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The Impact of Goal Settings and Self-Help Groups to Support Small Businesses: Experimental Evidence using Female Entrepreneurs in Abuja Nigeria.

Keywords: Goal settings, Support Groups, Experiment, Entrepreneurship, incentives

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Abstract: Approximately 57% of women in Nigeria from age 15-64 are involved in some form of employment, but there are still 17 million unemployed women (World Bank, 2016). Most of these women are involved in informal entrepreneurship due to external constraints. According to the World Bank, women who have no access to schooling are forced to find informal work to provide for themselves and their families. This study aims to analyze the effectiveness of goal settings and support groups on small businesses among female small-scale business owners in Abuja Nigeria. The research conducted uses the experimental design created by the Family Independence Initiative of Oakland to explore ways in which the three behavioral mechanisms of Goal-Settings, Incentives, and Support Groups can help female low-income business owners in Abuja Nigeria grow their business. Our results show that the act of setting goals, receiving an incentive for achieving this goal and having a support group play a positive role on individual outcomes. However, this result is not statistically significant. Incentives did result in a higher individual outcome as well as an increase in income with moderate significance. This study contributes to the existing literature by showing cost-effective ways of alleviating poverty. Unfortunately, this study provides insignificant evidence to support this claim.

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1. Introduction

Recent research has been conducted to determine the different methods by which women with low to no income can earn a living to help their families escape the poverty trap. An essential way to encourage families out of poverty is to empower women economically. Women's empowerment assists women to be independent and earn income for their family, which inevitably will have an impact on a country's economy as a whole. Women, as compared to men, have better control over their finances including more efficient investments in the health and the skills of the children. Promoting women's employment and entrepreneurship can help increase productivity and economic growth (World Bank, 2016). The United Nations Industrial Development Organization states that another important key to improving female informal entrepreneurs is access to technological know-how, entrepreneurial and business skills and access to financial capital (UNIDO, 2006). In the developing world, the huge plague of inequality becomes clear and we see a division between males and females when it comes to accessing the same opportunities. Women in developing countries fall behind their male counterparts and it has been proven that closing this gap is a key factor in poverty reduction (Duflo 2012; Halkias, et al 2011).

In Nigeria, there are 17 million unemployed working-age women out of over 38 million women (World Bank). According to the Clinton Foundation, there are also 41% of women in Nigeria who are entrepreneurs (NoCeilings.com, 2013); however, female entrepreneurs are not provided with the adequate tools to compete and succeed in business (Woldie et, al 2004). They are plagued with issues stemming from lack of education and technical skills (Woldie et, al 2004). In different societies, women do not enjoy access to the same opportunities as men (UNIDO, 2006). They face issues of lack of financial capital, poor access to market information, unfavorable working conditions and low levels of technology (UNIDO, 2006). Women are not taught effectively on how to manage their business and this results in less profit and stagnant growth in their businesses. These constraints are aggravated by a hostile business environment plagued with gender inequality and poverty (UNIDO, 2006).

The Family Independence Initiative (FII) developed by Mauricio Lim Miller, winner of the MacArthur Foundation grant, implements three behavioral mechanisms of goal settings,

incentives as well as support groups as a way in which people can pick themselves up from poverty with just a little nudge. An initial replication of this study was conducted among Micro-Entrepreneurs in Medellin, Colombia (Cassar et al, 2016). The result of their research showed that the three behavioral mechanisms put together had a positive significant impact on sales for the Micro-Entrepreneurs (both males and females). This current work extends to the existing literature to test whether a similar approach can also be successful within the Nigerian socio-economic environment and specifically targets female small-scale business owners. The concept of goal settings can be encouraged to positively direct the outcome of the decisions made by the females used in the study to perform the best business practices to improve their sales and lead to profit.

In this paper, we provide the results of a field experiment conducted to test the intervention of goal-setting and support groups on entrepreneurship among female small-scale business owners in Abuja Nigeria. Female entrepreneurship is particularly important in Nigeria with its ever existing prevalence. Improving behavioral skills in entrepreneurship like setting goals can enhance motivation and productivity which increases well-being. In partnership with the National Center for Women Development based in Abuja Nigeria, we implement the FII program by running an experiment among female entrepreneurs by using goal settings, support groups, and incentives as a way to help these women and their families. The subject pool consisted of 167 females in Abuja Nigeria, most of whom were small to medium scale entrepreneurs.

The purpose of this paper is to effectively analyze the strength of the behavioral mechanisms by asking the subjects to set weekly goals, rewarding the subjects if they achieve these goals and building a support network through the use of support groups. This is an effective way to analyze different tools which can be useful for future policy recommendations. For us to be able to analyze the effectiveness of the different behavioral mechanisms, we look at the selected goals and analyze how these goals affect the subjects in the treatment group and if being in the support group raises the chances of goal achievement. If we are interested in the overall business outcomes of the subjects, this can also be estimated through higher income, hence we are effectively able to see that the treatment group with all the behavioral

mechanisms of goal settings, support groups and incentives will perform better than all the other groups in the experiment. Overall, we hope to see that the introduction of the three behavioral mechanisms of goal settings, incentives, and support groups will lead to higher goal achievement among the subjects. We also anticipate seeing a higher increase in weekly income for the subjects in the treatment group which was administered goals, incentives and support groups. These results will highlight the importance of investigating cost-effective ways of helping people in developing countries to overcome their adversities.

Section 2 will cover the relevant literature relating to goal settings, support groups, and incentives. Section 3 will include the experimental description, subject pool, experimental design, methodology and survey instruments and section 4 will cover the model and hypothesis. Section 5 will present the data analysis and results from the different treatment groups. Lastly, section 6 will cover the conclusion, discussions and policy recommendations.

2. Literature Review

2.1 *The Concept of Human Capital*

The concept of human capital can be related to learned skills and capabilities which develop through formal and informal education in school and at home (Mincer, 1981). Human capital can be viewed as a source of transferred knowledge, and the creation of new knowledge through innovation and technology which influences factors of production (Mincer, 1981). Many scholars have examined human capital “inputs” explored by entrepreneurs with regards to “output” (Ucbasaran et, al 2007). These outputs are decisions to be self-employed, the size of the firm, and the concept of business to be involved in (Ucbasaran et, al 2007). The survival of the firm and the achievement of the firm are also very important in the concept of entrepreneurship (Ucbasaran et, al 2007). The entrepreneurs with greater quality of human capital “inputs” will record exceptional “outputs” (Ucbasaran et, al 2007).

Investment in the human and social capital have been widely studied to improve entrepreneurial performance (Bosma et, al 2002). Entrepreneurship can be understood as an important characteristic of knowledge-based economic activities (Bosma et, al 2002). The potential amount of new ideas and knowledge is uncertain (Bosma et, al 2002). This uncertainty

is implemented by different people working to develop new ideas and concepts that can be used to improve the economy and also improve their well-being (Bosma et al 2002). Human capital helps in forming and shaping production as well as output. Investment in human capital yields growth and increases production in the economy (Becker, 1962). Human and social capital enhance entrepreneurial performance (Bosma et al 2002). Overall, human capital aids in providing a deeper analysis of the concept of entrepreneurship and why it is important to be studied. Greater human capital has also been proven to lead to an increase in entrepreneurial ability.

2.1.1 The notion of setting goals: Are goals important?

The concept of setting goals has been heavily studied as one of great importance as a way in which people can be accountable for themselves and the actions they take. Goal settings is a human behavior that can be termed as being purposeful and of positive significant impact on an individual (Latham & Locke, 1991). Humans have the options and preferences to choose their goals and actions based on either habit, planning, or both (Cushman et al. 2015). Habits are defined as well-organized decision making, coupled with behavioral flexibility (Cushman et al. 2015). An individual is not constrained based on factors out of their control. Planning equips an individual with more productive decision making. The individual searches for a model which holds accountable a participant for their actions as well as their expected outcomes, eventually selecting actions based on the rewards anticipated (Cushman et al. 2015). Habits and planning can also serve as a link to understand the effectiveness of goal decisions and why this behavioral mechanism might be an important tool in the development literature. The effects of goal settings have proved that humans tend to organize their behavior around ordered goals as well as numerous sub goals (Cushman et al., 2016). These goals can be established and implemented through habits as well as planning. Humans solve the process of selecting goals by using habits, while they achieve these goals through effective planning.

Humans have the ability to think and reason if given the adequate means to do so. They also have the power to plan these goals and execute them (Latham & Locke, 1991). The field of goal setting theory is found simply in purposefully directed action (Latham & Locke, 1991).

