Crowding-out or Crowding-in? Effects of LEAP 1000 Unconditional Cash Transfer Program on Household and Community Support among Women in Rural Ghana

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Abstract

Social protection programs are not introduced in a vacuum and it is important to understand what effects such programs have on existing informal support networks of family, friends and community members. A social cash transfer may reduce receipt of informal financial support, which can overturn part of the program's impact. However, cash transfers can reduce barriers to social participation or enable participants to engage in reciprocal support systems. We use data from the longitudinal quasi-experimental mixed-method impact evaluation of Ghana's Livelihood Empowerment Against Poverty (LEAP) 1000 program, a social cash transfer program for pregnant women or mothers with a child below age one living in poverty, to estimate the effect of the program on social support and participation. Using a difference-in-differences approach we find that LEAP 1000 increases overall social support, as well as emotional and instrumental support separately. In addition, program beneficiaries are more likely to participate in community groups. Qualitative interviews confirm these findings with participants describing increased access to financial markets, such as borrowing money or contributing to local savings schemes, and strengthening of social participation in local groups and gatherings.

In short, LEAP 1000 created opportunities for additional social support within the household and community, and therefore crowded-in support, rather than reduced existing sources of support or crowded-out support.

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1. Introduction

Like many governmental social cash transfer programs, LEAP 1000 is designed to decrease poverty and improve the resilience of vulnerable households (Ghana LEAP 1000 Evaluation Team, 2016). More specifically, the program focuses on the well-being of households with pregnant women and children below the age of one, in order to reach children at early stages in their lives. While the program creates a reliable source of complementary income, it is important to understand that the introduction of the cash transfer does not happen in a vacuum. Earlier research on rural poor populations in Ghana showed that most households have an existing social network, who can help them in times of adverse events or to make ends meet on a regular basis. The majority of this social support came from family, friends, and relatives, who live inside the community. Social support networks beyond the community were considered weak and unreliable (Oxford Policy Management, 2013).

A concern sometimes with public transfers is that the formal organization of financial support crowds-out or replaces the support of friends, neighbors and acquaintances, having both negative financial and social consequences for the household (Cox & Jakubson, 1995; Juarez, 2009). However, an intervention can also strengthen the informal social support network by enabling participants to give more support in return, spend more time with people in her existing network or to engage in new activities that require a financial contribution or a specific way to present oneself (Attanasio, Pellerano & Reyes Polanía, 2009; Rock et al., 2016). The broadening of the social support because of a public transfer is called the crowding-in effect. The current literature is ambiguous on whether there is a crowding-out or crowding-in effect (Albarran & Attanasio, 2003; Angelucci et al. 2012). A limitation to the current literature is that few studies include non-financial forms of support, such as instrumental or emotional support (Künemund & Rein, 1999).

Lastly, to our knowledge no studies have used a mixed methods approach to both quantify change in social support as well as explore women's experiences with regards to the change in support due to receiving the cash transfer.

In this study we use a mixed-methods approach to assess the changes that occur in social support coming from the household or community as a result of the introduction of the unconditional cash transfer. We seek to understand whether the changes indicate an overall crowding-out or crowding-in effect of social support. Moreover, we explore what kind of support is exchanged and the strength of the relationship between the participant and the support giver.

In the quantitative analysis we assess the changes in the perceived social support by function using difference-in-differences estimates of a modified version of the MOS-social support scales. We find that LEAP 1000 has a positive effect on overall social support for beneficiary women. When separating social support into instrumental and emotional support, the positive effects of the transfer over time still hold. In addition, with regards to social participation in the community LEAP 1000 beneficiaries are more likely to be member of a group in the community than the comparison group.

With the qualitative analysis we explore how women described changes in social support in the in-depth interviews, complementing the quantitative analysis by giving a more detailed understanding of the type and processes of change. The women's stories indicate that the cash transfer changed their interactions in both the household and the community. It enabled them to overcome barriers to social participation, such as financial restrictions in making contributions to savings groups, churches and local gatherings. It made beneficiaries more self-sufficient, decreasing their need for social support. Lastly, it strengthened existing relationships because women were able to give back support. Overall, the findings show that LEAP 1000 does not

decrease the access to social support, therefore refuting the crowding-out hypothesis. The increased group membership and participation in local ceremonies and activities suggests a potential crowding-in of new social support.

The paper starts with the theoretical models of social support and crowding-out that guide the analysis. Section 3 includes an introduction into the LEAP 1000 program. Section 4 covers the study design of the program evaluation and Section 5 and 6 are descriptions of the sample and methods for the quantitative and qualitative analysis. Lastly, Section 7 comprises the key results, and a discussion and concluding remarks are given in Section 8.

2. Theoretical model

Underlying this study is the economic theory on crowding-out and the sociological understanding of social support. Starting with the latter, Wills and Ainette (2012) broadly define social support as 'the extent of a person's social integration in the community (i.e., social network) and the resources provided by others that may be useful for helping to cope with problems (i.e., supportive functions).' The measurement of social support occurs often along the dimensions of functional and structural support. Examples of functional social support are informational, emotional, and instrumental support (Taylor, 2007). In order to cope with a particular shock, different kinds of support might be needed. Structural social support focuses on the number of relationships and the interconnectedness among the members in the support network. Changes in social support can therefore occur by network members providing different types of support or by changing the number or type of relationships. With regards to social integration, Granovetter's 'Strength of Weak Ties' (1973) sets out the importance of the interplay between close friends and family (strong ties) and acquaintances (weak ties) to promote social organization. Weak ties, in particular have the potential to form bridges between different networks and generate new sources of support.

Following this theory, there will be a specific role for acquaintances and community members in creating new access points to social support.

The economic theory on crowding-out describes the impending direction of change in social support due to an intervention of the government. In short, the concept of crowding-out as developed though the seminal work of Becker (1974, 1988) and Barro (1974) suggests that public transfers will replace private ones. Their theory rests on the assumption that if giving support is motivated by altruism, the donor does not gain any utility from the support, but the transfer takes place because it brings utility to the recipient. When a government program comes in and provides a similar amount of support the donor will lose the reason for giving support, while the recipient's utility level remains the same. Alternative models, such as the exchange model (Arrondel & Masson, 2006; Cox, 1987) or social norms (Cox & Jimenez, 1992; Sunstein, 1996) challenge the assumption of altruism and instead include a component of self-interest to motivate the transfers between people. As an example to the exchange model, the empirical study by Bernheim et al. (1986) shows that support of children in the form of visits and phone calls to their parents can be seen as a trade for future inheritance. As a result, when people expect to gain from the support given, either in a tangible form or because it increases their own utility, a total crowding-out effect is unlikely to happen.

