

# Enhancing Empowerment in Multidimensional Poverty Interventions through Self-assessment and Mentoring

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## Abstract

A microfinance organization in Paraguay has developed the “Poverty Stoplight”, a tool that lets families self-evaluate their level of multidimensional poverty and based on that starts an integrated mentoring process that has the goal of eliminating the family’s multidimensional poverty. This paper a) introduces the tool, b) explains its theoretical merits based on the Capability Approach, and c) presents empirical data from an ongoing research project that indicate that participation in the program is indeed associated with a higher probability of overcoming poverty and increasing empowerment.

The Poverty Stoplight is both a metric and a methodology for a poverty intervention. The metric allows participants to self-diagnose their level of poverty across 50 multidimensional indicators, turning the survey procedure into a participatory process where the primary goal is to provide families with information about their situation of poverty and to highlight an achievable situation of non-poverty. The methodology consists of participants defining their priorities and objectives for their own lives based on the survey results, and developing strategies to reach these goals, with the support of a mentor.

We argue that the Poverty Stoplight is a promising operationalization of the Capabilities Approach for development practice for several reasons. First, it presents a measurement tool for multidimensional poverty that covers a wide range of functionings and capabilities. Second, it provides critical agency in the sense that it gives participants an opportunity to reflect, question, and assess their own deprived situation as a prerequisite to act upon this to improve their lives. Third, it provides an opportunity to enhance participants’ aspirations. Fourth, it helps participants define the priorities for their own lives based on what they value and have reason to value. Fifth, it is designed to enhance respondents’ empowerment for achieving valuable functionings and capabilities. Sixth, it explicitly acknowledges that families adapt their aspirations to the circumstances they find themselves in, and works to change that frame of reference.

There is evidence that participants in the Poverty Stoplight program are indeed more likely to eliminate their multidimensional poverty. An analysis of administrative data shows that among all of the organizations’ microfinance clients, those that were randomly chosen to participate in the program see their poverty levels fall up to three times as fast as clients who only receive micro credit. More research is currently underway to: a) explore the mechanisms and pathways through which the Poverty Stoplight enhance empowerment defined as power within, power to, and power with; b) understand the interaction of the processes of reflection, aspiration, and agency in the Poverty Stoplight; c) evaluate how the mentoring process and dynamics empowers clients and supports them through their poverty alleviation process.

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## Introduction

Empowerment has become a mainstream concern of poverty alleviation programs, yet many so-called participatory poverty interventions continue to treat people like empty repositories that the government or other institutions has to fill with skills, assets, and resources. In order to decide the type of intervention they will carry on, such programs extract information from the poor using traditional surveys, or apply other techniques supposed to increase their participation. Then, with the information extracted, a policy intervention is designed and implemented over the poor. This process does not allow dialogue and reflection because the individual is subjected to the simple role of data purveyor with no agency to overcome poverty. Why do we assume that the poor have nothing to contribute and treat them as one-way recipients of programs? What if we changed the paradigm and put the voices of the poor at the center of the development programs and solutions to eliminate their own poverty? Participatory interventions have long tried to achieve these goals, and have over the past decades continuously gained importance. However, the outcomes of these programs have often stayed behind expectations (Mansuri and Rao 2013). One possible explanation, brought forward by Mansuri and Rao, is that many of these supposedly participatory interventions are not truly participatory: they are often programs with pre-defined objectives that include a participatory modules aimed at obtaining input (and buy-in?) from participants. But what if the voices of the poor could truly define the type of intervention that is carried out, and the poor could become the architects of their poverty elimination plans? This paper presents a work-in-progress line of research analyzing the claimed empowerment and poverty elimination effect of a multidimensional poverty intervention through self-assessment and mentoring that has exactly that objective.

Fundación Paraguaya (FP) claims that it has developed an innovative poverty intervention that empowers poor people to overcome poverty through self-assessment and mentoring. In 2010, FP developed the Poverty Stoplight (PS), a multidimensional poverty intervention through self-assessment and mentoring, to eliminate the poverty of its microfinance clients in Paraguay. FP claims that the PS can empower poor families to overcome poverty. First, the self-assessment metric is a self-diagnostic visual survey

that provides information intended to assist families in assessing their level of poverty as red (extreme poverty), yellow (poverty), or green (non-poverty) across 50 indicators. This self-assessment survey attempts to be user-friendly for clients to be comfortable, by using easy to understand language, illustrations for each indicator, and universal concepts such as stoplight colors. Second, while completing the survey, the mentoring component is already being implemented. Specifically, mentors help participants understand each indicator, and together they discuss which color best represents the situation of the family. Then, using the information gathered from the self-assessment survey, the staff works with participants to design a customized family plan to address the areas identified as the greatest and most significant challenges. FP claims that the self-assessment and the mentoring component of the PS empower poor clients.

Throughout this paper, we use the Capability Approach (CA) as our theoretical framework to analyze and understand the PS and its claims of empowerment of the poor. The CA, as we will explain further, is in essence a people-centered approach to evaluate and assess individual wellbeing and social arrangements. It is about what people value and care about. The CA states that people exercise their freedom when they have the ability and opportunity to reflect, aspire, and pursue their aspirations. As the PS places human development as the main objective of the intervention, as opposed to conventional reductionist poverty interventions that places economic development as their main objectives, the CA is well suited as a firm theoretical framework. The PS intervention defines people as agents who can reflect, aspire, and take actions to change their lives according to what they value and care about. The concepts of reflection, aspiration, and agency will be addressed below in this paper.

The findings of this research-in-progress may be of interest for practitioners, policymakers, academics, and the social science community in general. While there are more and more studies applying the CA to poverty interventions (Robeyns 2017), the empirical knowledge base on the causal pathways of poverty elimination through interventions focused on empowerment and agency remains limited.

More specifically, there is a lack of knowledge on whether the PS helps people overcome poverty and how empowerment happens when the Poverty Stoplight is applied: Can self-assessment indeed contribute to poverty elimination? Our final hope is to clarify and advance knowledge for poverty elimination in development practice.

The remainder of this paper is structured as follows. Section 1 presents the PS intervention in detail. After introducing the Capability Approach as the theoretical framework of this program (section 2.1), we will analyze the PS program's relationship to the Capability Approach from a theoretical perspective, arguing that the program fits well within the CA framework and is a promising way of helping people increase their wellbeing by expanding their capabilities (sections 2.2 through 2.4). In section 3, we will present some preliminary evidence from ongoing empirical research that the PS program indeed seems to help participants decrease their deprivations and increase their level of empowerment and agency. Finally, section 4 concludes.