What motivates people to perform better at tasks than other people? We assume that two individuals have equal ability to function and we also make a case that it could be motivational or passion-driven (Latham & Locke 1991). A simple understanding of goal settings is that certain individuals perform better than others due to different attitudes to the performance of a certain goal. The impact of goal attributes in relation to task performance has been effectively researched (Locke & Latham 1991). All results show that performance is a linear function of goal difficulty (Locke & Latham 1991). With motivation and passion to a task, the harder the goal, the higher the performance of the goal being achieved (Locke & Latham 1991). The findings recorded by Locke & Latham show that people shift their level of effort to the difficulty of the task. Hence, they work harder for difficult goals rather than easy goals as expected.

Goal settings are significant in achieving purposefully directed action which benefits the individual.

2.1.2 A New Wave of Goal Settings

A new wave of the concept of goal settings has been studied as a means of understanding how setting goals work today. Goals are used to motivate behavior by using an existing skill and improving this skill to search for knowledge, or to improve this knowledge that has already been stored (Latham & Locke 2006). The new advancement in goal theory developed by Locke and Latham show three very distinct categories of studies. These categories are:

1. Goal Choice- To determine the level at which goals are set, research has shown that self-efficacy (how well an individual is able to carry out an action in specific situations), past performance and social influences all affect goal choice (Locke & Latham 2006).
2. Learning Goals- Learning goals serve to enhance metacognition (awareness and understanding of a person's process of thinking) which is necessary for progress toward goal achievement. (Locke & Latham 2006).
3. Group Goals- Goal setting is very useful within groups to boost performance and motivation. Group level goals are fueled by team-related effort (Locke & Latham 2006).

Overall, goal settings can be used at both the individual and group level setting to enhance performance and create accountability for an individual's outcomes. The effects of goal setting has been proven widely. These effects range from sports to education, to firms and also within microentrepreneurship. Goal settings is an excellent method of inducing accountability, boosting effort and increasing the incentive to do better.

2.1.3 Entrepreneurship and the Female Small-Scale Business Owner

For a woman, becoming an entrepreneur has several advantages. There is a “push factor” where the choice of self-employment is a huge issue that arises as a means of survival for the woman (Jamali 2008, Aidis et, al 2007). The restricted labor market reduces the opportunities women have, leading them to become entrepreneurs to survive (Jamali 2008). The “pull factor” highlights the need for the woman to pursue her independence, challenge herself and derive satisfaction from entrepreneurship (Jamali 2008).

Small and medium businesses serve as an important opportunity for female entrepreneurs (UNIDO, 2006). Entrepreneurship has the benefits of flexibility to entry, changes in the firm and the introduction of technology. In developing countries, we see the case where women are not given the opportunity to thrive in their business ventures. Their optimal production level has not been reached. Most of the works done by women are in the informal sector and their contributions are not added to the economy (UNIDO, 2006). For the developing world to achieve higher economic growth for every individual, there is a need for some of these women to overcome the constraints facing them to improve productivity and increase their contribution to the development of their economy (UNIDO, 2006).

Different studies have been conducted to determine how severe some of the constraints facing women are. Female entrepreneurs were found to have a smaller business size and lower income growth compared to their male counterparts (Fischer et, al 1993, Verheul et, al 2013). Women also face a higher rate of discontinuing their business due to lack of business growth (Verheul et, al 2013). According to the Global Entrepreneurship Monitor, in 2010, there were 42% of female entrepreneurs in the world. An increasing amount of females around the world are being introduced into the world of entrepreneurship. Female entrepreneurship signifies a

tool for economic growth in a developing country (De Vita et, al 2013). A better understanding of female entrepreneurship is important to understand ways in which these entrepreneurs can be given the proper tools to succeed in business. The Global Entrepreneurship Monitor has also reported that Sub-Saharan Africa is also leading the world in female entrepreneurship. About 25.9 percent of female adults in Sub-Saharan Africa are involved in some form of entrepreneurial activity (GEM, 2017). More work can be done in Sub-Saharan Africa to effectively improve the lives of these women through entrepreneurship.

2.2 The impact of Goals on Entrepreneurial Outcomes

Several advantages of goal settings have been studied to show how this method can be effective in improving an individual's well-being. The effect of goal settings on entrepreneurship has been linked to an increase in business sales as well as poverty reduction (Aguinaga et al 2017). In Colombia, Micro-entrepreneurs were administered the treatment of goal settings, incentives, and support groups. Their results yielded that setting goals in the treatment groups increased individual outcomes by 35%-38% compared to the rates of 15%-25% in the control group (Aguinaga et al 2017).

Setting goals has also been proven to boost performance and increase productivity (Latham 2004). Goal settings in entrepreneurship can also lead to increased motivation. A study conducted by the American Pulpwood Association among independent loggers showed that goal setting inspired the loggers to be more courageous and hardworking and experience an increase in sales (Latham 2004).

Goals must also be challenging for the individual but achievable (Dalton et, al 2017). Goal settings and monetary incentives can be used in combination to boost employee performance in a workplace. Results show that combining incentives and self-chosen goals lead to an increase in performance (Dalton et, al 2017). These studies have all extensively explained the importance of goal settings. The effectiveness of goal setting is yet to be tested in Nigeria. Using the FII framework of goal settings, incentives, and support groups, we extend this design to Nigeria to deeply understand its effect on entrepreneurship among females.

2.2.1 Are Support Groups really important?

Support Groups are an important tool in boosting motivation and self-worth. These groups are created to encourage, support and advice individuals who are all experiencing similar issues with each other. The support group studies were conducted in psychology and the public health literature to understand how support groups can improve habits. One of these studies was conducted among widows and widowers to estimate the impact of support groups on the mental health of a widow/widower when a spouse dies (Lieberman et al 1986). Positive results were recorded for the subjects in the treatment group who participated actively in the support groups compared to the individuals in the control group (Lieberman et al 1986).

Numerous experiments have been carried out in India to understand the impact of support groups in the developing world. The first research reports that female microfinance borrowers in India were administered the support group treatment (Swain et al 2009). One of the goals of the Microfinance program is to empower women and give them the tools to succeed (Swain et al 2009). Support groups can also be used to boost female empowerment, increase self-worth, generate increased income and improve household welfare (Swain et, al 2009, Kumar 2009). Using quasi-experimental household data, the results prove that there is a significant increase in female empowerment in the support group treatment compared to the women in the control group (Swain et al 2009). Another paper in India also focused on support groups and its impact on improving women's participation in the workforce (Kumar 2009). The results called for an increase in support groups as a tool to obtain poverty reduction (Kumar 2009).

These empirical studies have highlighted the importance of using support groups as a low-cost poverty reduction tool. Most studies have been heavily conducted in the Western World and India. The effectiveness of support groups will be extended to Nigeria to deeply understand the impact of support groups and its effect on improving well-being.

2.2.2. The use of different forms of incentives

Over the years, the use of quasi-experimental design has also gained popularity. One of

these designs saw the inventions of incentives in economic development. Incentives are administered to subjects to induce their willingness to participate fully in a development program. Incentives can come in the form of cash or near-cash assistance which is provided to an individual as a form of encouragement to participate in an experiment. Most studies have made use of the cash incentives and some of their findings have yielded positive results which reiterate the importance of incentives and how they could be helpful to development.

In developing countries, numerous studies have been carried out to effectively estimate the impact of monetary incentives. Some examples of monetary incentives are seen in India where incentives were used to increase productivity in the public health sector of India (Banerjee et al 2010). Their results showed that in the Indian public health sector, the nurses were responsive to incentives and staff absence reduced in the treatment group (Banerjee et al 2008). Although this program seemed to work, 18 months after its implementation, the program became ineffective because corruption began to seep in through the local health administration (Banerjee et al 2008). This shows that even with monetary incentives, there could be long-term issues that could arise if not properly implemented and monitored. Monetary incentives can also be used in the context of goal settings (Aguinaga et Al. 2016). The results of the study in Medellin Colombia showed that in groups where incentives were administered to the subjects, the group yielded greater positive results in business sales and goal settings.

Non-cash incentives have also been greatly used in the development world. In some cases, non-cash incentives seem to work in benefiting the individual. An example is seen in India with the implementation of immunization services which were offered free by the public health facilities (Banerjee et al 2010). Their results showed that the group which was given the incentive of lentils had higher immunization rates than those in the control group (Banerjee et al 2010). Another use of non-monetary incentives.