The empirical evidence in low or middle-income countries is strongly geographically focused on Latin-America and mainly supports a partial crowding out effect. Moreover, given the economic origin of crowding-out the majority of evidence concentrates on changes in monetary support only. Non-monetary transfers, changes in emotional support are rarely included. Albarran and Attanasio (2003) and Angelucci et al. (2012) find that there is a negative and significant effect on income out of private transfers after the introduction of the social cash transfer

PROGRESA/Oportunidades in Mexico. However, Teruel and David (2000) when evaluating the same PROGRESA program find no evidence for crowding out of private monetary and non-monetary transfers. In one of the few sub-Saharan African studies, Strobbe and Miller (2011) use a randomized experiment in Malawi and find that the unconditional cash transfer crowds out monetary and in-kind gifts and to some extend remittances. The program has no effect on informal loans. Regarding the magnitude of crowding out, Jensen (2004) shows that an old age pension in South Africa decreases private transfers from children with 20-30 percent. However, an assessment of a monthly nutrition transfer for senior citizens in Mexico City found that total private transfers decrease with 86 cents for every peso transferred by the demogrant, suggesting a strong crowding out effect (Juarez, 2009). Lastly, Künemund and Rein (1999) find that in high-income countries with generous welfare systems old-age pension increases the instrumental support (i.e. help when ill, help with transportation, taking care of the house), elderly people received. They suggest that the additional resources received from the government create opportunities for the pensioners to give to their children, who in turn reciprocate with different types of support. While this study included only pensions in higher income countries it indicates that besides (partial) crowding-out, crowding-in is a possible outcome.

In short, the models suggest that crowding-out depends on the motivation of the original support givers, while crowding-in depends on the motivation of the recipient when engaging in further exchange of the new support. Given that the social support network is composed of multiple support givers with various structural roles, motivations can differ across the network with as a result that crowding-in and crowding-out are not mutually exclusive.

3. Ghana Livelihood Empowerment Against Poverty (LEAP) 1000

Livelihood Empowerment Against Poverty (LEAP) Program is Ghana's flagship social protection program, which was introduced by LEAP Management Secretariat (LMS) and the Department of Social Welfare (DSW), under the Ministry of Gender, Children and Social Protection (MoGCSP) in 2008. The program's objectives were twofold with a short-term goal of alleviating poverty and a long-term objective of human capital development. To achieve both objectives LEAP consisted of a bimonthly cash transfer and a health insurance fee waiver for extremely poor households in Ghana. LEAP eligibility included households in poverty with at least one household member being an orphan or vulnerable child, elderly without productive capacity, or severely disabled and unable to work. The initial design was successful in reaching these vulnerable populations, but the program missed other groups such as rural poor families with young children (de Groot et al., 2015; Ghana LEAP Evaluation Team, 2017). In 2015, the LEAP 1000 pilot was launched concentrating on a new category: pregnant women and children under the age of 12 months living in poor households. LEAP 1000 is designed to capture children at a key period of physical and mental development, namely during the first 1000 days of their lives. In alignment to the mainstream program enrolled households receive support for three years with the amount of the support depending on the number of eligible household members. The amount (GH₵76-106 per 2 months) is around 14% of household consumption (Ghana LEAP 1000 Evaluation Team, 2016).

The pilot for LEAP 1000 was rolled out in ten districts in the Northern parts of the country. Priority was given to the poorest communities which were not yet covered by mainstream LEAP. The pilot captured 6,124 households after one year. By the end of 2015 LEAP 1000 was integrated into the LEAP program, whereby pregnant women and children below the age of one were considered as the fourth category in LEAP. The expanded eligibility criteria for LEAP was used in its nationwide scale up (Ghana LEAP 1000 Evaluation Team, n.d.).

4. Study Design

The impact evaluation of the Ghana LEAP 1000 uses a longitudinal mixed-methods design. The evaluation was carried out by UNICEF Office of Research in collaboration with the University of North Carolina at Chapel Hill and two local partners. The quantitative data collection was supported by the Institute of Statistical, Social and Economic Research (ISSER) and the qualitative evaluation was conducted in collaboration with the Navrongo Health Research Centre (NHRC). The baseline data was collected between July and October 2015 and was followed by a midline (September 2016) and endline evaluation (August 2017) for the qualitative component, and an endline survey (July-September 2017) for the quantitative data (Ghana LEAP 1000 Evaluation Team, n.d.).

The panel data structure is essential to this study because it allows observation of change over time in social support (Ruspini, 1999). We balance the quantitative and qualitative components using the dimensions of purpose, timing and weighting as described by Guest and Fleming (2014). A mixed methods approach was chosen to triangulate and deepen findings on the impact of the social cash transfer on social support from both quantitative surveys with information coming from the qualitative in-depth interviews (Johnson, Onwuegbuzie, & Turner, 2007). With regards to timing, the data collection was conducted sequentially at baseline. Since the qualitative sample is embedded in the quantitative sample, the latter sample had to be confirmed before the participants for the in-depth interviews could be selected. At the endline the data collection occurred simultaneously. Within the mixed-methods study design the qualitative and quantitative components are weighted equally, each concentrating on topics where there is a comparative advantage. The quantitative survey collected on a large sample included information on for instance expenditure, livelihood activities, education and health, while the qualitative in-depth

interviews gathered information on for instance recent experiences with the social support in a household and community environment.

5. Sample

(a) Quantitative sample

The quantitative sample (n=2,497) included five of the 10 program pilot districts, including Yendi, Karaga and East Mamprusi in the Northern Region and Bongo and Garu Tempane in the Upper East Region. Treatment and control groups were identified using a regression discontinuity design. The discontinuity is the cut-off score on the proxy-means test (PMT) for eligibility of the LEAP 1000 program, with the treatment group being selected from just below the threshold and the control group from just above. At baseline the treatment group, consisting of 1,262 households, had nearly identical PMT scores to the control group of 1,235 households (see further details Ghana LEAP 1000 Baseline report (2016)). Table 1 shows the balance between the two groups at baseline on a range of indicators at the individual and household levels. The individual level variables are characteristics of the woman eligible for interviewing, meaning pregnant women or mothers with a child below the age of one. The two groups are compared while controlling for the level of the PMT scores, acknowledging that differences between households further from the treatment cut-off might be larger. With exception of female household head the treatment and control group are statistically insignificant at the 5% level.

[Insert Table 1]

At the endline evaluation 2,331 households were re-interviewed of which 2,247 households included an interview with the same LEAP 1000 eligible woman from baseline. The attrition rate after 24-months is 10.0 percent at the individual level. For the analysis an individual balanced

panel is used, including 1,144 women in the LEAP 1000 treatment group and 1,103 women in the control group (see Table 2). Further comparison on the attrition shows that it is non-differential. In other words, the baseline balance remains the same and only the proportion of female household heads is significantly different between the two groups (see Annex Table 1A). We continue to apply the PMT score and female household head as covariates to the further analysis.

