A* considering that completing the baseline survey and midpoint survey might influence their behavior and bias their performance.

A.1.3. Treatment Group II

Subjects assigned to this treatment are required to set an individual goal every four weeks; they are not members of any SHG, and they do not receive a prize based on goal achievement; however, they receive a flat fee of 17 USD for completing a goal-related survey every four weeks. Communication between subjects is not allowed in this treatment group to prevent crosstalking. Each subject is required to individually complete his/her surveys and tell the enumerator the information about the achievement of his/her goal and the chosen goal for the next four weeks. These subjects complete the baseline, midpoint and endline surveys plus the goal-related survey every four weeks.

A.1.4. Treatment Group III

Subjects assigned to the *Treatment Group III* are required to set an individual goal every four weeks; they are members of a SHG, but they do not receive a prize based on goal achievement; they receive a flat fee of 17 USD for completing a goal-related survey every four weeks. Communication between subjects is allowed for this treatment

group. Subjects are required to tell their peers if they did or did not achieve their goal and how difficult it was for them to accomplish their goals. These subjects complete the baseline, midpoint and endline surveys plus the goal-related survey every four weeks.

A.1.5. Treatment Group IV

Subjects assigned to this treatment are required to set an individual goal every four weeks they are not members of any SHG, but they do receive a prize based on the goal achievement. This prize is equal to 19 USD if they achieve their goal otherwise, they receive 3 USD as compensation for transportation expenses. Communication between subjects is not allowed for this treatment group to prevent cross talking. Each subject is required to individually complete his/her surveys and tell the enumerator the information about the achievement of his/her goal and the chosen goal for the next four weeks. These subjects complete the baseline, midpoint and endline surveys plus the goal-related survey every four weeks.

A.1.6. Treatment Group V – FII Model

This is the full Family Independence Model. Subjects assigned to the *Treatment Group V* are required to set an individual goal every four weeks; they are members of a SHG, and they do receive a prize based on goal achievement. The prize is 19 USD if they achieve their goal or $3 USD if they do not achieve their goal. Communication between subjects is allowed for this treatment group. Subjects are required to tell their peers if they achieve or not their goal and how difficult it was for them to accomplish their goals. These subjects complete the baseline, midpoint and endline surveys plus the goal-related survey every four weeks.

Appendix 3: Surveys

A3.1. Orientation survey

A. CONTACT INFORMATION:			
1. First and Last Name	_____		
2. National ID Number	_____		
3. Tel 1 (home)	_____	Tel 2 (work)	_____
4. Tel 3 (cell phone)	_____	Tel 4 (other)	_____
5. Address	_____		
5. Neighborhood	_____		
6. District	_____		
7. Township	_____		
8. Socioeconomic Strata	_____		
9. City	_____		
10. Email address	_____@_____._____		
B. PERSONAL INFORMATION:			
11. Age	_____		
12. Marital Status	Single ____ Married ____ Civil Union ____ Widow (er) ____ Separated ____ Divorced ____		
13. Gender	M ____ F ____		
14. Total number of people living in your home:	____		
15. Occupation:	Housewife ____ Employed ____ Student ____ Self-employment ____ Other _____ Which?_____		
16. Do you have public health insurance?:	Yes ____ No ____		
17. Do you have private health insurance?	Yes ____ No ____		
18. Would you consider yourself and your household	Very Poor _____ Poor _____ Getting by _____ Prosperous _____		
19. What is your relationship to the head of the household?	Head of household _____ Partner (spouse) _____ Son/daughter, stepson/stepdaughter _____ Son-in-law/daughter-in-law _____ Grandson/granddaughter _____ Father, mother, father/mother-in-law _____ Brother, sister _____ Other relative _____ Which?___ Other non-relative _____ Which?___		
20. What is your current level of education?:	None _____ Primary school _____ High School _____ Vocational Training _____ Which? _____ Technological School _____ Which? _____		