## **1. The Poverty Stoplight Program**

According to the program brochure, the Poverty Stoplight (PS) is “a metric and, at the same time, a methodology that allows families to measure their level of poverty and identify and create customized strategies to solve their specific deprivations” (Fundación Paraguaya 2018b). As we will develop further throughout the paper, the metric aims to measure multidimensional poverty and the self-assessment and mentoring methodology aims to empower participants to overcome poverty. The PS program was developed by Fundación Paraguaya (FP), a micro finance provider that is Paraguay's largest development organization. Initially conceived in 2010 to guide the field work with FP's microfinance clients, the PS is now used well beyond FP's microfinance program, both within Paraguay and across the world. For instance, it is used in South Africa, the United Kingdom, Guatemala, and many other places for a range of community development programs (Fundación Paraguaya 2018a).

A defining characteristic of the PS is that it was developed with the purpose to include the most important but, paradoxically, usually neglected stakeholders: the primary users of the data produced by the poverty metrics were to be the very participants assessing their poverty (Burt 2013). This is a fundamental departure from conventional poverty surveys, which typically collect information from families to be analyzed and used by different people or entities. The PS metric and mentoring program are closely intertwined and designed to provide the information and support that is necessary for people who live in poverty to diagnose their situation and overcome their deprivations. The two aspects of the poverty program will be presented separately in the following, though many program design decisions can be explained only by the embedding of these two aspects with the aim of supporting participant's reflection on their deprived situation, increasing their aspirations, enhancing their agency, and ultimately supporting them in overcoming poverty.

### *1.1 The Poverty Stoplight metric*

In its original form, the Poverty Stoplight consists of fifty indicators that are grouped into six dimensions: Income & Employment, Health & Environment, Housing & Infrastructure, Education & Culture, Organization & Participation and Interiority & Motivation. Each of these fifty indicators is defined in the three levels "Green" (representing no deprivation), "Yellow" (representing moderate deprivation), and "Red" (representing extreme deprivation). The definitions are presented as short texts that are written from the perspective of the family (for instance, "All members of my family have valid identity documents"; "One member of my family does not have a valid identity document"; "More than one member of my family does not have a valid identity document"), and are designed to be relatable, locally relevant, and achievable. The descriptions are accompanied by illustrations that represent the levels of each indicator and that help illiterate respondents to identify the answer option that most reflect their families' situation. The illustrations are also meant to give a visual representation of a life out of poverty, which is meant to start a process of reflection about one's situation, and eventually contribute to an increase in aspirations (see discussion below). Figure 1 illustrates an example for a PS indicator with the respective illustrations.

Indicator 8:  
Access to drinking water

Abbreviation:  
Water

Category:  
Health and environment

My family has access to drinking water through a faucet inside of their parcel.

My family has access to drinking water outside of their parcel, through a faucet, a well or a protected reservoir, a spring or protected water collection system. The distance to access drinking water is less than thirty minutes on foot, there and back, from the household.

My family consumes impotable water or has to bring drinking water from a place further than thirty minutes on foot, there and back



Figure 1 Example of a Poverty Stoplight indicator. Source: (Fundación Paraguaya 2018c)

The survey is done through a digital platform that can be used online, or via an App on smartphones or tablet computers; the survey software, which has been developed specifically for the program, is meant to facilitate a collaborative and empowering poverty assessment. A trained interviewer and PS mentor guides the participant through the questions, and clarifies concepts or probes answers where necessary – but importantly, it is the respondent who in the end chooses which of the three levels best reflects her reality, and who actively picks the respective option by touching the screen (Burt 2013; 2014; Fundación Paraguaya 2014, 2017, 2018b, 2018a).

Immediately after the survey is completed, the software presents the participant's poverty dashboard that summarizes the Greens, Yellows, and Reds. For the survey respondents, this is the only format that the metric takes: a dashboard of 50 green,

yellow, or red dots. The logic behind this is that the PS defines the poor as the main stakeholders of their poverty data, and as the most important decision makers when it comes to eliminate their poverty. As such decision makers, people need dis-aggregated data that allows them to analyze the possibly overwhelming problem of their own poverty in a granular way, taking stock of both the resources that are already available in the family (the Greens), and the areas of moderate and extreme deprivations (Yellows and Reds, respectively). For other stakeholders, such as the implementing organization, the PS provides some options of aggregating the data – from simple metrics such as the percentage of Reds and Yellows in a family’s PS or the percentage of Reds in a given indicator in a community, to more technically advanced metrics, such as an Alkire/Foster type Multidimensional Poverty Index (Alkire et al. 2015). Immediately upon completing the survey, participants receive the results in the form of a paper-based dashboard, summarizing their Greens, Yellows, and Reds, by placing colored stickers onto a form which then serves as the basis for the mentoring program (Burt 2013, 2014; Fundación Paraguaya 2014, 2017, 2018b, 2018a).

### *1.2 The Poverty Stoplight methodology: self-assessment and mentoring*

The PS self-assessment and mentoring methodology is a multi-step process that starts already during the surveying process and builds directly upon the poverty dashboard produced by the surveying software. As all fifty multidimensional indicators are designed to be achievable, according to the PS program theory the presentation of a “Green” in the surveying stage already serves as a first demonstration that a situation of “non-poverty” can be attained by the individual who participates in the program. During the self-diagnosis, participants are supported by FP mentors through a dialogue with the aim of identifying where they are and where there should be. Once all fifty indicators are collected in the poverty dashboard, the participant, together with the PS mentor, starts elaborating a so-called life map: Out of all her Yellows and Reds, she picks five priority areas in which she wants to improve first. These are tagged in the Software and at the same time written into the cardboard map that will stay with the participant. The participant, together with the PS mentor, then reflects on the potential causes of the

respective deprivation and formulates concrete steps that she will take to overcome them.