[Insert Table 2]

(b) Qualitative sample

The qualitative sample was stratified across two districts with 10 households in Bongo (Upper East Region) and 10 households in Karaga (Northern Region). The two rural districts were selected to show different contexts whereby Bongo is in an area with higher population density and closer access to markets and basic services, and Karaga has a sparser population and communities are located further away from markets and economic activity. The interest in these two districts was to understand the possible differences in the productive prospects of program participants. The samples were further stratified covering 10 households with beneficiary women who were first-time mothers and 10 households whereby the mother had three or more children (including five in each district). Using parity as a stratification variable was based on the idea that both the number of children and the level of parenting experience may determine spending patterns and therefore program outcomes. In order to create an embedded sample, data from the quantitative sample was used to identify communities with at least one first-time mother and one mother with three or more children in the treatment arm.

[Insert Table 3]

Table 3 indicates the number of interviews with eligible women and their male partners over the three waves. Male partners of the beneficiary women were interviewed from the midline evaluation onwards to give more insight into household and spending dynamics. There is some attrition, because the field team was unable to locate one first-time mother for both follow-up interviews, and two women were traveling for work during the endline interview. From the male partners, four men were not present during the midline interviews, because they had temporarily migrated for work. Two women widowed in the course of the evaluation.

6. Methods

(a) Quantitative measures and analysis

In order to assess the effect of the LEAP 1000 on social support we use the following difference-in-difference (DiD) estimator:

$$SOC.SUPPORT_{igt}=\alpha + \beta_1 TIME_t + \beta_2 TRANSFER_g + \beta_3 TRANSFER_g * TIME_t + X_i\beta_4 + \varepsilon_{igt} \quad (1)$$

In the equation TIME is the moment of evaluation with t=0 representing the baseline and t=1 the endline. TRANSFER is a binary variable whether a household is in the treatment or control group *g*. Social support (SOC.SUPPORT) is measured for each of the women *i* in three different ways, i.e. overall social support, instrumental support and emotional support, whereby the latter two are subgroups of overall social support. The three measures are derived from a modified version of the Medical Outcomes Study Social Support Survey (mMOS-SS), measuring social support in the context of basic health care needs (Moser, Stuck, Silliman, Ganz, & Clough-Gorr, 2012). The mMOS-SS comprises eight items with each measured on a 5-point scale. Included items capture elements of instrumental support (i.e. help if you are confined to bed, help with preparing meals and with daily chores when you are sick, help to take you to the doctor if needed), emotional

support (i.e. having people around who understand your problems, or who can give you advice), companionship (having someone to share good times with) and affection (having someone who makes you feel loved) (Moser et al., 2012). Moser and colleagues found that of the original four domains there are two distinguishable subscales consisting of instrumental and emotional support, whereby the latter combines the domains of emotional support, companionship and affection. Overall social support combines all eight items. The three measures of social support (i.e. overall, instrumental and emotional) are standardized ranging from 0 to 100 to facilitate easy comparison. The breakdown in the measure of social support allows for some differentiation in functionality of the support. Within the qualitative analysis we seek to further link the findings to emotional and instrumental support respectively.

In all models we control for proxy-means test score and female household head, which are included in vector X. We ran all estimations with sample weights adjusted for household attrition and robust standard errors clustered at the community level. Findings are presented using community level fixed effects to account for environmental characteristics (e.g. cultural preferences on social interaction and support), which may influence the perceived social support. While we present the DiD estimates with and without fixed effect, the Hausman test confirms that they are different and suggests the use of community fixed effects for all three social support measures.

In addition to the measures of social support and in line with the focus of the qualitative interviews, we use a measure on social participation, i.e. variables on membership of various community groups. These variables are only measured at endline and are therefore only estimated as the difference comparing the treatment and control group.

(b) *Qualitative analysis*

In-depth interviews were conducted by the field team of Navrongo Health Research Center in two local languages, Dagbani and Frafra. For each wave there were one or two female and male interviewers per district to conduct interviews with respectively beneficiary women and their male partners. The interviews were audio-recorded, translated, and transcribed in English. In addition, the field team prepared community descriptions and field notes, describing the context of the interview. From the transcripts and accompanied field notes, we created narrative summaries; one for each of household including baseline, midline and endline information on the female participant, her partner, and the overall context of the household (Sandelowski, 1995). We then developed a more focused summaries of social support and social participation for each household. These summaries were the basis for the development of a topical coding scheme. We used Atlas.ti 8 software to systematically code all transcripts using the codebook (See Annex Table A2 for a sample of thecodebook). The output of the coding was used to construct analytical matrices on frequency and type of community support experienced by the participants and to highlight the changes that had been experienced in support throughout the evaluation.

7. Results

For the description the social support context and sample the baseline evaluation is mainly used. The baseline qualitative interviews comprised detailed descriptions of social support networks, while the quantitative measures gave an insight in the level of social support prior to the cash transfer intervention. At the midline interviews and endline evaluation, after LEAP 1000 had started, the results concentrate on the program effects. We focus separately on social participation to highlight the changes in possible social support networks outside the household. Lastly, we conducted some more in-depth analysis using various sub-groups to test the heterogeneity of the effects on social support.

(a) *Social support context and description of the sample*

The baseline qualitative interviews elicited a detailed inventory of women's social support networks, while the subsequent interviews concentrated more on the changes in the type of support given and the number of people involved. In general, women described their support networks as being composed of members of their household and sometimes a few people from outside the house, who were often relatives and some friends and people in the community. The networks ranged from three to twenty-four people (see Annex Table A3).

Within the household almost everyone provided support to other members, but there were differences in the type of support depending on age and role in the household. Children assisted with small tasks such as fetching water, making errands or playing with smaller children while sisters, sisters-in-law or co-wives, helped with household chores, taking care of the children and cooking of food. In terms of financial contributions, the adult women in the household sometimes farmed, took care of the ingredients (food items or spices beyond the staple grains) and gave small amounts of money to the children to buy school supplies or food. The men mainly provided financial support by contributing farm produce or money. The household head, which in most cases was one of the older, actively working males in the household, was responsible for providing maize or another staple food. In all but two households, women described specific people outside their household to whom they could turn for support. Most of the support from people outside the household was financial support to help to buy food or pay for hospital bills. Besides support in the form of money, instrumental support was given by people from outside the household. Most of the instrumental support was an extension of household work, such as cooking, washing clothes, doing dishes, but women also talked about help with transportation, farming or assistance when one of the household members fell sick. A mother of seven children in Karaga described how her

husband's younger brother brought her to the hospital on his motorbike in the week before the interview. She was suffering from headaches and the brother helped her with transportation and to cover some costs of the medicine. The vast majority of women described a friend or older person (e.g. uncles or aunts, a senior person in the community, an older sister) from outside their household who gave them advice. Elders were associated with providing *'advice'* or '*wisdom',* while friends provided a wider range of support and companionship, which was generally considered more mutual. A mother of three children in Karaga explained the kind of support she received from a friend:

> *"Like if I give birth and I don't have a cloth to wear she can give me one, or if I give birth, she is the one who goes around to inform people about it, and she can also advise me. If I am bored at home and I don't know what to do I go to her to keep me in company."*

Even though most women mentioned at least one person who gave them advice, emotional support was far less frequently discussed than financial or instrumental support and usually only came up after probing by the interviewer. This finding is consistent with the perception of the availability of social support in the quantitative measure as presented in Table 4. The averages in the social support scales are lower for emotional support than instrumental support at all times for both the LEAP 1000 participants as the comparison group. Instrumental social support, which includes among others access to help with regards to transportation, chores and preparing meals, is on average 56.1 and 57.3 (out of 100) for the LEAP 1000 beneficiaries and comparison group respectively at baseline. Emotional social support with questions on having people with to give advice, have a good time with or make you feel loved, scores 48.6 and 50.0 for treatment and control group respectively at baseline.