21. Have you taken a training course offered in one of the following subjects?:	Entrepreneurship _____ Sales and Marketing _____ Administration _____ Others? _____ Which? _____ None _____		
22. Are you currently or have you been in the past a participant in one of the following programs?:	Solidarity Circles _____ Artisan Program _____ Seed Capital _____ Local Development Centers _____ The Bank of Opportunities _____ None of the above _____ Other_____		
23. In the past 4 weeks, have you saved some amount of money?		Yes_____	No____ **Skip to question 25**
24. Which mechanism do you use for savings?	Bank Account _____ Group Savings _____ Others _____ Which? _____		
25. Do you actively participate in any organization for community services?	Yes_____ Which?_____		No____
C. INFORMATION ABOUT THE BUSINESS:			
26. Do you own your own company, business or enterprise?:		Yes_____	No_____**Skip to question 41**
27. Economic activity of your company business or enterprise?:	Agriculture ____ Food/Drink ____ Handcrafts ____ Trade ____ Industry ____	Leather Work ____ Services ____ Technology ____ Textiles/Clothing ____ Other _____	
28. Is it a family business?	Yes ___ No ___		
29. Number of employees in your business: _____			
30. How many members of your family work in your business?: _____			
31. Does your business have documentation of any of the following registrations?:	Notary National Tax Number Industry Registry Merchant Registry	Yes ___No ___N/A___ Yes ___No ___N/A___ Yes ___No ___N/A___ Yes ___No ___N/A___	
32. Is your business required to have any of the following licenses?:	Environmental License Location Food Handling License Operation License Personal Food Handling Other	Yes ___ No _____ Yes ___ No _____ Yes ___ No _____ _____	
33. Does your business have all of the licenses required to operate?:		Yes ___No ___	
34. What is the current value of your machinery, tools, property, and equipment of your business? (in Colombian Pesos):		Less than $1,000,000 (< approx. 555 USD) ___ $1,000,000 - $5, 000,000 (approx. btw. 555-2,775 USD) ___ $5,000,000 - $10,000,000 (approx. btw. 2,775-5,555 USD) ___ More than $10,000,000 (> approx. 5,555 USD) ____	
35. What is the value of your weekly inventory? (in Colombian Pesos)		Less than $200,000 (< approx. 110 USD) ____ $200,000 - $500,000 (approx. btw. 110-275 USD) ____ $500,000 - $1,000.000 (approx. 275-555 USD) ____ $1,000.000 - $2,000,000 (approx. 555-1,100 USD) ___ More than $2,000,000 (> approx. 1,100 USD) ____	
36. What are your weekly profits on average? (in Colombian Pesos):		Less than $150,000 (< approx. 85 USD) ___ $150.000 - $300,000 (approx. btw. 85-170 USD) ___ $300.000 - $500,000 (approx. btw. 170-275 USD) ___ $500.000 - $1,000,000 (approx. btw. 275-555 USD) ___ $1.000.000 - $1,500,000 (approx. btw. 555-835 USD) ___ More than $1,500,000 (> approx. 835 USD) ____	

37. Do you have an updated business plan for your business?	Yes ____ No ____
38. What do you consider to be the three most significant problems with your business?	1._____ 2._____ 3._____
39. What do you consider to be the three best qualities of your business?	1._____ 2._____ 3._____
40. What things do want to do to improve your business?	1._____ 2._____ 3._____
41. What things do you want to do to improve your home?	1._____ 2._____ 3._____
42. What things do you want to do to improve your personal well-being?	1._____ 2._____ 3._____

A3.2. Demographic Survey

Date:	
First and Last Names:	
ID Number:	

Please complete the information in the following table for YOU and EACH ONE of the people that live with you in the SAME home. Please complete only one line per person. For example: If you are the head of your household, include your information en the line "Head of Household." If you are the spouse of the head of the household, include YOUR information in the line for "Spouse."