To guide the search for possible causes for the deprivation, the PS program has adapted Ken Wilber's Integral Theory (Wilber 1996; Burt 2013). Wilber proposes what he calls an integral perspective: he maps theories from a broad range of fields (spiritual, economic, political, social, psychological, and others) onto four quadrants made up by the two axes "subjective versus objective" and "collective versus individual". The first axis is concerned with whether a specific phenomenon or theory is based on things that are directly observable, or rather have to be arrived at through dialogue. The second axis distinguishes between the sphere of the society as a whole, and the sphere of individuals. The PS adapts this framework in order to help program participants reflect on possible causes of their deprivations, classifying them into the same four quadrants: individual-subjective causes (beliefs, attitudes, intentions, etc.); individual-objective causes (behavior, individual physical assets, health, etc.); collective-subjective causes (cultural norms, world views, shared values, etc.); and collective-objective causes (social or economic systems; political structures, economic markets, etc.). For instance, if a participant has a Red in the indicator Dental Health, together with the mentor she will reflect on the reasons for poor dental health: are the binding constraints in the individual-subjective quadrant (for instance, fear of the dentist), or in the individual-objective quadrant (for instance, poor dental hygiene or bad nutrition), or in the collective-subjective quadrant (for instance, it is culturally acceptable for an elderly not to have teeth), or in the collective-objective quadrant (for instance, lack of appropriate or affordable dental health infrastructure). The key assumption of the PS program is that a lack of financial resources is but one of the many possible causes for a deprivation (Burt 2013). The PS helps participants to systematically reflect on their specific situation, thus shifting the perspective and opening up a range of possible entrance points to address a given problem.

Once a possible cause is established, the next step in the PS mentoring process is the search for viable solutions. According to the PS intervention theory, these solutions will depend on the specific cause that were identified, and might thus differ starkly between



participants for the very same indicator. In either case, as the PS sees the participants as the main actors in their own poverty elimination, they, and more precisely their behavior, are always the starting point for these solutions. This might seem counterintuitive given the four-quadrant analysis, yet even if, say, a structural problem was identified as the cause of a deprivation, the key question becomes what the person can *do* in order to address this problem. This part of the mentoring process is based on the works of Bandura (1997) and derived theories, especially the Theory of Positive Influence presented by Grenny et al. (2013). According to Bandura, behavioral change can happen if a person can answer two questions affirmatively: First, is it worth it? And second, can I do it? Thus, a person needs to feel motivated to work towards a given outcome, and at the same time feel that they are able to get there. Grenny et al. identified six sources of positive influence that help in that process. These address the two dimensions of motivation and ability on three levels: on the personal, the social, and the structural level. On the first level lie strategies that help people enjoy doing things that are not inherently pleasant but necessary, and that help them expand their skills and capabilities. On the second level are strategies that mobilize peer support and group or community assistance (for ability), and social or peer pressure and social encouragement (for motivation). Finally, on the structural level, strategies concern incentive or reward systems (for motivation), and the creation or strengthening of an enabling environment or infrastructure. FP has integrated these theories into the PS with the aim of providing a framework within which program participants can reflect on potential solution strategies (Fundación Paraguaya 2014, 2017).

While FP provides some of the problem solutions itself (for instance, if a lack of funding is identified as a roadblock, a family might receive a loan, or be offered a micro franchise business), the overall goal is to mobilize all resources that are available – at the level of the family, support from neighbors or the community, resources available in the municipality, or even from private companies or services providers or state or national government agencies. In some cases, solutions might be as simple as connecting people to programs that already exist but that the participant was unaware of or failed to utilize for other reasons. For instance, FP program officers reported that some participants were not aware of the benefits provided by the State health care

system. In other cases, a family might be guided to petition a public entity, demanding that their needs be met -- for instance, by presenting a letter to the municipality demanding that the access road to a neighborhood be paved. In yet other cases, a participant might find ways to learn and utilize new skills (by participating in a course on producing and selling household cleaning products, for instance); or a community committee might be formed to deal with specific problems, such as garbage disposal. All these solutions are registered in the PS platform, and build an ever-increasing solutions database that participants and mentors can consult.

The mentoring process starts with the application of the PS self-diagnosis survey, but it is an ongoing relationship between mentor and participants. The exact set-up of the mentoring relationship varies widely between the different adaptations of the program. In the case of FP's microfinance program, a mentor sees participants at least on a monthly basis (and checks in with them several times via phone or WhatsApp) to talk about progress and provide support where needed. For the PS-in-private-companies program, the HR department guides the PS process and organizes group-based work sessions and events such as company health days. In a program that uses the PS with an entire rural community close to Asunción, a group of volunteers associated with Peace Corps and a similar Paraguayan volunteering program live full time in the community, maintaining close contact with families and actively seeking support from outside the community. This paper will, however, focus on the use of the PS in FP's microfinance program.

After a given time—typically after around a year, or when the participant feels that she has made progress, though the timing varies among the different program adaptations—participants do a follow-up PS survey. Together with their mentor, they reassess their deprivations in all indicators and use that information to reflect on their progress, and to choose their next priorities for improvement. These follow-up surveys also provide valuable information for the implementing organization, as the data can be analyzed in conjunction with the attempted solutions that were registered in the platform.

In this paper, we argue that the PS intervention is not just helping people overcome their deprivations, but that it does so by helping participants reflecting on their situation, aspiring for a better future, and being agents of their own solutions to overcome poverty.

## **2. The Capability Approach as the Theoretical Framework**

The Capability Approach (CA) is, in essence, a people-centered approach for development. It is a normative framework to evaluate and assess individual well-being and social arrangements (Sen 1999; Clark 2005; Robeyns 2006, 2017). The CA is “focused on what people can do and be (their capabilities) and on what they are actually achieving in terms of beings and doings (their functionings)” (Robeyns 2017, 36). The CA is multidisciplinary, mostly applied in development studies, social policy, and welfare economics, and defines and conceptualizes notions such as poverty, inequality, and well-being (Sen 1999; Alkire 2005; Robeyns 2006). Sen (2009, 16) defines the CA as “an intellectual discipline that gives an essential role to the evaluation of a person’s achievements and freedoms in terms of his or her actual ability to do different things a person has reason to value doing and being”.

We decided to use the CA as our theoretical framework for various of reasons. First of all, the CA allows us to put the individual at the center of our research as opposed to a reduction to monetary poverty or even economic growth which is the main objective of most poverty interventions (Dreze and Sen 2013). Second, the CA does not limit its informational basis by focusing exclusively on utilities, happiness or rights and this help us to cover the individual as a whole considering, for example, people’s interpersonal differences, context, and aspirations (Robeyns 2003). Third, the CA allows us to assess and evaluate the effects of the Poverty Stoplight in terms of achieved wellbeing and wellbeing freedoms (Sen 2009). Finally, the CA is closely related to the concepts of reflection, aspiration, and agency, key concepts for the Poverty Stoplight program. For instance, if a person is able to reflect, recognize and realize her own values then this individual will see the world with critical eyes, take responsibility of her life, make her own choices, aspire to a better future, take action, and gain freedom.