[Insert Table 4]

Another finding from the baseline interviews was that most of the support was reciprocal to some extent, with more binding agreements between more distant relationships. Within the household, exchange of support was often mutual, but was not described as bounded within an exact time, type or amount of support that was expected in return. For example the support between this first-time mother and her nephew who lived in her household, was that they would exchange farm work for small financial support without calculating an exact remuneration:

> "*He works for me, when we farm rice he assists us and when he also wants to buy something, like books or whatever, I also support him. I buy soap for him to wash his clothes*".

When discussing support from more distant family or community members, women frequently described direct reciprocity or a clear promise of payback in the future. A common example was when the food stocks ran low during the lean season, they borrowed food or money, which they returned later. One of the first-time mothers in Karaga described at the baseline interview:

> *"When the food stock finishes and we have money we buy from the market and if we don't have money we borrow from other people and pay back after harvest in the next farming season."*

The specification that support was part of an exchange, regardless of the level of detail of the reciprocity, gives an initial suggestion that the crowding-out theory is unlikely to hold. The only relationships, which seemed more altruistic in nature are those with people closest to the beneficiary, such as parents or a husband. A first-time mother in Karaga gave the following description about the support received from her mother, suggesting that there were no rules to the support given, nor was there a direct promise of returning support later*:*

"Whatever challenge I have, whether in terms of money or whatever will give me peace, she is able to support me with it."

While the support given in this relationship seemed selfless, and therefore subject to possible crowding-out, the support given or received to strong ties might be subject to social norms. The next section will show the effect on social support after LEAP 1000 is introduced.

(b) *Effects of LEAP1000 on social support*

Table 5 shows the results of the difference-in-differences estimates on social support. We detect positive and significant effects of the cash transfer program on overall social support with a 2.9 point increase and emotional social support with a 3.5 point increase (both $p<0.05$). On average instrumental social support increases by 2.4 points, although this result is only weakly significant ($p<0.1$). When adjusting for the influence of possible community fixed effects the coefficients change slightly reinforcing the improvement in social support.

[Insert Table 5]

The trends over time show that perceived instrumental social support increases for program beneficiaries and the control group, albeit with a larger increase for the former. Emotional social support significantly decreases for the control group, while it increases for beneficiary women. Given that the in-depth interviews were only held with women receiving the transfer we are unable to triangulate these findings with the qualitative data.

The findings from the in-depth interviews support the quantitative results on the increase in overall social support. The interviews show opportunities to establish new or renew relationships. Several women mentioned that the promise of money coming to their household improved their position to buy items on credit or to borrow money creating new financial resources for these women. In

addition, at the endline interview, six women were making contributions to local village saving and loans groups, called susu, or other small-scale microfinance schemes. A mother of three children described the support she got after her husband's death when LEAP 1000 had helped her to make contributions to a local insurance group.

> *"Respondent: I was in a self-help group where we contribute money to support each other in case a member gets a problem. I was the organizer for that group and later promoted to be the president of the group. Later I left the group because I couldn't contribute but when the LEAP 1000 support started I joined the group again and I was made the group leader again. When my husband died they came to support me with food including rice, cooking oil, tomatoes, bread and cash, and all came from the contributions we do.*
>
> *Interviewer: So how has this benefited you?*
>
> *Respondent: A lot because when my husband died my co-wives' family members came to support them perform the funeral but my family came and didn't have anything to support me. It was from the group support that saved me from disgrace. I had to buy some food on credit and I am waiting for the LEAP money to come so I can pay that debt."*

The self-help group gave financial support when her close relatives could not contribute. In addition, the group members provided companionship and helped to prevent emotional issues, such as shame if she would be unable to contribute to her husband's funeral. The example highlights the complex relationship between financial, instrumental and emotional social support. In this situation the financial certainty and food contributions from her group members also provided emotional support. Besides, when it came to changes in the access to support interview

participants did not differentiate by function of social support, but had a tendency to focus on more tangible examples directly related to the use of the transfer money.

While the results on the modified MOS social support scales are focused on perceived access to social support, the participants in the in-depth interviews also mentioned program effects which went beyond this. The women described a change in their needs for social support and changes in direction of the exchange of social support. First, there was a decrease in need for financial or instrumental support from the informal support network. The LEAP money enabled women to purchase food ingredients without *'bothering'* their male partners. A mother of six children talked about the reduction in the financial support needed from her husband, and the increase in opportunities to assist him:

> *"Ok, he also helps just that I don't worry him like before, the collecting of the money has made me not to bother him again about ingredients, also if he needs some money, I can take it and remove some for him to help himself. If it also gets finished he won't say that I had money and didn't help him."*

In addition, the increase in self-sufficiency strengthened the control the women have over decision-making in the household. This first-time mother in Bongo described, she no longer had to ask to use the household money:

> *"The difference is that when I was not receiving the money I couldn't just go and buy something like underwear myself unless I inform my mother but now if I don't have underwear or something I can use some of the money to buy."*

Increased self-sufficiency also changed relationships outside of the household. A number of participants, especially in Karaga, reported that one of the advantages of LEAP 1000 was that they

no longer had to go around asking for food or borrowing money. As one mother described she used to borrow money for basic needs such as food and health care, but since the start of LEAP she can pay for it herself:

> *"Interviewer: How do you see the government support LEAP 1000 after 2 years?*
>
> *Respondent: it is very good to me because I have done nothing for the government and yet it gives me that money to take care of myself and my children's health, school and feeding. This support has been very helpful in such areas so there is no point borrowing money from people to take care of such needs."*

The reduced need of financial and instrumental social support suggests crowding out of some informal social support. The same respondent elaborated on the relationship with the person who was previously providing her loans. She indicated that she did not borrow money out of her own choice, and not because the opportunity was not available to her. The consequences for her support network are therefore uncertain.