The effects of goal-setting, support groups and incentives have been studied in mostly the western world and Colombia. This study will follow the same approach of the FII used by Aguinaga et al in 2016 in Colombia. The model will be applied to female small-scale business owners in Abuja Nigeria. The literature above highlights the importance of using some of these

economic mechanisms to help enhance our understanding of the importance of goal-setting and support groups and how they can be beneficial to small-scale business owners in improving their businesses. This can be an important future policy recommendation which focuses on female entrepreneurship and development.

3. Data and Experiment

3.1 Experimental Treatments: Goals, Incentives, and Support Groups

These different treatment groups were implemented in order to see the effect of the three behavioral mechanisms compared to the other conditionalities of having either one or two of the behavioral mechanisms. This field experiment contained three treatment groups and two control groups. The first treatment group was made up of goals and support groups, but no incentive. The second treatment group included the three behavioral mechanisms of goals, incentives (conditional on them achieving their goals) and support groups. The last treatment group had goals but no incentives and no support groups. The subjects in control group 1 were also administered surveys, but they were not administered any of the treatment mechanisms. Finally, the last control group 2 were administered surveys only at the end of the experiment. Figure 1 serves as an illustration of our experimental design.

3.1.2 Goals, Incentives, Groups

In order to obtain a comprehensive list of goals that would be beneficial to the subjects, the research director at the National Center for Women Development assisted in drafting sample goals from a large pool of goals questions. We teamed up with some of the administrative staff as well as some participants in the pilot study who were not part of the experiment to come up with eight very distinct and specific goals. The goals that were selected needed to be accomplished within one week. All the treatment groups had to provide proof that they achieved the goal that was selected the previous week. Failure to accomplish this goal with proof meant that for the subjects in the treatment group with incentives, they would not be able to receive their incentive. Subjects that were not present were marked as not achieving their goals, as well as subjects who had claimed that they achieved their goal but did not bring proof.

The groups were also given a follow-up goal survey where they were asked if they achieved their goals in addition to any other goal that they might have done during that period.

We used monetary incentives as a way to encourage the subjects to achieve their stated goals. The monetary incentive provided was 4500 Naira (US\$12). This incentive is greater than the daily minimum wage in Nigeria which is 600 Naira (US\$2). Before we began the experiment, we conducted pilot tests where the women were asked if they preferred monetary incentives or grocery coupons. The subjects preferred monetary incentives because they wanted to have control over what the money was spent on, rather than limiting them to a particular good or service (like vouchers).

For the self-help support group, the women were asked to talk in their groups about the different goals they chose, if they achieved it, why they achieved it, and if they did not achieve it, why did they not achieve it. The women were able to connect with each other with facebook as well as their regular phone numbers as a way to boost trust and encourage each other. The research director also assisted in educating the women on some financial practices that could help their business grow. One example of some of these financial practices was how to create a business plan. All of these treatments were added in subsequent surveys to test the impact of these mechanisms on their income as well as other factors like risk, wellbeing, self-esteem, hope, and aspiration.

Goal Treatment: All the subjects except those in the two control groups were asked to set a goal every week. The goals would be chosen from a set list of goals. Some of the goals could be renewed after one week, but some other goals could only be chosen once. The goals that were finally selected to be used in the experiment, listed in Appendix Table A1 included business-related goals, personal goals, and education goals. The subjects had a week to complete the goal chosen and bring proof of achievement with the supporting documents. The subjects must bring the proof of their goals on the day of their meeting. Proofs brought the day after meetings were not recognized as being achieved. The fourth column of Table A1 shows the relative frequency of which the subjects participating in the experiment chose each goal out of the total amount of periods these goals could be chosen during the duration of this project.

Among these goals, updating or creating a business plan for your business was the highest chosen at 26% of the time. Saving a minimum of #5000 naira every week was chosen 22% of the time. Purchasing a machine or equipment for your business was chosen 18% of the time. Attending a business or entrepreneurship seminar organized by the NCWD was chosen 18% of the time. Attending a communications course was chosen 8% of the time while creating and implementing a business strategy was chosen 7% of the time. Keeping an account of the business was only chosen 2% of the time and applying for a business license was not chosen at all by any of the subjects in the treatment groups at any of the three periods. The subjects could not apply for a business license because of how expensive it was to get a business license. In Nigeria getting a license can begin with a starting price of 100,000 Naira (\$277).

Monetary Incentive: Subjects assigned in group 2 were assigned the monetary incentive prize of 4500 Naira (US\$12) every time they achieved their goal and showed the required evidence. A subject might have achieved more than one goal, but she was only paid for the achievement of the goal she selected at the previous meeting. Failure to show proof of goal achievement meant that the subjects were not eligible for the 4500 Naira incentive.

Support Group: The support group was created as a way for the subjects to be able to have access to different social networks. The women were required to discuss the goals they chose. The subjects in each of the support group treatment held meetings every week in which they were asked to talk about issues that they were going through as well as the progress of their goals. The support group became a good avenue for the participants to form friends and connect socially. The women were very eager to learn from each other's experiences, during the support group sessions they also marketed their businesses to each other as well as offer some advice on how to support their individual businesses (most of the women shared their business experiences).

From the treatments described above, we created a 2x2 matrix design plus two control groups with the five cells described in Figure 1. The subjects in the control group did not

choose a goal or have group meetings, but they received a flat show up fee of #1500 naira (\$4) for answering the survey questions and meal refreshments.

3.1.3 Experimental Groups

Group 1: Goal, Group, No prize: Subjects in treatment group 1 were required to attend meetings every week with their support group members. The meetings consisted of the women talking about their goals, how easy was it to achieve their goals or why didn't they achieve their goals. They also offered words of encouragement to each other. Regardless of goal achievement, subjects in this group only received a flat show up fee of #1500 naira (\$4) and refreshments after completion of the survey.

Group 2: Goal, Group, Prize: Subjects in treatment 2 were required to attend meetings every week with their support group members. The subjects chose a goal which they were required to achieve the next week. The subjects received a payment of #4,500 (\$12) if they showed proof that they achieved their chosen goal. If subjects did not achieve their goal, they only received the show-up fee of #1500 naira (\$4) and refreshments after completion of the survey. This group represents the complete FII treatment.

Group 3: Goal, No Group, No Prize: Subjects in treatment 3 were required to choose a goal every week and receive a flat show up fee of #1500 naira (\$4) and refreshments after completion of the survey even if they achieved their goal or not.

Group 4: Subjects in control 1 were required to attend meetings weekly and were administered surveys. The subjects received a flat show up fee of #1500 (\$4) and refreshments after completion of the survey.

Group 5: To account for the effect of any influence in the control group 1 from responding to business-related survey questions, we created a control group 2 that was surveyed only at the

end of the experiment. The subjects also received the show-up fee of #1500 naira (\$4) and refreshments after completion of the survey.

3.2 Subject Pool and Location

Our project was carried out in Abuja, the capital city of Nigeria. Women enter the business world most of the time to support themselves and their families. Due to issues like lack of access to financial capital, limited education, lack of access to financial education and lack of access to land and property rights, many women in Nigeria are involved in small-scale businesses that do not yield profit and in some cases, yield losses. Some of these women also face oppression from local area boys exploiting them for money and police officers who ask for bribes, hence continuing the poverty cycle. In order to mitigate poverty among women in Nigeria, the Federal Government of Nigeria established the National Center for Women Development in 1995 to assist women out of poverty by formulating policies which will affect their education, employment, health, and finance. The center also provides training for skill development, income generation and provides a safe haven (counseling) for women both in the rural and urban areas. The NCWD is tasked with collecting data on all women in the country. Overall, the main aim of the NCWD is to improve gender equity and sustainable women development in Nigeria (NCWD 1995).

This research was conducted under the supervision of Professor Alessandra Cassar with the collaboration of the National Center for Women Development (NCWD) between May and August 2017. The subjects for this study were randomly selected from the National Center for Women Development (women who are either currently learning a vocational trade at the center, or who have previously learned a vocational trade in the center), between the ages of 20 and 60, most of who own small businesses. The experiment focused only in Abuja because it is the capital of the country and there would be better access to a diverse number of women from all parts of the country and diverse religions. Out of the 200 randomly invited subjects, 190 women attended the orientation meeting. We sent out invitations to the subjects selected through text messages and phone calls. We did not mention to the subjects the details of the research study or about the methods to be used in the study. We also did not tell the subjects

that a show-up fee would be given to compensate them for their time. With some of these precautions, we expect that the results gotten from the analysis will be unbiased. However, to improve participation, we mentioned that refreshments would be served at the end of each session. In the first orientation meeting, the subjects were required to sign a consent form and fill out a survey which included information about their demographic data. The demographic data included their age, social strata, the well-being of their families and their businesses and some of the challenges that they are facing in their businesses. After this first meeting, the subjects were invited to participate in the two months that the experiment was being conducted. The objectives of the experiment were explained to them. At the time of signing the consent form, the subjects agreed to be randomly assigned to one of the five groups in the experiment, attend group meetings every week, filling out surveys, having support group meetings and receiving a small show-up fee and refreshments for the project (this depended on the treatment group they were assigned to).