There is a distinction between the term *Capability Approach*, referring to the general, open, and underspecified framework, and the term *Capability Application*, referring to a specific use of the Capability Approach (Robeyns 2017). In this section, we will refer to the Capability Approach (or CA) by briefly presenting its main concepts. In the next section we will introduce the specific use of the CA for the Poverty Stoplight intervention, that is, our Capability Application. The CA in its more general sense is based on eight core concepts/characteristics<sup>3</sup> that Robeyns calls “A-modules”. This means that every research that uses the CA as their theoretical framework should include these concepts. These eight A-modules are complemented by seven B-modules, which in themselves are also required, but whose contents are optional (for instance, it is necessary to define a purpose for a Capability Application, but what exactly that purpose is can differ).

### *2.1. The Main Components of the Capabilities Approach*

The first concepts of the A-modules are functionings and capabilities. Functionings are things that a person actually manages to do or be, in contrast to capabilities that are about what is possible to achieve depending on the freedoms or valuable options from which the person can choose (Nussbaum 2001; Lister 2004; Sen 2009). Some examples of ‘beings’ or states are: being educated, being well-nourished, being part of a community, being respected, and being literate (Lister 2004; Clark 2005; Alkire and Deneulin 2009). Some examples of ‘doings’ or activities are: studying, running a marathon, resting, working, and drinking orange juice (Lister, 2004; Clark, 2005; Alkire and Deneulin, 2009). A central part of Sen’s definition of functionings is the concept of ‘value and have reason to value’. According to this, an activity or situation ‘counts’ as a valuable functioning for that person only if that person values it (Sen, 2009). This encourages the participation and engagement of those people whose lives are at stake. Functionings are related to different dimensions of life such as health, education, relationships, empowerment, happiness, culture and so forth (Alkire and Deneulin, 2009). Together they are constitutive of human life, i.e., “they make the lives of human

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<sup>3</sup> For a more extensive overview of these concepts see Robeyns (2017). In this paper, we will briefly refer to each one of these concepts.

beings both *lives* (as opposed to the existence of innate objects) and *human* (in contrast to the lives of trees or animals)” (Robeyns 2017, 39). Capabilities are a person’s freedom to achieve various functionings. This is the set of choices that are open to the person (Sen 1999; Lister 2004; Alkire and Deneulin 2009). Sen (1992, 40) defines capabilities as “the various combinations of functionings (beings and doings) that the person can achieve”.

The second core module of the CA are functionings and capabilities as value-neutral categories. This means that we should accept that functioning and capabilities have positive, negative or neutral values<sup>4</sup> (Robeyns 2017). In other words, functionings and capabilities are about wellbeing and ill-being and we should be open to accept this idea (Stewart and Deneulin 2002; Carter 2014). The third module is that individuals have different abilities to convert resources into functionings, which are called conversion factors (Robeyns 2017). The idea is to understand how much functioning the individual can get from a specific resource. A bicycle (as a resource) may provide the functioning of mobility, the ability to move faster than walking. However, different levels of conversion factors arise depending on the person’s ability to transform the resource into functioning. For example, someone who has never learnt how to ride a bike has lower conversion factor level than someone who has learnt to ride it as a child. The fourth central module of the CA is the distinction between means and ends. This distinction requires us to evaluate whether we value something as an end or as a mean to an end. For example, being healthy could be an end whereas the means necessary for this end are clean water, adequate sanitation, access to doctors, and so forth (Robeyns 2017).

The fifth key module is the use of functionings and/or capabilities as the evaluative space, i.e., the space where interpersonal comparisons and personal evaluations can be made to evaluate the wellbeing of people (Robeyns 2017). The sixth module concerns the dimensions of ultimate value different from functionings and/or capabilities. Sen (2002) has been arguing that the CA does not capture the procedural aspect of freedom but only the opportunity aspect of it, hence it needs to be

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<sup>4</sup> Committing a murder has a negative value while riding a one-wheeled bicycle has a neutral value. (Stewart and Deneulin, 2002).

complemented with other dimensions such as fair process, for example<sup>5</sup>. The seventh key module is related to the value of pluralism within the CA. Pluralism in the sense that users of the CA should accept other dimensions of ultimate value as mentioned in the sixth concept as well as the multidimensional nature of the CA. When working with the CA, it is important to recognize several functionings and capabilities instead of just one (Sen 2002). Finally, the eighth module is related to what Nussbaum (2000) called ‘the principle of each person as an end’. This concept implies that any policy intervention, program, or analysis should look at every individual as an end, and neither look only at the average individual, nor treat individuals as pure means to reach aims defined at the level of the group or society.

According to Robeyns (2017), all of these eight elements must be part of every application of the CA. An application that contradicts any of these eight concepts is not a full application of the CA (though it might be an interesting theory in its own right). Additionally, all such applications should consider how to address the issues related to what Robeyns calls the seven B-Modules: each application of the CA needs to define its purpose; specify which dimensions of well-being matter; have an account of human diversity; be based on some account of agency; specify which structural constraints are considered important and why and how; decide whether the interest of the application lies in functionings, capabilities, or both; and make explicit any meta-theoretical commitments.

In the next section, we will develop our Capability Application, i.e. the specific use of the CA for the Poverty Stoplight intervention.

## *2.2 The Poverty Stoplight and the Capability Approach*

As discussed in the previous section, Robeyns (2017) proposes that applications of the CA need to fulfill a range of basic characteristics (or *modules*). This section introduces the Poverty Stoplight as a Capability Application, this is the use of the CA specifically for the PS. This section will argue that the Poverty Stoplight has a clear defined purpose; it

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<sup>5</sup> For a more comprehensive discussion of this concept, read section 3.3 in Robeyns, 2017.

specifies which dimensions of well-being matter; it has an account of human diversity; it is based on some account of agency; and it is a promising operationalization of the CA in the sense that its program design helps participants increase their capabilities and achieved functionings.