> *"Interviewer: you just mentioned borrowing, you mentioned to me during my last visit that you often went to borrow money from people to meet certain needs. Now I want to find out from you how your relationship is with your lenders as you no longer borrow money from them?*
>
> *Respondent: there is no problem between us because I have explained to them that I have a source of income now. Hence, once I earn that little there would be no need to borrow money from them and they understood me."*

Regarding the need for emotional social support, the women discussed to have less worries about financial uncertainty, better protection against shocks and less tension in the household; all of

which can be considered potential causes of emotional stress. Apart from individual level shocks, the average need for emotional support among beneficiary women might therefore have decreased. On the second change, some women reported an increase in providing support to others since the introduction of LEAP 1000. They described that they could give financial or instrumental support when close relatives ask for help. A mother of three children in Karaga explained the change she experienced:

> "*I wasn't able to cater for the family neither talking of helping others and now I can boast of helping the household and others just because of your support from the office."*

Another woman reported that she supported her husband's sister training as a tailor. At the endline interview the sister-in-law was still an apprentice, but the respondent spoke out the hope that in the future she can support them with her new trade. The increase in giving support to others to buy food or to go to the hospital was often accompanied with a positive change in mindset. The participant above referred to 'boasting' of help, while another woman described an increase in self-esteem, because she no longer experienced *'embarrassment when someone asks for support and [she was] unable to help'.*

(c) *Community support and social participation*

Seeking more context for the changes in social support we included measures of social participation by looking at group membership (Table 6). In women's and religious groups there was a positive difference between LEAP beneficiaries and the control group (with $p<0.1$). Combining all community groups, program beneficiaries were 4.4 percent points more likely to be part of at least one group in the community ($p<0.05$). The in-depth interviews included a similar question, which echoed these results. In the interviews women gave examples how LEAP 1000

enabled them to make the expected contributions to the membership in susu (village savings and loans) or church groups.

[Insert Table 6]

Even outside established groups, contributions were considered an obstacle to social participation. One mother in Karaga explained in the baseline interview, how important it is to her to contribute to ceremonies when a baby is born in the community ('*outdooring*'), and how it could be a source of shame if you cannot.

> *"Yes, if for example, someone has an outdooring that I know, whatever you can afford, you don't belittle, you give it out in support so that the person would appreciate that. In those circumstances, you would love to give more and in the event that you get an occasion she will take her turn to honor to the same extent. Failure to contribute becomes a worrying situation whenever you run into the person."*

Lastly, besides LEAP 1000 facilitating the payment of contributions, a few women described that the cash transfer lowered other barriers of social participation. Two women said that previously they were unable to join other women to go to the market, because they did not have money or appropriate clothes. One of the women said that it even helped her children to fit in with their peers:

> *"I couldn't mingle with my colleagues but with the coming of LEAP I can now raise myself and be part of my colleagues (the other women). If I get to the market, I can buy salt or buy a few clothes for my children to wear. Even if don't dress well myself I have been able to dress my children well so they can mix with their peers."*

(d) *Heterogenous impacts*

As an extension to the quantitative analysis, we explored heterogeneous effects using variables arising from the qualitative analysis and previous literature. We examined the effects of LEAP 1000 on social support by parity (one child versus multiple children), type of marriage (monogamous versus polygamous), level of education (no or less than primary versus primary school and higher) and feeling of empowerment (having power to decide over one's life-course versus no power to decide) (See Figures 1 to 3 for overall, instrumental and emotional social support respectively).

[Insert Figure 1-3]

Looking across the various functions of social support, the effect of the cash transfer on overall and instrumental social support is statistically significant at the 5% level for women with multiple children, women in polygamous relationships, women with less than primary education and women, who feel less empowered to make decisions about their own life-course. Women with these characteristics were having lower social support at baseline, suggesting that LEAP 1000 makes a larger difference for those with less social support.

8. Discussion and Conclusion

Questions on whether a social protection program is crowding-out other forms of social support are important from a well-being perspective because social support contributes to the resilience and wellbeing of participants (Taylor, 2007), but also from a policy perspective to understand the policy impact of the program on individuals and communities. We found that the LEAP 1000 in general did not negatively influence informal sources of support, such as help with chores, providing food, lending money or providing companionship. The quantitative measures showed an increase in perceived overall, instrumental and emotional social support. The in-depth

qualitative interviews confirmed these findings with women experiencing a growth in the access to financial markets and increased opportunities to mingle with peers in the markets, at social gatherings and in community groups. The program even seemed to have had an enabling role in stimulating changes that led to women create new relationships and strengthening existing ones. In other words, with the LEAP 1000 program, crowding-out did not outweigh the crowding-in of new opportunities for support. In comparison to the research in Latin America (Albarran & Attanasio, 2003; Angelucci et al., 2012; Teruel & Davis, 2000) this study has taken a broader definition of social support including instrumental and emotional support. However, the findings indicate a more positive picture in comparison to the research in Mexico and Malawi on crowding-out of social support (Albarran & Attanasio, 2003; Angelucci et al., 2012; Strobbe & Miller, 2011; Teruel & Davis, 2000). Regarding public analysis, this shows that the indirect effect of cash transfer program on social support follows the direct effects of the cash transfer and therefore strengthens the overall policy effect.

While the overall interaction between the cash transfer and informal social support from family, friends and community members seemed positive, the analysis highlighted some complexities in the relationship. Firstly, while not dominant some crowding-out occurred due to a change in needs for social support. Women described that there was no longer a need to take up assistance with regards to taking food or money. It remains unclear whether this type of 'crowding-out by choice' has longer term effects on the size of the social support network. Secondly, from the qualitative interviews it showed that women were less likely to discuss emotional social support. The reasons for this less frequent mention could be that there was less emotional support, however it should also be considered that the participants were less used to talk about it or that it was harder for them to recognize.

Lastly, some women indicated that with the cash transfer they started giving support. The social support networks for these beneficiaries might therefore remained the same in size, but it is unclear whether the change in directionality in the exchange of support altered future prospects of support. Combining quantitative and qualitative methods strengthened the overall results by being able to confirm findings and by providing further explanations to these results. However, the use of a mixed-methods approach also underlined the gaps in existing measures. For instance, the current quantitative measures of social support did not capture support given by the LEAP 1000 beneficiaries. While the findings in the qualitative analysis complemented the quantitative results there is room for improvement by developing more inclusive measures on the exchange of social support.