About 167 women agreed to participate in the study. They returned for the weekly meetings and filled out regular surveys. At the end of the last period of the experiment, the final control group was recruited. These women were randomly selected from the subject pool and were invited to attend the orientation meeting and the consent form signing. The only difference with this last group is that the subjects agreed to participate in the experiment and were administered all the possible surveys right away.

3.3 Subject Characteristics

Table 1 below reports the summary characteristics of the subjects at baseline. In total, 48.13% of the subjects fell within the age range of 26 to 35 years old and 23.13% of the subjects fell within the age range of 36 to 45 years old. In the subject pool, 58% of the participants are university graduates, while 24% had Higher National Diploma (equivalent to two-years at the university), 12% of the participants had their secondary school certificate and 3% of the participants had only vocational training from the center. 53% of the participants were single, while 45% of the participants were married. About 49% of the participants also claim to be generally risky and like taking risks and only 9% do not like taking risks at all. We found this

percentage of the participants who loved taking risks very interesting, this is interesting because it continues to follow the literature which states that taking risks is an essential part of being an entrepreneur. Overall, all the individuals in the five groups are all balanced at baseline. To continue to be eligible to participate in the research study, the subjects were not allowed to miss more than one meeting. If the subject missed more than one meeting, they would be dropped from the experiment. Table A2 below describes the attrition rate. After the first meeting, the number of subjects in each group remained relatively stable over time.

4. Model and Hypothesis

This field project was implemented to test the effectiveness of goals, incentives, and support groups on business growth. The main variable of interest that is being tested in this paper is the effectiveness of setting goals and the effectiveness of these goals being achieved.

Hence, my hypothesis states that:

- Goal setting has no effect on goal achievement among female small-scale business owners in Abuja Nigeria. ($H_0: \beta_1 = 0$)
- Goal setting has an effect on goal achievement among female small-scale business owners in Abuja Nigeria. ($H_A: \beta_1 \neq 0$)

Therefore, the baseline model is:

$$\mathbf{GoalsAchieved}_{it} = \mathbf{B0} + \mathbf{B1Goals}_{it} + \mathbf{B2Group}_{it} + \mathbf{B3Incentive}_{it} + \gamma X_i + \varepsilon_{it}.$$

From the model above, the dependent variable “Goals Achieved” is the indicator that takes the value of one if subject i completes the selected goal over a certain time period which will be indicated as t and zero if the subject did not achieve any goal for that specific period. The variable *Goal* means that *Goal* is equal to 1 if the participant was in a treatment with goal setting. The variable *Group* is equal to 1 if the participants were assigned to a group treatment. The variable *Incentive* is defined as *Incentive* is equal to 1 if the participant was in the treatment with incentives. The *risk* variable measures the overall risk of the participants on a scale of 1-10 (1-less risky and 10-most risky). Lastly, the γx_i variable represents the vector of the control variables in the project. These variables are age, education, married, single, risk tolerance,

self-esteem, goal-difficulty, income sufficiency and socio-economic strata. The parameter connected to *Goals* represents the effect of goal settings on goal achievement.

By using these empirical estimations, I can determine the effect of the FII treatment on the achievement of goals.

5. Experimental Results

5.1 Effect of Goal Achievement on the treatment group

Figure 3 shows the mean of the average individual treatment of chosen goals for each of the three treatment conditions. This figure shows the total figure for all the three periods and estimates an average number for the total amount of times each subject in the treatment groups achieved their goals overall. The control groups 1 and 2 are not included in the graph because they did not have to state any goals and they were not required to perform any of the goals. The final results from all the time periods show that subjects in Group 2 (which included goals, groups and prize treatment) have the highest performance, reaching their goals on an average of 68%. This result is interesting to see because it agrees with the literature which states that combining the three behavioral mechanisms of goals, incentives and support groups should yield a higher achievement rate for goals. Comparing this to the subjects in Group 1 (goals, support group, and no incentives), they achieved their goals the lowest at 59% of the time, and the last treatment group, Group 3 (Goals, no groups, and no incentives) achieved their goals 63% of the time. Overall, the figure representing the three behavioral mechanisms achieved their goals the most.

In order to estimate if there is any difference between the two time periods and analyze the effect of goal settings and groups over time, I break down goal achievement into period 2 and period 3 and compare these two periods by placing them together. Figure 2 which represents period 2 and 3 shows that the subjects in Group 2 achieved their goals 63% of the time, Group 1 achieved their goals 46% of the time which was the lowest, while Group 3 realized the highest goal achievement at 75% of the time. This was interesting to see because the figures show that for period 2, Group 3 that did not have support groups or incentives

achieved their goals the highest number of times. Comparing period 2 to period 3, we see that the subjects in Group 2 achieved their goals 74% of the time (higher than period 2), Group 1 achieved their goals 73% of the time (higher than period 2), while Group 3 achieved their goals 53% of the time (lower than period 2). These results for period 3 shows that after we administer the treatment of support groups, and incentives, Group 2 eventually realized their goals the most, hence reinforcing the importance of goals, support groups and incentives as a mechanism of improving goal achievement.

In order to estimate the separate contribution of the support group and incentives intervention on goal achievement for the total periods in which the experiment was conducted, we present table 5 which shows a basic panel logit regression where the dependent variable is defined as if the subject at week t realized their goal or not which was chosen at the meeting $t-1$. Overall, the first specification shows that the effect of the support group is negative when incentives are added, but after adding controls, it becomes significant. This effect is not significant. The effect of incentives on support groups is positive but not significant.

In order to estimate precise results, I add controls across columns to the regression: age, education, social strata, goal difficulty and risk tolerance. Goal difficulty is calculated as an index which was created by calculating the means of all the goal survey questions. The subjects were asked to rank all the eight goals in order of difficulty where the options are described as 1-easy, 2-medium, 3-difficult. A higher number means that the individual i sees that particular goal as very difficult to achieve at the certain time period t . Risk is also calculated as an index which was created by calculating the means of all the survey risk questions that were given in the survey. The interpretation of the results means that the higher the number is, the more risk tolerant the individual i is at the certain time period t . Social strata is generated in the survey where 1= Very low income, 2= Low income, 3= Middle income, 4=High income and 5= Very high income. The interpretation of the results also means that the higher the number is, the higher the income bracket of the individual i is at the certain time period t .

Increasing the controls across columns for the total time periods still shows that both support groups and incentives do not have any significant effect on goal achievement in Table 5. In the regression specification, including age in the regression is positive but this is not

statistically significant. The same goes for education, risk, goal difficulty and social strata. Overall, including controls do not yield any statistical significance to prove that support groups and incentives actually have an effect on goals.

In order to effectively estimate the impact of goal achievement on support groups and incentives, I run a logit regression focusing on only period 2 and 3 to see if there is any significant effect on the different time periods. Table 3 presents period 2 in the experiment which shows that the effect of support groups on goal achievement is negatively statistically significant at 0.1, but overall, including incentives and controls removes any possible significance. Interestingly, people with a higher social strata display a higher probability of achieving a goal. This means that the higher income bracket an individual is, the higher probability the individual achieved their goal. This is correlated with the literature because an individual with more resources can be able to achieve their goals compared to the individuals with little to no income. Table 4 presents period 3 which shows no significance of the effect of support groups and incentives on goal achievement. Controls were added to effectively estimate this impact, but this also yields no significant results. Risk has a negative impact on goal achievement, but this impact is not significant

Overall, the results from goal achievement provide results that are not statistically significant results to effectively support the claim that support groups and incentives have an effect on goal achievement. The figures show that there is indeed an effect, but a deeper analysis of this trend just shows that the effect we see in the graph is not statistically significant.

5.2: Effect on Income

To add an extension to the paper, in order to measure any success in the variables that were generated during the three periods of the program (measuring the achievement of the eight goals), I analyze the results of another external variable that was not the focus for my experiment, but were tracked in the surveys administered: **income**. I measure income as a way to test a possible positive effect to prove that the program can provide a positive pathway out of poverty.