A. Number of the family member	**B. Member of the household that lives with you**	**C. Age**	**D. Gender (Male or Female)**	**E. Completed Studies** 1=Primary School 2=Bachelor 3=Technical 4=Technology 5=University 6=Postgraduate 7= Courses 8= None	**F. Is this person currently studying in school? Yes or No** *(If no, skip to column H)*	**G. Institution:** 1=Preschool 2=Primary 3=Bachelors 4=Technical 5=Technology 6=University	**H. Is this person currently working?** *Yes or No*	**J. In what job?**
Example	**Spouse**	***35***	**Female**	**2 = Bachelors** (Completed studies in a bachelors program)	**Yes**	**4 = Technical** (The spouse of the house is studying a technique in the National Learning Service at the moment)	**Yes**	**Artisan**
1	Head of the Household							
2	Spouse							
3	Child							
4	Child							
5	Child							
6	Child							
7	Grandchild							
8	Father							
9	Mother							
10	Other Family Member							
11	Other Non-family Member							
12								
13								
14								

A.3.3. Baseline, Midpoint, Endline Survey

Date:	
Name and Last Name:	
National ID Number:	

			Question Included at:		
			Base-line	Mid-point	End Line
1.	Do you own your own home?	□ Yes □ No	Yes	No	Yes
2.	Do you own a working refrigerator?	□ Yes □ No	Yes	No	Yes
3.	Do you own a working washing machine?	□ Yes □ No	Yes	No	Yes
4.	Do you own a working DVD player?	□ Yes □ No	Yes	No	Yes
5.	Do you or your family own a motorcycle or car?	□ Yes □ No	Yes	No	Yes
6.	Do you own a working television?	□ Yes □ No	Yes	No	Yes
7.	Would you consider yourself and your household	□ Very Poor □ Poor □ Getting by □ Prosperous	Yes	Yes	No
8.	How do you consider the monthly income of your household used to cover your basic need?	□ 1. Sufficient to cover the basic needs of the home. □ 2. More than sufficient to cover the basic needs of the home. □ 3. Insufficient to cover the basic needs of the household.	Yes	No	Yes
9.	Due to lack of money, did you not consume any of the three basic meals (breakfast, lunch, and dinner) on one or more days of the past week?	□ Yes How many days? □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ No	Yes	Yes	Yes
10.	Which do you consider adequate income to cover basic needs of your home? (In Colombian Pesos)	□ Less than $300,000 (< approx. 170 USD) □ Between $300,000 – 600,000 (approx. btw. 170-335 USD) □ Between $600,000 - $1,200.000 (approx. btw. 335 – 665 USD) □ Between $1,200,00 - $ 1,500.000 (approx. btw. 665– 835 USD) □ Between $1,500,00 - $ 2,000.000 (approx. btw. 835– 1,110 USD) □ Between $2,000,00 - $ 2,500.000 (approx. btw. 1,110– 1,390 USD) □ More than $ 2,500.000 (> approx. 1,390 USD)	Yes	No	Yes
11.	When you have a financial hardship, from whom do you borrow you money?	□ Family member □ Bank □ Neighbor □ Friend □ Informal Money Lender □ None of these □ Others Which? _____	Yes	Yes	Yes
12.	How do you consider your business?	□ It has many problems □ It is going well □ It has NO problems	Yes	Yes	Yes
13.	I consider myself a person with an equal value	□ Totally agree	Yes	Yes	Yes