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Tables and Figures

Table 1. *Household and Individual characteristics of the sample at baseline (with covariate)*

Variables	Full Panel sample Mean	*N*	Control (C) Mean	*N1*	Treatment (T) Mean	*N2*	T-C Diff	Diff SE	*p-value*
Household level characteristics									
Household size	6.61	2,497	6.30	1,235	6.91	1,262	0.33	0.18	0.07
# of pregnant women	0.16	2,497	0.17	1,235	0.14	1,262	0.00	0.03	0.90
# of children aged 0 - 11 months	0.59	2,497	0.57	1,235	0.61	1,262	0.06	0.04	0.12
# of children 1 - 12 years	2.76	2,497	2.52	1,235	2.99	1,262	0.22	0.13	0.08
# of children 13 - 17	0.45	2,497	0.41	1,235	0.50	1,262	0.02	0.06	0.74
# of adults 18 - 54 years	2.38	2,497	2.40	1,235	2.36	1,262	0.00	0.06	0.96
# of adults 55 years and older	0.42	2,497	0.40	1,235	0.45	1,262	0.02	0.05	0.73
district: East Mamprusi	0.32	2,497	0.33	1,235	0.32	1,262	-0.03	0.03	0.29
district: Karaga	0.19	2,497	0.21	1,235	0.18	1,262	0.02	0.04	0.51
district: Yendi	0.16	2,497	0.15	1,235	0.16	1,262	0.03	0.03	0.31
district: Bongo	0.17	2,497	0.16	1,235	0.18	1,262	0.03	0.03	0.35
district: Garu-Tempane	0.16	2,497	0.16	1,235	0.16	1,262	-0.04	0.03	0.16
Age of head	39.33	2,497	38.26	1,235	40.37	1,262	0.22	0.86	0.80
Head is female	0.09	2,497	0.08	1,235	0.10	1,262	0.05	0.02	0.03
Head is married	0.95	2,497	0.96	1,235	0.95	1,262	-0.01	0.01	0.63
Head no formal schooling	0.80	2,497	0.78	1,235	0.82	1,262	0.02	0.03	0.58
Poverty status: Extremely Poor	0.62	2,497	0.60	1,235	0.64	1,262	-0.03	0.04	0.46
Per capita monthly expenditure (Gh₵)	95.02	2,497	97.73	1,235	92.43	1,262	4.18	4.53	0.36
Individual level characteristics (female respondent)									
Age (years)	29.31	2,497	28.47	1,235	30.13	1,262	0.37	0.56	0.51
Marital status: Married/Union - Monogamous	0.63	2,497	0.64	1,235	0.62	1,262	-0.02	0.04	0.65
Marital status: Married/Union - Polygamous	0.33	2,497	0.32	1,235	0.33	1,262	0.01	0.03	0.77
Marital status: Separated/Widowed/Never married	0.05	2,497	0.04	1,235	0.05	1,262	0.01	0.01	0.63
Education: Less than primary	0.79	2,497	0.78	1,235	0.80	1,262	-0.03	0.03	0.38
Education: Some primary	0.08	2,497	0.08	1,235	0.08	1,262	0.02	0.02	0.42
Education: Completed primary	0.03	2,497	0.03	1,235	0.02	1,262	0.00	0.01	0.96
Education: Some secondary or higher	0.09	2,497	0.10	1,235	0.09	1,262	0.01	0.02	0.66

Notes: The score of the proxy means test is used as a covariate. Expenditure per month is expressed as adult equivalent constant prices for Greater Accra in September 2015 with GH₵ 1 = approximately US$ 0.245. Diff is the average difference between Treatment and Control, and SE is the standard error of this difference clustered at community level.

Table 2. *Attrition in quantitative sample at household and individual level*

	Households			Individuals		
Groups	2015 Baseline	Balanced sample	Attrition Rate (%)	2015 Baseline	Balanced sample	Attrition Rate (%)
Treatment	1,262	1,185	6.1	1,262	1,144	9.4
Comparison	1,235	1,146	7.2	1,235	1,103	10.7
Total	2,497	2,331	6.6	2,497	2,247	10.0

Table 3. *Qualitative sample at baseline (2015), midline (2016) and endline (2017) in-depth interviews (IDIs)*

	Women			Men		
District	Baseline	Midline	Endline	Baseline	Midline	Endline
Bongo (UER)	10	9	9	0	5	8
Karaga (NR)	10	10	8	0	8	7
Total	20	19	17	0	13	15

Table 4. *Descriptive statistics on the measures of social support*

Variables	Full Panel sample Mean	Control (C) Mean	Treatment (T) Mean	(T)-(C) Diff	Diff SE	*p-value*
Baseline						
Social Support score (0-100)	52.98	53.65	52.33	-3.40	1.86	0.07
Instrumental Social Support (0-100)	56.67	57.26	56.10	-3.94	1.98	0.05
Emotional Social Support (0-100)	49.28	50.03	48.56	-2.87	2.12	0.18
Endline						
Social Support score (0-100)	53.76	52.92	54.56	0.10	1.82	0.96
Instrumental Social Support (0-100)	59.33	58.71	59.93	-0.11	2.21	0.96
Emotional Social Support (0-100)	48.19	47.14	49.20	0.30	1.75	0.86
N	2,247	1,103	1,144			

Notes: The score of the proxy means test and female household head is used as a covariate. Diff is the average difference between Treatment and Control with covariates, and SE is the standard error of this difference clustered at community level.

Table 5. *Difference-in-differences estimate with and without community fixed effects*

	(1) Social support	(2) Instrumental social support	(3) Emotional social support	(4) Social support	(5) Instrumental social support	(6) Emotional social support
Treatment (LEAP 1000)	-3.07	-3.16	-2.98	-2.03	-1.96	-2.09
	(1.69)*	(1.80)*	(1.83)	(1.67)	(1.80)	(1.77)
Endline	-0.58	1.54	-2.70	-0.43	1.65	-2.51
	(1.16)	(1.52)	(1.08)**	(1.16)	(1.51)	(1.08)**
Treatment*Endline	2.92	2.35	3.48	3.01	2.49	3.53
	(1.22)**	(1.42)*	(1.29)***	(1.25)**	(1.45)*	(1.30)***
Head is female	-4.23	-2.76	-5.69	-5.11	-3.91	-6.31
	(1.59)***	(1.71)	(1.63)***	(1.54)***	(1.65)**	(1.66)***
PMT score	-13.21	-14.74	-11.67	-4.69	-4.01	-5.38
	(8.59)	(9.63)	(8.81)	(8.73)	(9.93)	(8.68)
Community fixed effects	No	No	No	Yes	Yes	Yes
Constant	149.36	164.00	134.72			
	(62.23)**	(69.48)**	(63.95)**			
R^2	0.01	0.01	0.01	0.12	0.11	0.11
N	4,494	4,494	4,494	4,494	4,494	4,494

Notes: Standard errors in parenthesis clustered at the community level. * $p<0.1$ ** $p<0.05$; *** $p<0.01$

Table 6. *Group membership among LEAP 1000 beneficiary and comparison women at the endline evaluation*

Variables	Control (C) Mean	Treatment (T) Mean	(T)-(D) Diff	Diff SE	*p-value*
Member of agricultural/livestock/fishery group	0.101	0.122	0.008	0.026	0.77
Member of credit or microfinance group	0.176	0.217	-0.023	0.032	0.49
Member of other women's group	0.327	0.404	0.076	0.042	0.07
Member of religious group	0.304	0.314	0.071	0.043	0.10
Member of mutual help or insurance group	0.111	0.125	0.026	0.027	0.33
Member of trade or business groups	0.013	0.024	0.015	0.014	0.28
Member of civic groups or charity	0.011	0.010	0.009	0.007	0.19
Member of local government group	0.000	0.001	0.002	0.002	0.32
Number of groups of which one is a member	1.04	1.22	0.18	0.09	0.05
Member of at least one local group	0.605	0.690	0.123	0.044	0.01
N	1,103	1,144			

Notes: The score of the proxy means test and female household head is used as a covariate. Diff is the average difference between Treatment and Control with covariates, and SE is the standard error of this difference clustered at community level.