The purpose of the PS is at least twofold, as already indicated in the presentation of the tool. On the one hand, the PS is an attempt to measure multidimensional poverty, providing data on deprivations that is relevant and useful for those doing the measurement (generally, families living in poverty), but also for other stakeholders, such as NGOs or even government agencies or HR departments of private companies. Hence, as a measurement tool the PS aims to meet the needs of a wide field of audiences with different necessities and expectations. On the other hand, as a self-diagnosis survey and mentoring methodology the PS also aims to help participants to reflect on their deprived situation, increase people's aspirations and enhance their agency, increasing beneficiaries' capabilities. It is important to note that the CA was not the starting point for designing the PS program; rather, this paper aims to ex-post embed the PS into the CA, arguing that the PS can be understood as one Capability Application.

### *2.3. The PS metric and the CA*

The indicators of the PS were developed based on a broad review of the literature on multidimensional poverty measurement, based on expert consultations, and based on focus groups with the communities in which the tool is being used<sup>6</sup>. This three-part process generated a set of fifty indicators of multidimensional poverty that cover a wide range of topics, including rather conventional topics like health and education, but also some more unconventional topics such as having a high self-esteem or having regular recreational activities. The tool has undergone several rounds of revisions, in which indicators were adjusted, dropped, or added, based on statistical tests of the tool's reliability and validity and on further rounds of participatory research aimed at ensuring

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<sup>6</sup> Participants in these focus groups, who were clients of Fundación Paraguaya's microfinance program, were encouraged to discuss what "being poor" and "not being poor" meant to them, and how poverty can be characterized in their communities.

that the indicators used in the PS are relevant to the context where its applied (Burt 2016). Most recently, the indicators were reviewed by a group of international poverty experts to align the tool with other metrics of multidimensional poverty, namely, the Global Multidimensional Poverty Index and the Multidimensional Poverty Index for Paraguay (see below). The fifty indicators in the most recent version of the instrument are listed in annex 1.

Overall, the selection and definition of indicators can thus best be described as a combination of a bottom-up process and expert consultations. However, as laid out in the presentation of the tool, the intention of the PS is to present a list of poverty indicators that are relatable to survey-takers so that already the process of self-assessing one's level of poverty encourages reflection and the beginning of a shift in aspirations. Hence, does it not introduce noise if external experts add indicators or make changes to the list generated in the bottom-up process? Both from FP's viewpoint, and from the perspective of the CA, the answer is '*no*'. FP points to the works of Wilber (1996), explaining that "it is not only possible but advisable to simultaneously consider multiple viewpoints and perspectives inherent in any debate" (Burt 2013, 54), and defines itself as the "mapmaker" who draws a poverty map based on the inputs from the poor. From the perspective of the CA, including the perspective of outsiders makes sense because of the phenomenon of adaptive preferences: "A group that is systematically socialized to have low aspirations and ambitious will perhaps not put certain capabilities on its list [of important dimensions], thereby telling themselves that they are unachievable, whereas objectively speaking they are achievable, albeit perhaps only after some social changes have taken place" (Robeyns 2017, 139). The latter concept of adaptive preferences will be discussed in more detail further below.

The levels of each indicator of the PS were intended to be defined so they can be reached if a family shows a certain behavior or achieves a certain state (Burt 2013). As a result, the evaluative space are mostly functionings or sometimes even capabilities. There are also a few indicators that remain on the level of resources. These resources typically have high instrumental value, or a wide range of capabilities or functionings can be associated with them. The table in annex 1 indicates the evaluative space of



each of the fifty indicators. A scholar or practitioner trying to develop a multidimensional poverty metric based on the CA from scratch would likely choose one evaluative space (be it functionings or capabilities), and formulate indicators on that chosen space. The mixing of evaluative spaces in the PS might be a weakness of the tool from the perspective of the CA, yet it is due to an ex-post embedding of the indicators into the CA framework.

There is a considerable overlap between the PS indicators and the indicators and dimensions that have been identified as important by CA scholars. To start with, there are PS indicators associated with all Central Capabilities suggested by Martha Nussbaum (2011), with the exception of Nussbaum's first Central Capability, *Life*.<sup>7</sup> While none of the PS indicators directly addresses this capability, arguably many of the indicators (and the capabilities they relate to) are of great instrumental importance to reach that first Central Capability. Additionally, the majority of PS indicators can be assigned to (at least) one of Nussbaum's Central Capabilities. Thus the PS touches all topics regarded by Nussbaum as "[required for] a life worthy of human dignity" (ibid: 32)<sup>8</sup> -- and does not go well beyond these capabilities, which is equally relevant when the task at hand is the development of a multidimensional poverty measurement tool that reflects the most important capabilities while minimizing possible inclusion errors. The table in of annex 1 indicates the corresponding Central Capability for each of the PS indicators. This of course is not to say that the PS is a perfect operationalization of Nussbaum's list of Central Capabilities, as this is not the purpose of the tool: there are various important aspects of Nussbaum's Central Capabilities that are not covered by the tool, such as protections of free speech, or being able to love and grieve. Nevertheless, there exists a large degree of overlap.

In a recent round of revisions, PS indicators were adjusted to be aligned with existing multidimensional poverty metrics that are explicitly based in the framework of the CA:

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<sup>7</sup> "Being able to live to the end of a human life or normal length; not dying prematurely, or before one's life is so reduced as to be not worth living" (Nussbaum, 2011: 33).

<sup>8</sup> Note, however, that Martha Nussbaum assigns the responsibility to secure these Central Capabilities to the government (or "a decent political order"), whereas the PS starts from the sees the government as only one provider of solutions.

The Global Multidimensional Poverty Index or Global MPI (Alkire and Santos 2010) as well as the proposed Paraguayan MPI (Ervin et al. 2017). These metrics contain only ten and twenty indicators, respectively, and are limited in their coverage to topics for which data is available in national surveys -- yet within these restrictions, their choice of indicators was guided by the CA, and their indicator definitions aim to measure functionings were possible, or resort to the resource space were the former is not possible. Hence, by assuring that all concepts contained in these two indices are also measured by the PS, one obtains as a minimum an operationalization of the CA “by extension”.

#### *2.4 The PS self-assessment and mentoring methodology and the CA*

While the PS as a metric operationalizes the way the CA might describe multidimensional poverty, the PS self-assessment and mentoring methodology operationalizes the way that the CA might see a pathway out of poverty. And just as for the former, the latter component of the PS was not explicitly developed based on the CA, but can in its claims and strategies be understood and evaluated in this framework, as the following discussion will show.