	like other people.	□ Agree □ Disagree □ Totally disagree			
14.	I consider myself to be capable of the same things that other people can do.	□ Totally agree □ Agree □ Disagree □ Totally disagree	Yes	Yes	Yes
15.	I believe that I do **NOT** have many things to feel proud of.	□ Totally agree □ Agree □ Disagree □ Totally disagree	Yes	Yes	Yes
16.	In general, I feel satisfied with myself.	□ Totally agree □ Agree □ Disagree □ Totally disagree	Yes	Yes	Yes
17.	At times, I feel like I am **NOT** good for anything.	□ Totally agree □ Agree □ Disagree □ Totally disagree	Yes	Yes	Yes
18.	If you have children of age, what type of work do you think your oldest child will have when he or she is an adult?	□ What job? _____ □ I don't have children □ My children are adults	Yes	Yes	Yes
19.	If you have children of age, what type of job do you think your youngest child will have when he or she is an adult?	□ What job? _____ □ I don't have children □ I have one child □ My children are adults	Yes	Yes	Yes
20.	Do you think that you will live in your current house for the rest of your life?	□ Yes □ No	Yes	Yes	Yes
21.	If you have children of age, do you think that your children will live in the same neighborhood as you when they grow up?	□ Yes □ No □ I don't have children □ My children are adults	Yes	Yes	Yes
22.	Do you think that you will have the same job you have currently until you retire or are not able to work?	□ Yes □ No	Yes	Yes	Yes
23.	Do you think that one day you will be able to pay ALL your debts?	□ Yes □ No	Yes	Yes	Yes
24.	Do you believe that one day you will improve your socioeconomic status?	□ Yes □ No	Yes	Yes	Yes
25.	Do you think that one day you will be a leader in your community?	□ Yes □ No	Yes	Yes	Yes
26.	Do you feel that you are a person of worth but the system or society in general does not allow you to improve your situation?	□ Yes □ No	Yes	Yes	Yes
27.	Where were you born?	□ In this municipality □ In a different Colombian municipality □ In another country.	Yes	No	Yes
28.	Where did you live in the last 5 years?	□ In this municipality □ In a different Colombian municipality □ In another country	Yes	No	Yes
29.	In the last five years have you changed your place of residence?	□ Yes □ No – **SKIP TO QUESTION 31**	Yes	No	Yes
30.	What was the principle cause of the change of residence in this occasion?	□ Difficulty finding a job or means to survive □ A better education □ Risk of natural disaster (floods, avalanches, landslides, earthquakes) or a consequence of a natural disaster □ Threat or risk against your life, freedoms, or physical violence	Yes	No	Yes

		□ Health reason □ Family reason □ Other reason			
31.	Have you or a member of your house been affected by any of the following events?	□ Theft or robbery □ Personal injury □ Force displacement □ Homicide □ Domestic violence □ Attempted rape or rape □ Kidnapping □ Consumption or abuse of alcohol □ Consumption or abuse of illicit drugs □ None of these □ Other	Yes	No	Yes
32.	How are you, a person that is totally prepared to take risks or you try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10	Yes	Yes	Yes
33.	When you are driving a car or riding a bike or motorcycle, are you a person totally prepared to take risks or try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10 □ I don't drive a car or ride a bike or motorcycle.	Yes	Yes	Yes
34.	In situations with money and financial issues, are you a person totally prepared to take risks or try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10	Yes	Yes	Yes
35.	In situations with sports, games, or recreational activities, are you a person who is totally prepared to take risks or try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10	Yes	Yes	Yes
36.	In situations with your career or professional life, are you a person totally prepared to take risks or try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10	Yes	Yes	Yes
37.	In situations with your health (think of smoking, drinking, unhealthy diet, sex without protection, etc.), are you a person totally prepared to take risks or try to avoid taking risks?	Mark the number from 1 to 10 where 1 means that you are not prepared at all to take any risks and ten that you are totally prepared to take risks. □ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10	Yes	Yes	Yes
38.	In general, how patient do you consider yourself?	□ Extremely patient □ Relatively patient □ Patient □ Impatient □ Relatively impatient □ Extremely impatient	Yes	Yes	Yes
39.	Do you prefer to receive $200,000 (approx. 110 USD) now or $250,000 (approx. 135 USD) in one month?	□ Now □ In one month	Yes	Yes	Yes
40.	Do you prefer to receive $200,000 (approx. 110 USD) now or $300,000 (approx. 165 USD) in one month?	□ Now □ In one month	Yes	Yes	Yes
41.	Taking into account the two previous questions (questions 39 and 40), how much money do you need to receive in addition to	$_____(In Colombian pesos)	Yes	Yes	Yes