Figure 1. *Heterogeneous treatment effects of LEAP 1000 on overall social support (with confidence interval at 95%)*

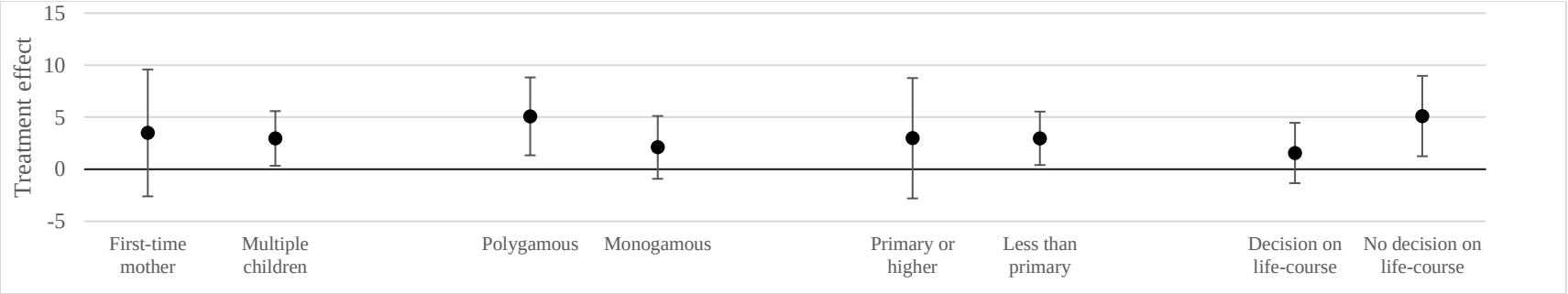


Figure 2. *Heterogeneous treatment effects of LEAP 1000 on instrumental social support (with confidence interval at 95%)*

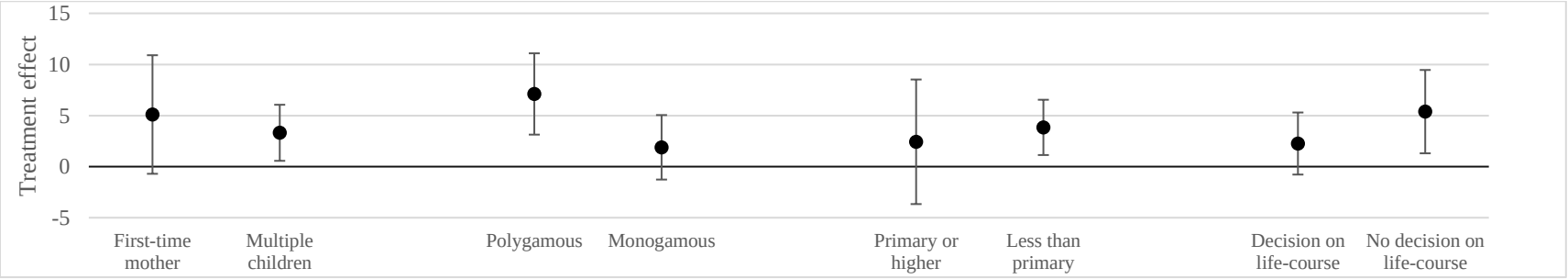
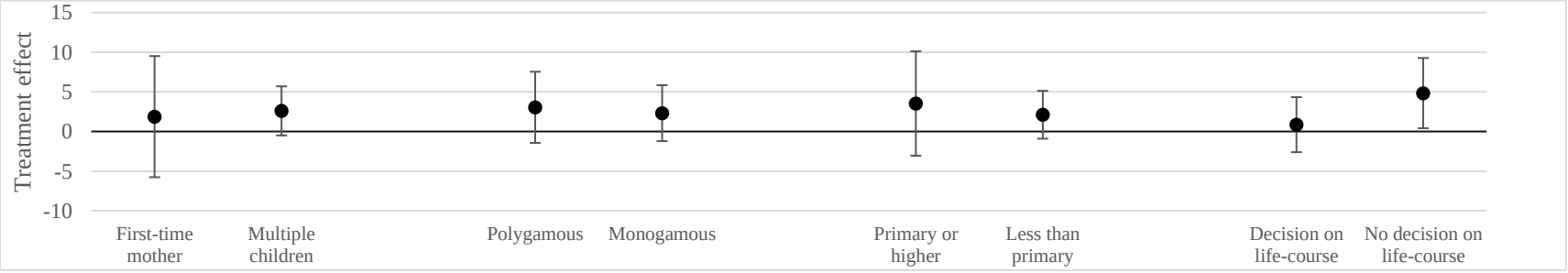


Figure 3. *Heterogeneous treatment effects of LEAP 1000 on emotional social support (with confidence interval at 95%)*



Notes: Treatment effect is the interaction between treatment and time. The estimations are controlled for PMT score and female household head and use community fixed effects. The standard error is clustered at community level.

Annex

Table A1. *Differential attrition on household and individual characteristics (with covariates)*