##### *Self-assessment and Reflection*

Borrowing from the way Freire (1970) characterizes traditional education, many conventional poverty interventions can be described as treating people like empty repositories that the government or other institutions have to fill with skills, assets, and other resources. In order to decide the type of intervention they will carry out or evaluate program outcomes, conventional programs extract information from the poor using traditional surveys. This process does not allow dialogue and reflection because the individual is subjected to the simple role of data purveyor. In other words, a conventional survey approach does not recognize the role of reflection as a step to overcome poverty. One of the innovations the PS introduces to poverty programs is that participants self-diagnose their level of poverty creating a self-reflection process.

The Poverty Stoplight helps families reflect on and analyze their current situation as a step to recognize deprivations and take actions to overcome them. The concept of 'reflection' used by the PS is related to what Paulo Freire (1974) called 'conscientisation'<sup>9</sup>. In fact, we will use the term conscientisation as a synonym of reflection. Conscientisation represents "the development of the awakening of critical awareness" (Freire, 1973). Freire's *Pedagogy of the Oppressed* explains individuals' lethargy to free themselves from apathy and exposes a process for awakening people to liberate themselves and take action, which he called 'conscientização' (Freire 1970, 1973, 2000). A person without conscientisation relinquishes her capacity to make choices. In other words, conscientisation is the process by which people who were denied choice, learn to demand or claim back their capacity to choose. Freire did not argue that people will awake spontaneously from this state of 'oppression'. Instead, he proposed an external intervention, in which the poor have participatory consultations to develop a dialogue with the objective of awakening critical thinking and analyzing their situation, thus learning and reflecting from that experience. During the process of dialogue (the process by which individuals improve their level of consciousness), Freire states that the individual gradually will gain her ability to choose and more importantly to "become responsible for her own development and to act towards addressing the constraining social structures that oppress her and others around her" (Poveda, 2015, 33). In sum, conscientisation is a critical path for social transformation.

The poverty measurement process employed by the PS is designed to start this process of conscientisation, or reflection. The poor, no longer docile recipients of poverty programs are now ready to critically engage and co-produce knowledge and actions in dialogue with a mentor. The mentor presents the option of a self-diagnosis to the participant for her consideration and to assess her current situation. Through the self-diagnosis survey, the PS provides participants an opportunity to reflect, question, and assess their own deprived situation as a prerequisite to act upon this to improve their

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<sup>9</sup> The term and process of conscientisation is now being used in many disciplines, from education, to psychology, to philosophy, including poverty, among others. For more literature on conscientisation, see: (Freire 1970, 1974; Bandura 1977; Bandura and Wessels 1994; Pines 1997; Sen 1999; Wilber 1996, 2000).

lives. By introducing reflection as a required step for individuals who participate in the PS, the CA is inherently being introduced. The assumption is that being able to develop the capacity to reflect will help poor individuals to be able to critically recognize their deprived situation (their Reds and Yellows), make choices, gain freedom to choose, and act to overcome their identified deprived situation based on what they value and have reasons to value. Through the self-diagnosis survey a participant acquires new information about where she is and a new vision related to where she could be. This step could help her to free herself later in the process. The self-diagnosis step is also related to the CA in the sense that the CA recognizes the need for an external support for the individual to recognize where she is deprived and act based on that information. According to Deneulin and Shahani (2009, 31), one key contribution of the CA for development interventions is the idea that “social arrangements should aim to expand people’s capabilities -their freedom to promote or achieve what they value doing or being”. In other words, the CA, intrinsically, recognizes that an external support is needed for the individual to achieve what they value. The external support in this case begins with the self-diagnosis survey as a first steps for participants to arrange and negotiate wellbeing outcomes and strategies, specifically, how to get to the Green in all indicators with the help of a mentor.

### *Agency to overcome poverty*

All fifty indicators of the PS are designed to be actionable and achievable by participants in order to overcome poverty. This means that the active involvement and action of participants of the PS make them agents of change of their own lives. An agent is “someone who acts and brings about change, and whose achievements can be judged in terms of her own values and objectives, whether or not we assess them in terms of some external criteria as well (Deneulin and Shahani 2009, 31). Concerns for people’s agency and empowerment play a key role in the CA since “greater freedom enhances the ability of people to help themselves, and also to influence the world, and these matters are central to the process of development” (Sen, 2001, 152). This idea, to confront severe deprivations through agency and empowerment, has guided many poverty analyses to clarify the concept and measurement of agency and empowerment

(Kabeer 1999; Clark 2003; Alkire 2005; Narayan 2005; Alsop and Heinsohn 2005; S. Ibrahim and Alkire 2007). Agency and empowerment, like poverty, are plural concepts as well as measurements. In some literature and policy programs, they are treated as synonymous, although in a strict sense they are related but different in their definitions (Kabeer, 1999; Narayan, 2005; Ibrahim and Alkire, 2007). Agency is about the ability of an individual to make choices about her goals and take action to achieve them (Narayan 2000; Sen 1999; S. Ibrahim and Alkire 2007; Kabeer 1999). Empowerment is the expansion of agency (S. Ibrahim and Alkire 2007; Alsop, Bertelsen, and Holland 2006; Narayan 2005). It is considered the expansion of agency because empowerment is comprised by a) agency and b) the institutional environment, as a pre-condition for agency, which allows individuals to exercise agency (Ibrahim and Alkire, 2007; Alsop et al., 2006; Narayan, 2005). These two elements are not considered mutually exclusive and the process from disempowered to empowered could be considered incomplete unless they are both present.

Additionally, beliefs of personal efficacy constitute the key factor of human agency. If people believe they have no power to produce results, they will not attempt to make things happen (Bandura 1997). However, people have the power and motivation to change their situation (Chambers 1997; Sen 2001; Narayan 2005). This is why “an empowering approach to poverty reduction is grounded in the conviction that poor people themselves are invaluable partners for development, since they are the most motivated to move out of poverty. Nobody has more at stake in reducing poverty than poor people themselves” (Narayan, 2005, 3).

#### *Changing the frame of reference (addressing adaptive preferences)*

Adaptive preference refers to the negative impact that adjusting to negative circumstances may cause to the individual’s freedom (Nussbaum 2000; Sen 1999). On this matter, Sen (1999, 63) says:

“The deprived people tend to come to terms with their deprivation because of the sheer necessity of survival, and they may, as a result, lack the courage to

demand any radical change, and may even adjust their desires and expectations to what they unambiguously see as feasible”.