Subjects felt uncomfortable providing exact numbers of their income per week from their business. Instead, I ask them to think of a range of income bracket they believe they fall in from a range of four *ranges*² after each week. The graph for the overall average in each group is shown in Figure 5 shows that Group 2 which had support groups, goals and incentives, realized a higher income in the past weeks compared to all the other groups. We include the control groups as a way to effectively see the change among the groups that were administered the treatments and the groups that were not administered the treatment as a way of building the counterfactual to see how subjects would fare without the given treatments. For the overall periods, we see that group 2 has a mean income of 2.61, group 1 has a mean income of 2.19, group 3 has a mean income of 2.04, control 1 has a mean income of 2.11 and control 2, the group that was only surveyed once has a mean income of 1.96.

In order to effectively estimate the change between the two periods, I compare the two different periods together and see if there any significant changes between the two periods. For period 2, Group 2 realized a higher income from the previous week at 2.65, Group 1 realized a higher income from the previous week at 2.06, Group 3 realized a higher income at 1.83 and Group 4 realized a higher income at 2.19. For period 2, it is also seen that Group 2 which were administered support groups and incentives observed an increase in income. For period 3, Group 2 also observed a mean income of 2.57, Group 1 observed a mean income of 2.32, Group 3 observed a mean income of 2.25, Group 4 observed a mean income of 2.03 and Group 5 observed a mean income of 1.96 the lowest among all the groups. Overall, by looking at the graph, we can also see the positive trend of income on group 2 which had the mechanisms of support groups, goals and incentives.

Table 8 uses a panel OLS regression to estimate the effect of income for the total periods. The results show that support group is positive, but has no significant effect on the probability of increasing income to a higher level for the whole period. Including incentives in the regression has a strong significance, and increase the probability of increasing income for the whole period when controls are added. Hence, the incentive treatment does have some form of effect on income. Age also has modest significance on income which shows that an individual's age also has a positive significance on income. In the self-esteem column on Table

8, I find strong statistical significance that an individual's self-esteem has a positive effect on income. This means that individuals with a higher self-esteem report higher income for that period. Consistent with the literature, a higher self-esteem will lead can be associated with a higher income. Risk also shows a modest significance that an individual's risk tolerance also has an effect on income. In order to effectively estimate precise results, I run basic OLS regressions on the two main time periods of period 2 and 3 for weekly income. In Table 6 for Period 2, incentives are statistically significant and age also has modest statistical significance. Support groups are negative but not statistically significant. In Table 7 for Period 3, both support groups and incentives are positive but not statistically significant. Self-esteem is also strongly statistically significant and risk tolerance is modestly significant. Self-esteem re-enforces the fact that an individual with a higher self-esteem will relatively achieve a higher income.

Overall, in addition to the results on goal achievement, support groups do not have any significance on goal achievement or income. Incentives have modest significance on income but not on goal achievement. For the goal achievement, the impact of the incentive prize does not have any effect on support groups. This could be because the culture in Nigeria is already built on support groups and social networks, hence there might not be any significant effect of support groups on goal achievement or income. It could also be that the women preferred the prize incentives more than the support groups. With the results, we are able to see the effectiveness of the support groups and incentives on both goal achievement and income.

6. Summary and Conclusion

The impact of the Family Independence Initiative has been proven to be a cost-effective toolkit for eliminating poverty. Different papers highlight the importance of goals, support groups, and incentives as a pathway out of poverty. Their findings highlight positive results for subjects who actively participated in the support groups. There were also significant increases in female empowerment in the support group treatment. Unfortunately, the results seen by using small-scale female entrepreneurs in Abuja Nigeria do not yield statistically significant

² 1= Very Poor, 2= Poor, 3= Getting by, 4= Prosperous

results to support this claim and add to the existing literature which says that goal achievement is meant to have an impact on support groups and incentives. This study provides an interesting contribution to the literature by stating that in order to effectively find the true impact of the FII, there are necessary conditions, rules, guidelines, and protocols that must be greatly observed. It is imperative that the subjects to be used in the study must be greatly powered and cover a vast major of the individuals of interest. The program must be run for a longer period of time (preferably 6 months to a year) in order to effectively analyze and study the three behavioral mechanisms make an impact on goal achievement and income. This is because it takes a longer period of time for the behavior of an individual to change conditional on the behavioral mechanism administered. Effectively studying the individual over time can help in understanding the true nature of the incentives on the treatment groups. In this study, it is possible that we do not see any positive results because our study may have been underpowered. This means that there were few subjects in each of the treatment arms and we could not effectively see the significant difference between the different treatment groups. It could also be that the period in which the experiments were conducted was too short to effectively see any change among the groups who were administered the behavioral mechanism of support groups, goals and incentives (we only conducted three rounds of surveys). Overall, the main results show:

1. Goal achievement on the treatment group has no significant effect on support groups and incentives - The basic finding of this paper shows that the act of setting a goal within a week is too small to see any significant effect on our outcomes. This result is found in the estimation on total goal achievement after controlling for other treatments that the act of setting a goal to be achieved in one week (even with the prize incentive or the support group) shows no significance on outcomes.
2. Incentives only have a modest effect on an increase in income and not on goal achievement. Support groups do not have any impact on goal achievement or income. Self-esteem has positive and significant results for income.

Future research should be conducted to effectively estimate the impact of the three FII mechanisms as a pathway out of poverty in Nigeria. Nigeria is really an important country to study because of the increase in the number of women who are joining small-scale business entrepreneurship as a means of survival and self-independence not only for them but their families as well. An improvement to this research study should make use of more subjects randomly spread across Nigeria for a longer time period (maybe six months to a year) to see an effect. More states should be used and both rural and urban small-scale entrepreneurs should also be used in the study. A future policy recommendation could be to effectively research and analyze ways in which the government can incorporate incentives as a way to boost income on a smaller scale for small-scale business women in Abuja Nigeria.

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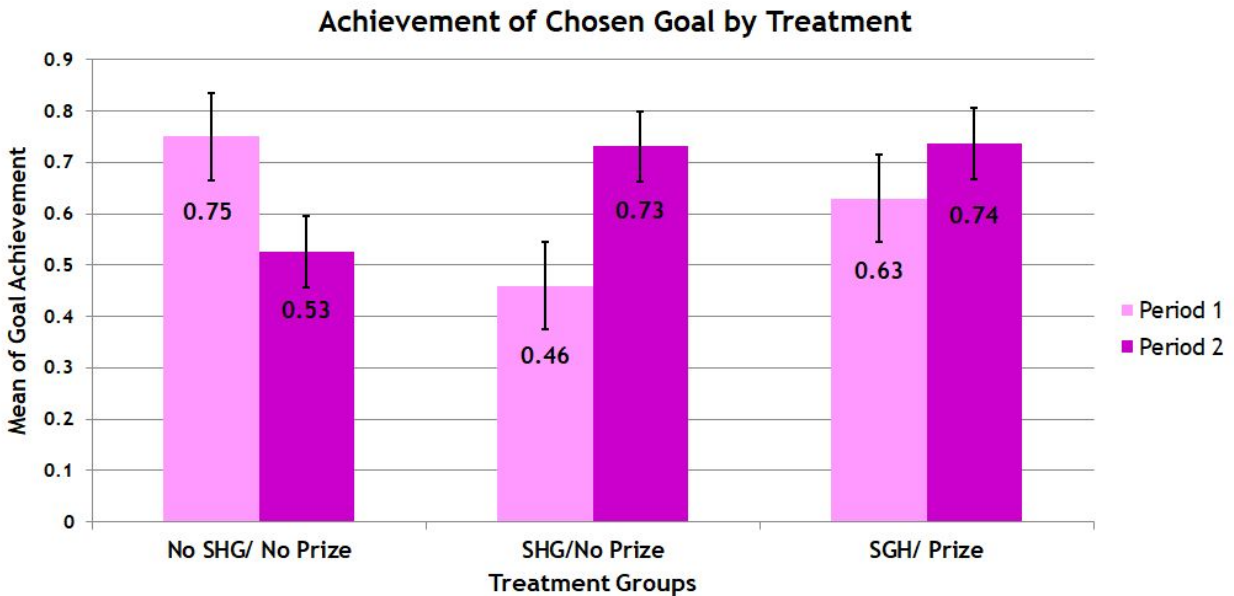
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Figure 1: Experimental Design