Variables	Full Panel sample		Control (C)		Treatment (T)		T-C	Diff	
	Mean	*N*	Mean	*N1*	Mean	*N2*	Mean	*N*	*p-value*
Household level characteristics									
Household size	6.70	2,247	6.37	1,103	7.02	1,144	0.31	0.19	0.11
# of pregnant women	0.13	2,190	0.18	1,103	0.14	1,144	-0.00	0.03	0.95
# of children aged 0 - 11 months	0.58	2,247	0.56	1,103	0.60	1,144	0.06	0.05	0.17
# of children 1 - 12 years	2.84	2,247	2.59	1,103	3.08	1,144	0.17	0.14	0.20
# of children 13 - 17	0.46	2,247	0.41	1,103	0.51	1,144	0.02	0.07	0.82
# of adults 18 - 54 years	2.41	2,247	2.42	1,103	2.39	1,144	0.04	0.06	0.53
# of adults 55 years and older	0.41	2,247	0.38	1,103	0.43	1,144	0.02	0.05	0.74
district: East Mamprusi	0.33	2,247	0.34	1,103	0.33	1,144	-0.03	0.04	0.39
district: Karaga	0.20	2,247	0.21	1,103	0.19	1,144	0.02	0.04	0.66
district: Yendi	0.16	2,247	0.16	1,103	0.16	1,144	0.03	0.03	0.31
district: Bongo	0.16	2,247	0.15	1,103	0.17	1,144	0.03	0.03	0.28
district: Garu-Tempane	0.15	2,247	0.14	1,103	0.16	1,144	-0.04	0.03	0.21
Age of head	39.13	2,247	37.92	1,103	40.29	1,144	0.34	0.86	0.70
Head is female	0.07	2,247	0.06	1,103	0.08	1,144	0.05	0.02	0.02
Head is married	0.96	2,247	0.97	1,103	0.96	1,144	-0.01	0.02	0.40
Head no formal schooling	0.80	2,247	0.78	1,103	0.82	1,144	0.02	0.03	0.57
Poverty status: Extremely Poor	0.62	2,247	0.60	1,103	0.64	1,144	-0.02	0.04	0.54
Per capita monthly expenditure (Gh₵)	120.65	2,247	97.30	1,103	93.05	1,144	6.72	4.89	0.17
Individual level characteristics (female respondent)									
Age (years)	29.58	2,247	28.69	1,103	30.44	1,144	0.13	0.57	0.82
Marital status: Married/Union - Monogamous	0.63	2,247	0.64	1,103	0.62	1,144	-0.01	0.04	0.75
Marital status: Married/Union - Polygamous	0.34	2,247	0.33	1,103	0.34	1,144	-0.00	0.04	0.98
Marital status: Separated/Widowed/Never married	0.04	2,247	0.03	1,103	0.04	1,144	0.01	0.02	0.40
Education: Less than primary	0.80	2,247	0.79	1,103	0.81	1,144	-0.04	0.03	0.24
Education: Some primary	0.07	2,247	0.07	1,103	0.07	1,144	0.01	0.02	0.74
Education: Completed primary	0.03	2,247	0.03	1,103	0.02	1,144	0.01	0.01	0.68
Education: Some secondary or higher	0.08	2,247	0.09	1,103	0.08	1,144	0.03	0.02	0.15

Notes: The score of the proxy means test is used as a covariate. Expenditure per month is expressed as adult equivalent constant prices for Greater Accra in September 2015 with GH₵ 1 = approximately US$ 0.245. Diff is the average difference between Treatment and Control, and SE is the standard error of this difference

Table A2. *Sample of codebook for qualitative coding of transcripts*

Category	**Code**	**Description/Notes**
Living situation	Living in parental household	To give an indication of the main expected support givers
	Living in household of husband	To give an indication of the main expected support givers
	Husband not present	Additional code to capture husband living elsewhere, due to labor migration or cultural practice. Also used when husband is deceased.
Support giver	Parental support	Often includes multiple types of support: financial, emotional, instrumental
	Husband/partner	Note that the 'living situation' captures whether the husband lives inside or outside of the household
	Parents-in-law	Either within or outside household of participant
	Friends	To capture both whether participants use the expression of 'friends' and the support they give
	Relatives outside household	Most support from outside the household are relatives
	Other support giver within the household	
	Other support giver from outside the household	
Type of support received	Contribution to household income/farming	Captures both direct contribution of salaried income or indirect through farming on the household's land
	Small household support	Receiving assistance with chores, fetching water, playing with child
	Small financial support to individual	Receives occasional or small amounts of money e.g. chop money, often within household
	Financial support/help with food	Financial support is often received when there is a food shortage. The two types of help are closely related.
	Support health care needs	Has received financial support, assistance with transportation for preventative or curative health care
	No/Lack of support	Code used when participant explicitly mentions a person not providing support or not providing enough support.
	Supports whatever is needed	Code used in expressions when support is not specified, but mentioned that a person helps with whatever they ask for or whatever is needed.
	Advice/companionship	Includes expressions of having someone 'to talk with' or coming to visit.
Changes in support	Support same as last interview	For midline and endline specifically, upon indication of the participant that it is still the same.
	Changes in financial/instrumental support	Merged together due to difficulty to distinguish. Often related to a person moving away or being too old, which means that all their (physical) support stops
	Changes in emotional support (needs)	Includes advice. Expected to be rarely mentioned explicitly. Include the changes in emotional state, which would affect the need for support

	Giving more support	Includes both expressions of general ability to give more support and increase of support directly linked to LEAP
LEAP	LEAP as food support/basic needs	When LEAP money is used to contribute to household food supply on a continuous basis or only in lean season
	LEAP as financial safety net	LEAP is used when needed, often to pay for unforeseen events or shock, does not include if LEAP is said to be used for food after e.g. a bad harvest. Includes investment in animals.
	LEAP as future investment	Participant learning a trade, investing in farm, business etc. Expenditure that is not paying off directly, but neither used as means of savings.
	LEAP increased autonomy women	Includes husbands reporting a reduction of their burden, because their wives are more self-sufficient
	Sharing of LEAP	Recording of any sharing of the LEAP money within or outside the household, or explicitly does not share
Borrowing & Savings	Borrowing	Expression of borrowing money or buying items on credit
	Changes in ability/need to borrow	Specifically focused on participants mentioning a change in either the ability to borrow money from others, or the (reduced) need to borrow money
	Household has savings	Any expression of having savings
Community	Community gets along well	Commonly expressed sentiment, indicating as much as community members interacting peacefully. It does not necessarily say anything about the support provided.
	Community relations problematic	Expresses negative attitudes between community members either towards participant or each other
	Does not relate to community members	Used by participants to express that they have limited interaction with community, e.g. because of envy or because they are originally not from community.
Groups	Community labor	Help with maintaining roads, wells, religious buildings. Work done for the community as a whole.
	Participating in ceremonies/women's group	Distinction between women's group and groups that contribute for funerals, outdooring (when baby is born) not always clear. Both are included in this code.
	Agricultural or business cooperative	Small scale cooperative farming or business such as oil, shea butter production. Mostly informal.
	Susu/insurance groups	Include women who are part but not contributing, but add code on 'issues with contributions'. Susu and insurance merged due to low frequency of insurance groups.
	Not part of any group	When explicitly mentioned that participant is not part of any group
	Other group	Part of other group not described in other codes

Table A3. *Overview of the size and types of support based on social support inventories from qualitative interviews*

		Woman living with: parents (husband)	Size of network within the household		Key network members	Size of network outside household		Key network members
			Min	Max		Min	Max	
Karaga, Northern Region	**Total**	**5 (5)**	**2**	**19**		**1**	**8**	
	1st time mothers	4 (1)	2	9	Parents, parents-in-law, husband, siblings	2	7	Husband, brothers-in-law, uncles
	3+ children	1 (4)	2	19	Husband, co-wives, brothers-in-law	1	8	Siblings, uncles/aunts
Bongo, Upper East Region	**Total**	**3 (7)**	**3**	**13**		**1**	**6**	
	1st time mothers	3 (2)	4	7	Husband, parents, siblings, brothers-in-law	2	6	Fathers,[a] mothers,[b] uncles/aunts, neighbors
	3+ children	0 (5)	3	13	Husband, children, mother-in-law, sister/brother-in-law	1	2	Husband, brothers-in-law

[a] Term father often included the woman's father-in-law or other senior male to whom she is close
[b] Term mother often included the woman's mother-in-law