The CA has been concerned with the existence of adaptive preferences from the beginning. For instance, the CA’s rejection of a utilitarian approach to welfare measurement is partly based in the realization that “[o]ur desires and pleasure-taking abilities adjust to circumstances, especially to make life bearable in adverse situations. The utility calculus can be deeply unfair to those who are persistently deprived” (Sen 1999, 62). Due to the existence of such adaptive preferences, people who suffer from deprivations might actually report a level of well-being that is higher than what they would report were they not suffering from such deprivations. As Robeyns (2017, 139) argues, the presence of adaptive preferences may pose at least two problems for the CA. The first one, a potential bias in the selection of relevant dimensions to capture important capabilities, was already mentioned above. In the present context more important is the second reason: even if a certain capability is theoretically achievable to a person, adaptive preferences might lead her to believe that this is either not the case or not desirable, resulting in the choice of a suboptimal functioning. This may make it hard to distinguish whether the person simply exercised her agency to pick the functioning of her choice, or whether the choice of functioning actually reflects a lack of agency. In the same line of thought, Nussbaum (2000) has found that individuals may have adapted their preferences, making them behave in ways that may hinder their own well-being, while still reporting feeling happy.

The PS program theory implicitly acknowledges that families may adapt their aspirations to the circumstances they find themselves in, and works to help them evaluate and potentially change that frame of reference (Heath, Larrick, and Wu 1999; Appadurai 2004; Ray 2006b; Bernard, Taffesse, and Dercon 2008; Copestake and Camfield 2010; Dalton, Ghosal, and Mani 2016b). As described above, this process starts with the PS survey, in which families are encouraged to think critically about their own situation and to self-evaluate. Already at that stage they are presented with a “Green” that depicts a relatable situation of non-poverty, meant to initialize a process which eventually shifts the perception of the participant to include the “Green” in the spectrum of attainable

states. This process is intensified in the mentoring phase of the program. Techniques include the use of life maps and various peer support techniques that have already been described; in addition, the program uses the technique of positive deviants as proposed by Grenny et al. (2013). A positive deviant is “a person who, by all rights, ought to have a problem but for some reason doesn’t” (ibid: 53), i.e., a member of the program participant’s community or extended network who should be deprived in an indicator, but is not. The PS program officers are working with participants to identify such positive deviants in the community: families that, for instance, have a modern bathroom in a village where most people only have pit latrines; or families whose children attend school, when many other children have dropped out (Fundación Paraguaya 2017). These families can then become role models for program participants: in a very practical sense, families can learn from their peers how those managed to overcome a given challenge; and in a more abstract sense, participants experience that other people who are similar enough to themselves have achieved something that previously had seemed out of reach.

### *Increasing aspirations, increasing capabilities*

The value of the PS intervention for poor people lies in its ability to induce them to connect themselves to a world out of their situation of deprivation (to “become Green”). Through a self-diagnosis and dialogue with a mentor, the individual will acquire a new vision that will allow them to free themselves from what Freire defined as the state of oppression (Freire, 1974).

Aspirations<sup>10</sup> are hopes or ambitions to achieve something in life (S. Ibrahim 2011). Appadurai (2004b, 59) indicates that “in strengthening the capacity to aspire [...] the poor could find the resources required to contest and alter the conditions of their own poverty”. The way individuals understand the world and how they select their preferences and aspirations for the future is a socially constructed process. Only when individuals consider their own capacity to aspire, do these processes and constraining

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<sup>10</sup> The term and process of aspirations is now being used in different disciplines, such as psychology, economics, and international development, including poverty, among others. For more literature on aspirations, see: (Heath, Larrick, and Wu 1999, 199; Appadurai 2004a; Ray 2006b; Bernard, Taffesse, and Dercon 2008; Copestake and Camfield 2010; Dalton, Ghosal, and Mani 2016b).

cultural norms become addressed and revealed. For example, Conradie and Robeyns (2013, 565) argue that

*“Thinking about, talking about, and reflecting upon aspirations, especially when this is part of a group process that creates a supportive and encouraging atmosphere, motivates people to use their latent agency to make changes in their lives, which will expand their capabilities.”*

To achieve their aspirations, poor people have to exercise their voice and their human agency in order to participate fully in society (Appadurai 2004b). In sum, aspirations are a target that one wishes to achieve in life (Bernard, Taffesse and Dercon, 2008), and having these aspirations is crucial in order to work towards a positive change.

Conversely, not having “adequate” aspirations may inhibit people from achieving a life they would value: As first argued by Ray (2006a), and later formalized by Genicot and Ray (2011, 2017) and Dalton et al. (2016a), people can get stuck in poverty due to aspiration failures, that is, due to their aspirations not being ambitious enough, or due to the feeling that there is just no way to achieve them. As aspirations are formed in the social context in which a person lives, a poor individual is likely to adjust her aspirations to what others have achieved who live in a similar situation as herself. This might well mean that a life out of poverty seems unachievable and is thus not aspired to.

The PS addresses this situation, starting with the measurement process: For each indicator, the level “Green” is presented as an achievable situation of non-deprivation. Thus, “Green” is not an abstract answer category among others but helps families to imagine themselves as *not deprived*. Hence, already in the measurement phase, families are encouraged to rethink what they see as possible and start adjusting their aspirations.

Measurement experts will point out an obvious potential for a social desirability bias here: if green is presented as the desirable situation, participants might be more likely to choose that option. In the abstract, this is true, and if the tool were to be used as conventional survey, this issue needed to be addressed in much detail. However, the PS is meant to provide actionable information for poor families, and to help them reflect



on their lives. Arguably, this may decrease both the risk and the severity of social desirability biases. Nevertheless, more research is needed to test this aspect related to the reliability of the tool.

*Defining priorities: improve on what you value and have reason to value*

One of the important contributions of the CA is the focus on the things that a person *values and has reason to value*. This is closely related to the principle of each person as an end: if the focus lies on how particular arrangements or programs affect individuals, and it has to be assured sure that the interests of each person are served, the specific objectives of a program necessarily have to be defined by those affected by it. This is what the PS mentoring program aims to accomplish: participating families identify which of the poverty indicators matter most to them, as a starting point for the mentoring process. Based on these priorities, the mentors then work with the families to analyze potential causes of the problem and to identify and develop solutions. In the PS mentoring framework, the “right” solution for a given indicator might look very differently for one family compared to another.