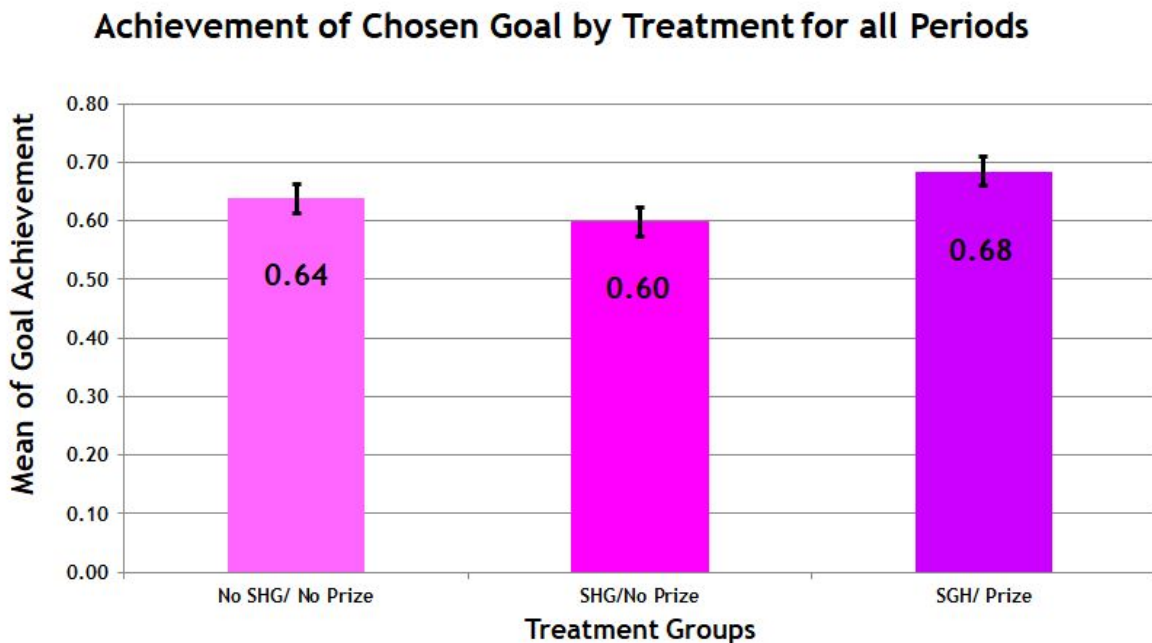
Control Groups: No Goal, No Prize, No Group Control 1: Survey at baseline, midline and end line N= (37) Control 2: Survey at end line N=(48)		Support Group	
		No Group	Group
Monetary Incentives	No Prize	Treatment Group 3 Goal, No Prize, No Group. N=(24)	Treatment Group 1 Goal, Group, No Prize. N=(28)
	Prize		Treatment Group 2 Goal, Prize, Group N=(23)

Figure 2: Achievement of Chosen Goal for Period 2 and Period 3



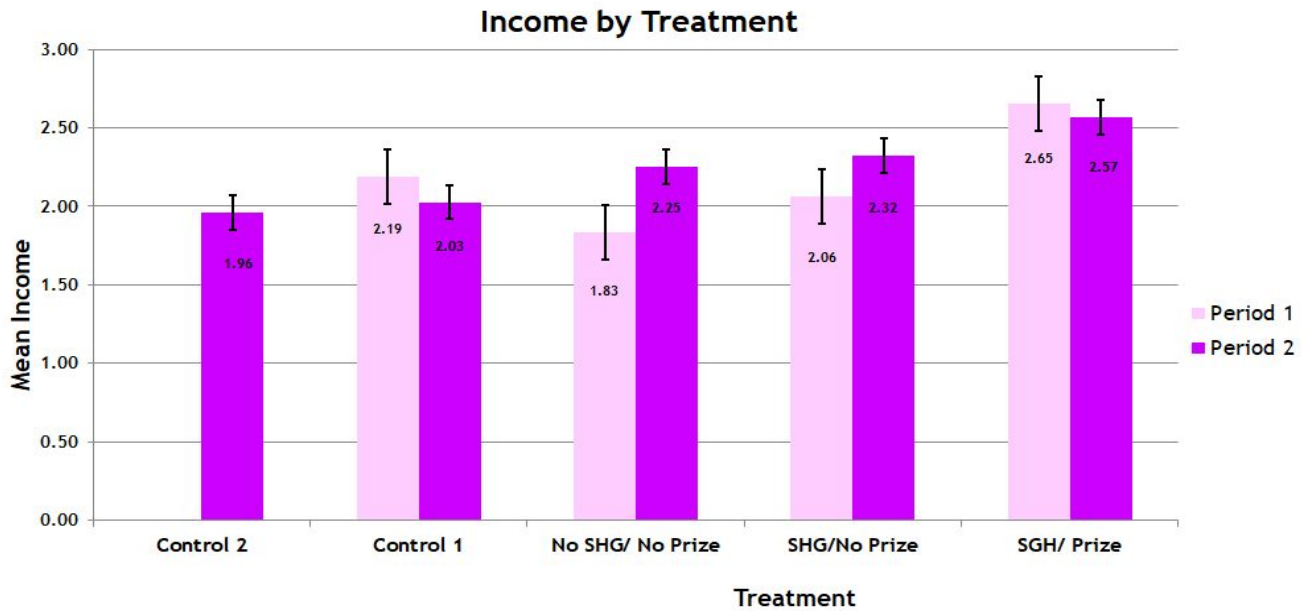
Achievement of Chosen Goal. The bars shows the mean of the average individual achievement of the chosen goal by treatment group. Group III=No SHG/No Prize; Group II SHG/Prize; Group I SHG/No Prize.

Figure 3: Achievement of Chosen Goal for Total Period



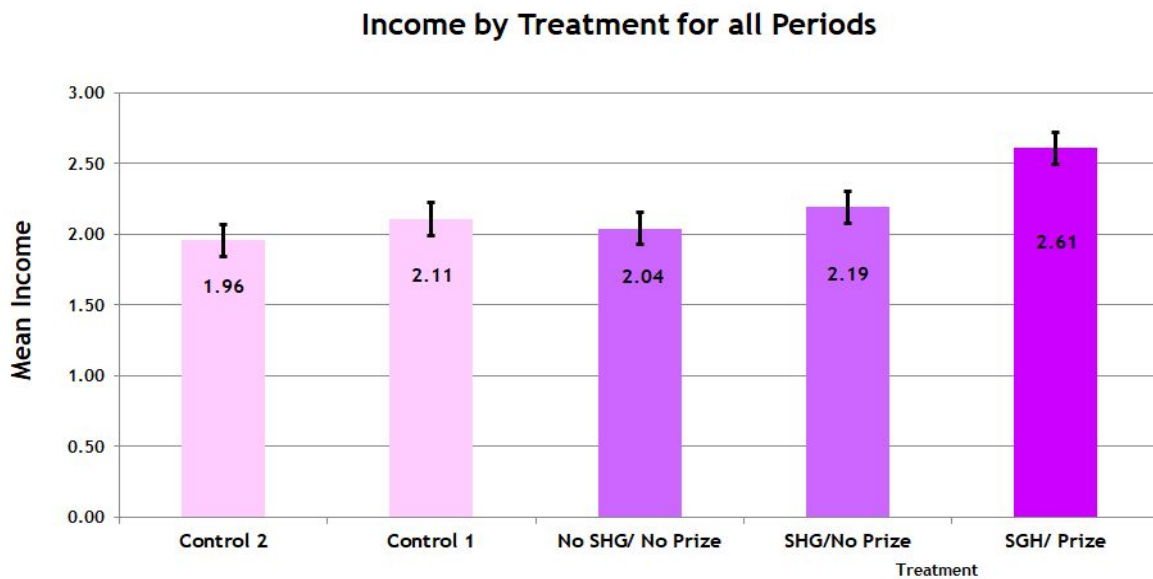
Achievement of Chosen Goal. The bars shows the mean of the average individual achievement of the chosen goal by treatment group. Group III=No SHG/No Prize; Group II SHG/Prize; Group I SHG/No Prize.

Figure 4: Income Value for Period 2 and Period 3



INCOME. Bars display the mean of the average individual rank (1-4) of weekly income by treatment group. $T > 1$. Error lines display 95% confidence intervals. Group III=No SHG/No Prize; Group II SHG/Prize; Group I SHG/No Prize.