	the $200,000 (approx. 110 USD) to prefer to wait one month?				
42.	Do you prefer to receive $200,000 (approx. 110 USD) now or $250,000 (approx. 135 USD) in six months?	□ Now □ In six months	Yes	Yes	Yes
43.	Do you prefer to receive $200,000 (approx. 110 USD) now or $300,000 (approx. 165 USD) in six months?	□ Now □ In six months	Yes	Yes	Yes
44.	Taking into account the two previous questions (question 42 and question 43), how much money do you have to receive in addition to the $200,000 (approx. 110 USD) to prefer to wait six months?	$_____ (In Colombian pesos)	Yes	Yes	Yes
45.	Do you prefer to receive $200,000 (approx. 110 USD) now or $250,000 (approx. 135 USD) in one year?	□ Now □ In one year	Yes	Yes	Yes
46.	Do you prefer to receive $200,000 (approx. 110 USD) now or $300,000 (approx. 165 USD) in one year?	□ Now □ In one year	Yes	Yes	Yes
47.	Taking into account the two previous questions (question 45 and question 46), how much money do you have to receive in addition to the $200,000 (approx. 110 USD) to prefer to wait one year?	$_____ (In Colombian pesos)	Yes	Yes	Yes
48.	**Before the start of this project**, did you previously know someone participating in this program and that attended the meetings every month?	□ Yes □ No	No	No	Yes
49.	**During the development of the project**, to say, during the monthly meetings, did you meet and establish some type of relationship (friendship, business) with other persons in your same group?	□ Yes □ No	No	No	Yes
50.	In case you have an economic difficulty, will you ask to borrow money from any of the people who participated with you in the meetings every month?	□ Yes □ No	No	No	Yes
51.	What do you consider 3 **positive** aspects of participating in this project?	1._____ _____ 2. _____ 3. _____	No	No	Yes
52.	What do you consider 3 **negative** aspects of participating in this project?	1._____ _____ 2. _____ 3. _____	No	No	Yes
53.	What would you change about the project? Say 2 **recommendations** to improve the project?	1._____ _____ 2. _____ 3. _____	No	No	Yes
54.	If you had to rank the project in general, from 1-5 how would you grade it?	Mark a number between 1 and 5, where 1 means that the project when very bad and 5 means that the project went very well: □ 1 □ 2 □ 3 □ 4 □ 5	No	No	Yes
55.	What would you change about The Bank of the Poor – The Bank of Opportunities? Say 2 **recommendations** to improve the service of the Bank?	1._____ _____ 2. _____	No	No	Yes
56.	What would you change about the CEDEZOs? Say 2 **recommendations** to improve the CEDEZOs?	1._____ _____ 2. _____	No	No	Yes

A3.4 Goal Rank Survey

Date:	
Name and Last Name:	
National ID Number:	

1. Please mark with an X the level of difficulty that you consider each of the following activities to have:

Number	Activity	Level of Difficulty
1.	Attend and complete at least ONE of workshops in marketing and sales, accounting, administration or entrepreneurship offered by El Banco de las Oportunidades or your local development center (Cedezo)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
2.	Update or create a business plan for your business	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
3.	Begin or continue to keep accounting of your business, and show the gains and losses statement	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
4.	Pay off an outstanding debt (minimum $ 60,000 Colombian Pesos) (approx. 35 USD)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
5.	Purchase a machine, tool, or equipment for your business (minimum $ 60,000 Colombian Pesos) (approx. 35 USD)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
6.	Create and implement a marketing strategy for your business (website, social networking sites, etc. for those businesses that apply)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
7.	Apply for any of the following licenses or registrations that you do not currently have (only if required for your business): - Registry with tax board - Operation - Sanitation - Food handling - Public space	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
8.	Participate in a trade fair, exhibition, or other commercial event organized by El Banco de las Oportunidades or your local development center (Cedezo)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
9.	Save at least $ 15,000 (Colombian pesos) (approx. 9 USD) every week for next four weeks in a savings account -- If you do not have a savings account, we suggest you open an account in a cooperative	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
10.	Make a payment to improve your credit score (minimum $ 60,000 Colombian Pesos) (approx. 35 USD)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
11.	Purchase a durable good for your home (minimum $ 60,000 Colombian Pesos) (approx. 35 USD)	o Easy = 1 o Normal = 2 o Difficult = 3 o Not Applicable = blank
12.	You or help a member of your family apply for a higher education program subsidized by the municipality	o Easy = 1 o Normal = 2 o Difficult = 3

		○ Not Applicable = blank
13.	Attend a course for adult literacy (learning to read and write)	○ Easy = 1 ○ Normal = 2 ○ Difficult = 3 ○ Not Applicable = blank
14.	Join the Social Security System (Health and Pension)	○ Easy = 1 ○ Normal = 2 ○ Difficult = 3 ○ Not Applicable = blank
2. If you had to choose one of the above activities to achieve, which would you choose? _____		

A3.5. Goal-Related Survey

Date:	
First and Last Names:	
ID Number:	

Please answer all the following questions taking into account only the information from the LAST 4 WEEKS.

1.	In the last 4 weeks, have you attended any of the following trainings offered by the Bank of the Poor – The Bank of Opportunities or the CEDEZOS (Centers of Entrepreneurial Development)	□ Entrepreneurship □ Marketing and sales □ Accounting □ Administration □ None of these □ Others? Which? _____
2.	In the last 4 weeks, have you completed or updated your business plan?	□ Yes □ No
3.	In the last 4 weeks, have your completed a register of all sales, purchases, and costs of your business, including a Statement of Profits and Losses (P&L)?	□ Yes □ No
4.	In the last 4 weeks, have you cancelled a pending debt greater than $60,000 (In Colombian pesos) (approx. 35 USD)?	□ Yes □ No **- SKIP TO QUESTION 6**
5.	Did the debt that was paid help to improve your credit score?	□ Yes □ No
6.	In the last 4 weeks, have you bought a machine, equipment, or tool for your business that cost than $60,000 (In Colombian pesos) (approx. 35 USD)?	□ Yes What machine? _____ What was the price? _____ □ No
7.	In the last 4 weeks, have you complete one of the following strategies of publicity, promotion, or marketing for your business?	□ Yes □ Webpage or Facebook □ Special discounts □ Flyers □ Billboards in your neighborhood □ Announcements in your neighborhood □ Offered new services □ None of these □ Others Which? _____ _____ _____
8.	In the last 4 weeks, have you obtained any of the following licenses or registrations for your business?	□ Tax ID Registration □ License to Operation □ Location Food Handling License □ Personal Food Handling License □ Public Space License □ None of these □ Others Which?_____
9.	In the last 4 weeks, have you participated in any fairs, expositions, or commercial events organized by the Bank of the Poor – The Bank of Opportunities or the CEDEZOS (Centers of Entrepreneurial Development)?	□ Commercial Fair □ Exposition □ Specialized Commercial Fair □ None of these □ Others Which?_____ _____
10.	In the last 4 weeks, have you saved some amount of money?	□ Yes □ No – **SKIP TO QUESTION 13**

11.	Where do you keep your savings?	□ Bank Account □ Cooperative □ Savings Group □ In your home □ Other Which?_____
12.	In the last 4 weeks, how much money did you save?	□ Less than $60,000 (< approx. 35 USD)? □ $ 60,000 (approx. 35 USD)? □ Between $61,000 - $120,000 (approx. 35-65 USD)? □ More than $120,000 (> approx. 65 USD)
13.	In the last 4 weeks, have you bought some good or appliance for your home?	□ Yes Which? _____ What was the price? _____ □ No
14.	In the last 4 weeks, did you or one of your children apply to some program or scholarship for higher education?	□ Yes □ Myself □ Son or daughter □ No
15.	In the last 4 weeks, have you attended a literacy course for adults (to learn to read or write)?	□ Yes Which? _____ □ No
16.	In the last 4 weeks, did you join or pay contributions into the social security system (health and pension)?	□ Yes □ No □ I am already affiliated with the Health and Pension system
17.	In the last 4 weeks, have you participated in an activity, event, or community meeting in your neighborhood?	□ Yes Which? _____ _____ □ No
18.	Did you or your family take part in some organization or association in your neighborhood?	□ Yes Which? _____ _____ □ No
19.	What is the total value of the sales of your business in the last week (in Colombian pesos)?	□ Less than $150.000 (< approx. 85 USD) □ $150.000 - $300.000 (btw. approx. 85-165 USD) □ $300.000 - $500.000 (btw. approx. 165-275 USD)? □ $500.000 - $1.000.000 (btw. approx. 275-555 USD)? □ $1.000.000 - $1.500.000 (btw. approx. 555-835 USD)? □ Greater than $1.500.000 (> approx. 835 USD)?
20.	On a scale of 1 to 5, how difficult was it for you to achieve your chosen goal over the past 4 weeks?	□ 1 □ 2 □ 3 □ 4 □ 5