Figure 5: Income Value for Total Period



INCOME. Bars display the mean of the average individual rank (1-4) of weekly income by treatment group. $T > 1$. Error lines display 95% confidence intervals. Group III=No SHG/No Prize; Group II SHG/Prize; Group I SHG/No Prize.

Table 1: Summary Statistics at Baseline

	All (N=160) Mean (Std. Dev)	Group I (N=28) Mean (Std. Dev)	Group II (N=23) Mean (Std.Dev)	Group III (N=24) Mean (Std.Dev)	Group IV (N=37) Mean (Std.Dev)	Group V (N=48) Mean (Std.Dev)
Age	2.12 (0.84)	2.07 (0.60)	2.30 (0.87)	2 (0.72)	2.11 (0.96)	2.12 (0.91)
Single	0.53 (0.50)	0.60 (0.50)	0.47 (0.51)	0.43 (0.51)	0.46 (0.50)	0.62 (0.49)
Married	0.45 (0.49)	0.39 (0.49)	0.43 (0.51)	0.56 (0.51)	0.54 (0.50)	0.37 (0.49)
Secondary Education	0.12 (0.32)	0.14 (0.36)	0.05 (0.22)	0.09 (0.29)	0.21 (0.41)	0.08 (0.28)
Higher National Diploma	0.24 (0.43)	0.21 (0.42)	0.24 (0.44)	0.30 (0.47)	0.18 (0.39)	0.25 (0.44)
University	0.58 (0.50)	0.61 (0.50)	0.62 (0.50)	0.43 (0.51)	0.61 (0.50)	0.60 (0.50)
Self-Employed	0.45 (0.50)	0.29 (0.46)	0.50 (0.51)	0.64 (0.49)	0.57 (0.50)	0.35 (0.48)
Employed	0.23 (0.42)	0.14 (0.36)	0.18 (0.39)	0.14 (0.35)	0.11 (0.31)	0.44 (0.50)
Social Strata	2.80 (0.64)	2.69 (0.68)	2.78 (0.60)	2.63 (0.71)	2.86 (0.59)	3.02 (0.61)
Baseline N=112			End N=48			
Self-Esteem	2.09 (0.51)	2.25 (0.52)	2.10 (0.48)	2.24 (0.46)	2.32 (0.36)	1.75 (0.51)
Risk	7.76 (2.29)	7.85 (2.32)	7.55 (2.21)	7.09 (2.42)	7.86 (2.53)	8.05 (2.08)

Notes: Column titled “Diff. from Gr.” indicates the treatment group where there is statistically significant difference for the corresponding variable at $p < 0.1$. Education is coded as having completed 1=none, 2=primary, 3=Secondary school, 4=HND/OND, 5=University, 6=Vocational training, 7= Technical. Age is coded as being in an age group between 1=18-25, 2=26-35, 3=36-45, 4=45-65. Marital status is coded as subjects being 1=single, 2=Married, 3=Civil union, 4=Widow, 5=Separated, 6=Divorced. Employment is coded as subjects being 1=Housewife, 2=Employed, 3=Student, 4=Self-Employment, -96= other. Social Strata is coded as subjects being 1= very low, 2= low, 3= middle, 4= High, 5= very high. Self Esteem is mean (0-4) generated from survey self esteem questions. Risk is mean (1-10) generated from survey risk questions.

Table 2: Results

Results (T-test) For Period 2 on Goal Achievement

Selected Goal Achievement	Group I n=28	Group II n=19	Group III n=16
	0.46 (0.09)	0.63 (0.11)	0.75 (0.11)
Group I			
Group II	0.2691		
Group III	0.0682*	0.4670	

Group I is described as Treatment group 1 which had goals, self-help groups and incentives. Group II is described as Treatment group 2 which had goals, self-help groups and incentives. Group III is described as Treatment group 3 which had only goals. Matrix entries display the p-value $\Pr(|T| > |t|)$ associated with the two-tail t-test of $H_0: \text{diff}=0$. $\text{Time} > 1$. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ two-tail; + $p < 0.1$, one-tail.

Results (T-test) For Period 3 on Goal Achievement

Selected Goal Achievement	Group I n=26	Group II n=19	Group III n=19
	0.73 (0.08)	0.74 (0.10)	0.53 (0.12)
Group I			
Group II	0.9647		
Group III	0.1642	0.1881	

Group I is described as Treatment group 1 which had goals, self-help groups and incentives. Group II is described as Treatment group 2 which had goals, self-help groups and incentives. Group III is described as Treatment group 3 which had only goals. Matrix entries display the p-value $\Pr(|T| > |t|)$ associated with the two-tail t-test of $H_0: \text{diff}=0$. $\text{Time} > 1$. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ two-tail; + $p < 0.1$, one-tail.

Results (T-test) For Period 2 on Income

Income	Group I n=26	Group II n=19	Group III n=19	Group IV n=31
	2.06 (0.19)	2.65 (0.19)	1.83 (0.21)	2.19 (0.17)
Group I				
Group II	0.0394**			
Group III	0.4168	0.0060***		
Group IV	0.6245	0.0836**	0.1869	

Group I is described as Treatment group 1 which had goals, self-help groups and incentives. Group II is described as Treatment group 2 which had goals, self-help groups and incentives. Group III is described as Treatment group 3 which had only goals. Matrix entries display the p-value $\Pr(|T| > |t|)$ associated with the two-tail t-test of $H_0: \text{diff}=0$. $\text{Time} > 1$. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ two-tail; + $p < 0.1$, one-tail.

Results (T-test) For Period 3 on Income

Income	Group I n=26	Group II n=19	Group III n=19	Group IV n=37	Group V n=48
	2.32 (0.17)	2.57 (0.16)	2.25 (0.20)	2.03 (0.16)	1.96 (0.14)
Group I					
Group II	0.3220				
Group III	0.7830	0.2314			
Group IV	0.2139	0.0308**	0.3922		
Group V	0.1078	0.0122**	0.2420	0.7512	

Group I is described as Treatment group 1 which had goals, self-help groups and incentives. Group II is described as Treatment group 2 which had goals, self-help groups and incentives. Group III is described as Treatment group 3 which had only goals. Matrix entries display the p-value $\Pr(|T| > |t|)$ associated with the two-tail t-test of $H_0: \text{diff}=0$. $\text{Time} > 1$. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ two-tail; + $p < 0.1$, one-tail.

Table 3: Achievement of Selected Goal by Treatment for Total Period

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	-0.223	-0.146	-0.196	-0.296	-0.400	-0.332
	(0.661)	(0.669)	(0.660)	(0.734)	(0.786)	(0.798)
Incentive	0.498	0.401	0.431	0.721	0.545	0.362
	(0.660)	(0.690)	(0.678)	(0.752)	(0.793)	(0.804)
Age		0.138	0.110	0.358	0.278	0.458
		(0.397)	(0.390)	(0.475)	(0.500)	(0.519)
Education			-0.249	-0.313	-0.377	-0.363
			(0.256)	(0.283)	(0.294)	(0.294)
Risk				-0.0706	-0.0933	-0.0907
				(0.146)	(0.155)	(0.156)
Goal-Difficulty					-0.414	-0.358
					(1.027)	(1.039)
Social Strata						0.821
						(0.576)
Constant	0.691	0.416	1.649	2.098	3.609	0.866
	(0.525)	(0.925)	(1.582)	(2.299)	(3.243)	(3.611)
Observations	127	119	119	111	103	101
Subject ID	73	68	68	64	60	58

Logit panel, dep. var. = 1 if subject achieved her/his goal, 0 if not.

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.

Table 4: Achievement of Selected Goal by Treatment for Support Groups only

	(1)	(2)	(3)	(4)	(5)
Support Group	-0.208	-0.111	-0.214	-0.452	-0.356
	(0.615)	(0.633)	(0.604)	(0.880)	(0.908)
Age		-0.0565	-0.0808	-0.249	-0.0384
		(0.509)	(0.481)	(0.667)	(0.710)
Education			-0.465	-0.685	-0.649
			(0.306)	(0.430)	(0.432)
Risk				-0.163	-0.147
				(0.199)	(0.203)
Goal-Difficulty				-0.257	-0.215
				(1.467)	(1.502)
Social Strata					0.646
					(0.700)
Constant	0.656	0.768	3.018	6.392	3.872
	(0.493)	(1.115)	(1.882)	(4.559)	(4.947)
Observations	89	84	84	74	72
Subject ID	51	48	48	43	41

Logit panel, dep. var. = 1 if subject achieved her/his goal, 0 if not.

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.

Table 5: Panel OLS on Business Sales for Total Period

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	0.0831	0.0469	0.0446	0.0127	0.0275	0.0461
	(0.120)	(0.126)	(0.127)	(0.127)	(0.128)	(0.134)
Incentives	0.483***	0.521***	0.506***	0.536***	0.519***	0.504***
	(0.157)	(0.165)	(0.168)	(0.168)	(0.168)	(0.174)
Age		0.0444	0.0474	0.0482	0.0346	0.0297
		(0.0579)	(0.0584)	(0.0585)	(0.0587)	(0.0600)
Education			-0.0160	-0.0233	-0.0194	-0.0154
			(0.0426)	(0.0426)	(0.0422)	(0.0440)
Self-Esteem				0.193**	0.239**	0.244**
				(0.0949)	(0.0959)	(0.0993)
Risk					0.0491**	0.0514**
					(0.0208)	(0.0214)
Social Strata						-0.0183
						(0.0793)
Constant	2.072***	1.979***	2.048***	1.677***	1.212***	1.225***
	(0.0579)	(0.135)	(0.232)	(0.294)	(0.350)	(0.413)
Observations	432	418	415	414	405	396
SubjectID	167	160	159	158	155	151

OLS Panel Regression

Dependent Variable= 1-4 income level from previous week.

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

Table 6: Panel OLS on Business Sales for Support Groups only

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	0.0708	0.0245	0.0264	0.0106	0.00665	0.0256
	(0.156)	(0.160)	(0.161)	(0.161)	(0.166)	(0.168)
Age		0.198	0.198	0.230*	0.207	0.205
		(0.127)	(0.127)	(0.129)	(0.136)	(0.139)
Education			0.00759	-0.0425	-0.0175	-0.0152
			(0.0798)	(0.0877)	(0.0891)	(0.0903)
Self-Esteem				0.252	0.280	0.311
				(0.186)	(0.187)	(0.191)
Risk					0.0506	0.0549
					(0.0361)	(0.0371)
Social Strata						-0.00865
						(0.127)
Constant	2.102***	1.706***	1.670***	1.279**	0.786	0.702
	(0.117)	(0.280)	(0.471)	(0.552)	(0.668)	(0.727)
Observations	156	148	148	148	139	135
Subject ID	55	52	52	52	49	47

OLS Panel Regression

Dependent Variable= 1-4 income level from previous week.

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

APPENDIX 1

Table A1: List of Goals for Participant selection

Goal	Activity	Verification Method	Occurrence	Relative Frequency
1	Update or create a business plan for your business.	Present documents	Once	26%
2	Attend a business or entrepreneurship seminar	Registration form or document flyer	Repeatable	18%
3	Begin or continue to keep accounting of your business, and show the gains and losses statement (record keeping)	Present accounting documents	Once	2%
4	Purchase a machine, tool, or equipment for your business	Receipt (with date)	Repeatable	18%
5	Create and implement a marketing strategy for your business (website, social networking sites (Facebook)	Present documents/websites	Once	7%
6	Apply for a business registration that you do not currently have (only if required for your business):	Present the application documents to the enumerator	Once	nil
7	Attend a course for adult literacy course/ communication classes (how to interact in a business setting)	Certificate of attendance	Repeatable	8%
8	Save a minimum of #5000 naira every week for the next week in a savings account	Bank statement	Repeatable	22%

2. Choose one activity from the list *ABOVE* that you must accomplish at the end of one week

Table A2: Attrition by Group

	ORIENTATION (Baseline)	MIDLINE	ENDLINE
Control 1	44	39	33
Control 2	NIL	NIL	48
Treatment 1	35	30	28
Treatment 2	34	21	20
Treatment 3	35	22	19

Additional Regressions: Robustness Checks

Table 7: Achievement of Selected Goal by Treatment for Period 2

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	-1.242*	-1.148	-1.192*	-1.332*	-1.190	-1.457
	(0.691)	(0.706)	(0.712)	(0.785)	(0.822)	(0.932)
Incentive	0.682	0.332	0.364	0.475	0.206	0.0209
	(0.608)	(0.638)	(0.644)	(0.675)	(0.726)	(0.801)
Age		0.424	0.391	0.612	0.673	1.084*
		(0.401)	(0.405)	(0.467)	(0.514)	(0.574)
Education			-0.165	-0.176	-0.232	-0.306
			(0.251)	(0.265)	(0.272)	(0.297)
Risk				-0.0533	-0.108	-0.127
				(0.136)	(0.148)	(0.155)
Goal-Difficulty					-0.980	-1.235
					(1.009)	(1.084)
Social Strata						1.280**
						(0.562)
Constant	1.099*	0.267	1.125	1.322	3.730	0.729
	(0.577)	(0.965)	(1.638)	(2.200)	(3.070)	(3.457)
Observations	63	60	60	56	52	51

Logit panel, dep. var. = 1 if subject achieved her/his goal, 0 if not.

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.

Table 8: Achievement of Selected Goal by Treatment for Period 3

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	0.893 (0.638)	0.956 (0.664)	0.898 (0.671)	0.803 (0.696)	0.565 (0.732)	0.740 (0.753)
Incentive	0.0311 (0.683)	0.185 (0.754)	0.231 (0.762)	0.649 (0.831)	0.562 (0.860)	0.366 (0.880)
Age		-0.177 (0.415)	-0.180 (0.423)	-0.00213 (0.484)	-0.0724 (0.497)	-0.0958 (0.513)
Education			-0.266 (0.270)	-0.394 (0.308)	-0.430 (0.317)	-0.395 (0.316)
Risk				-0.0995 (0.159)	-0.0842 (0.167)	-0.0475 (0.167)
Goal-Difficulty					0.00429 (0.984)	0.0579 (0.989)
Social Strata						-0.131 (0.582)
Constant	0.105 (0.459)	0.450 (0.931)	1.747 (1.642)	2.775 (2.557)	3.121 (3.518)	2.983 (4.103)
Observations	64	59	59	55	51	50

Logit panel, dep. var. = 1 if subject achieved her/his goal, 0 if not.

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.

Table 9: OLS on Business Sales for Period 2

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	0.0153 (0.224)	-0.0147 (0.229)	-0.0181 (0.232)	-0.0161 (0.232)	-0.0175 (0.238)	0.0995 (0.246)
Incentive	0.588** (0.280)	0.653** (0.290)	0.639** (0.297)	0.676** (0.301)	0.655** (0.304)	0.570* (0.309)
Age		0.216* (0.121)	0.219* (0.123)	0.223* (0.123)	0.196 (0.126)	0.179 (0.127)
Education			-0.0154 (0.0818)	-0.0249 (0.0826)	-0.0192 (0.0831)	-0.00673 (0.0849)
Self- Esteem				0.186 (0.219)	0.235 (0.223)	0.310 (0.228)
Risk					0.0245 (0.0421)	0.0343 (0.0425)
Social Strata						-0.0260 (0.160)
Constant	2.049*** (0.130)	1.603*** (0.281)	1.670*** (0.465)	1.280* (0.653)	1.045 (0.765)	0.836 (0.870)
Observations	115	110	109	109	106	103
R-squared	0.054	0.092	0.088	0.094	0.088	0.095

OLS Regression

Dependent Variable= 1-4 income level from previous week.

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

Table 10: OLS on Business Sales for Period 3

	(1)	(2)	(3)	(4)	(5)	(6)
Support Group	0.277	0.207	0.202	0.115	0.170	0.133
	(0.194)	(0.203)	(0.204)	(0.203)	(0.202)	(0.210)
Incentive	0.243	0.260	0.240	0.320	0.283	0.319
	(0.262)	(0.277)	(0.283)	(0.278)	(0.275)	(0.281)
Age		0.120	0.126	0.134	0.125	0.138
		(0.0922)	(0.0932)	(0.0913)	(0.0907)	(0.0917)
Education			-0.0366	-0.0504	-0.0446	-0.0436
			(0.0700)	(0.0688)	(0.0676)	(0.0696)
Self-Esteem				0.403***	0.454***	0.443***
				(0.147)	(0.147)	(0.151)
Risk					0.0812**	0.0804**
					(0.0331)	(0.0338)
Social Strata						-0.0428
						(0.123)
Constant	2.046***	1.796***	1.953***	1.174**	0.414	0.534
	(0.0912)	(0.214)	(0.373)	(0.462)	(0.550)	(0.640)
Observations	163	158	157	157	154	150
R-squared	0.040	0.040	0.039	0.085	0.125	0.124

OLS Regression

Dependent Variable= 1-4 income level from previous week.

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