*Support for achieving functionings and capabilities*

The PS mentoring process is designed to enhance participants’ agency to achieve valuable functionings and capabilities. The CA does not assume that these emerge “naturally” or “spontaneously”; rather, there is a role for an entity or actor to develop (or guarantee) them. In many Capability Applications, perhaps most prominently in Martha Nussbaum’s Capability Theory, this entity is the government. However, as Robeyns (2017) argues, the CA as a framework does not prescribe this, and there are in fact examples of scholars whose Capabilities Applications evolve around other agents of change. For instance, Ibrahim (2006) discusses how self-help initiatives can impact people’s capabilities, while Conradie (2013) shows how an NGO-initiated program to increase women’s aspirations increased capabilities in South Africa. The PS program is part of this group of Capability Applications: while the program encourages participants to demand and take advantage of government resources (see below), it does not place the principal responsibility for the development of capabilities with the government.

Rather, the program promotes an idea of self-help: Each person not only has the largest stake in succeeding to live the life she values and has reason to value, but she is also in the best position to decide on her development objectives, to analyze her current situation and her problems, and to decide on suitable strategies to overcome them. This focus on self-help does not negate the responsibility of the State, and the PS assumes that there is an important supportive role to be played for a third-party facilitator, i.e., the PS mentors.

As described in section 1, the PS is based on the idea that every participant's poverty is unique. Even if a participant is deprived in exactly the same indicators as another person, the reasons for their deprivations, and thus adequate solutions to it, will most likely differ. This has to do both with the different challenges that families face, and with the different conversion factors with which they can convert available resources into functionings. Therefore, the support that each family needs also differs. The PS program officer does not approach the program participant as a solutions provider, but rather as a mentor who helps the family to work through the problems. The mentor may do some additional research or mobilize some resources when appropriate. Examples for such resources have in the past included, among others: informing families about existing government programs and helping them with application paperwork; the development of new credit products by FP; or connecting program participants with private sector companies who provide services or products that address the identified need. Apart from such "material" solutions, program officers have also supported participants in the development of non-materials resources, for instance: organizing workshops on how to write petitions to the local government and on follow-up strategies; setting up community support networks in which participating women share stories on how they overcame specific deprivations; or training participants in a marketable skill. Yet above and beyond providing support and working on strategies to address specific deprivations, the overall strategy of the PS might best be described as helping participants develop the capacity to find solutions to the problems they are facing, empowering them to do the same even after the PS program is over. Hence, the main support that the program provides does not have the form of specific resources, but

consists in the build-up of a problem-solving capacity that directly increases a participant's agency and aspirations.

This paper provides an opportunity to discuss and enrich this multidimensional poverty metric and self-assessment and mentoring methodology that claims that it can empower poor individuals to overcome poverty. The empirical studies presented in the next section are relevant for academic and practitioners interested in development and the CA for the following reasons. First, they seek to provide evidence that given all these characteristics and procedures of the PS metric and methodology, we expect participants to move out of poverty faster and show empowerment. Second, while there are studies analyzing the effect of mentoring or aspirations-focused interventions on poverty, their number is small, despite the promising results (for instance: (Beaman et al. 2012; Bernard et al. 2014; Hart 2016; S. Ibrahim 2011; Janzen et al. 2017; Lybbert and Wydick 2017; Macours and Vakis 2009). And third, while some research has been carried out on empowerment and poverty, no single study has assessed the empowerment effect of the Poverty Stoplight, which is one gap these empirical evidences at this research aims to fill.

### **3. Empirical Evidence**

#### ***3.1 PS and poverty***

There is some evidence that the PS program helps families overcome poverty. Apart from anecdotal evidence brought forward by FP, there are two quantitative studies that both are based on administrative data from clients who were purposefully selected to participate in the program based on loan officers' preferences (Budzyna and Magnoni 2013; Burt 2014). Both studies conclude that program participation is associated with a decrease in deprivations, but the data they are based on does not allow to assume any causal relationship. However, starting in August of 2015, participants for FP's microfinance PS program were randomly selected among all active microfinance clients of FP's village bank lending program, allowing for a more robust analysis of the program

effect on the number of deprivations that participants suffer. Preliminary results of this analysis are presented in the following.

The present analysis is based on baseline PS data from over 9,100 of FP's microfinance village banking clients, who were randomly selected to participate in the PS program at any point between August 2015 and June 2017. Follow-up data from within the study period is available from around 2,600 clients. The study aggregates the PS data using the Alkire-Foster methodology (Alkire et al. 2015), creating a metric for overall poverty (using the Yellows as the deprivation cut-offs) and for extreme poverty (using the Reds as the deprivation cut-offs). In each case, the union criterion for poverty identification is used, meaning that a family is considered "poor" if they are deprived in at least one indicator. This reflects the stated program objective of FP's PS program to help every family move to Green in everything. The metric uses a nested weighting scheme (all six dimensions have the same weight, and within each dimension each indicator has the same weight).

The study uses a pipeline design, using the baseline PS survey of later program entrants as counterfactual for the follow-up PS surveys of earlier program entrants. The main outcome variable of interest is the deprivation count (the number of weighted deprivations). The program effect is thus identified by comparing this deprivation count between those who just entered the program in a given time period and those who did their follow-up survey in the same time period, controlling for the survey date, area of residence, and per capita family income. The two-year study period is divided into four study semesters, and the program effect is estimated for the pooled database as well as separately for semesters two through four (no follow-up data is available for the first study semester). Estimations are based on OLS with loan-office level fixed effects.

A descriptive analysis of the data shows a negative correlation between program participation and deprivations (see table 1). In each semester and for both overall and for extreme poverty, the percentage of poor survey-takers (poverty headcount,  $H$ ) is larger among those doing their baseline compared to those doing a follow-up survey. These differences are statistically significant in all cases, providing a first indication for

the effectiveness of the Poverty Stoplight intervention. A similar picture arises for the adjusted headcount ratio ( $M_0$ ), which adjusts the poverty incidence statistic  $H$  by the average intensity of poverty suffered by those identified as poor. However, in this case, the difference in the poverty level between program entrants and those doing a follow-up survey is statistically significant only for semesters two and three.

*Table 1 Poverty incidence (H) and adjusted poverty incidence (M0) by survey semester and survey round (95% confidence intervals, computed through bootstrapping, in brackets)*

		Overall Poverty		Extreme Poverty	
		Baseline Survey	Follow-up Survey	Baseline Survey	Follow-up Survey
Aug-Dec 2015	H	99.0%		85.6%	
		[98.5% - 99.5%]		[82.1% - 89.2%]	
	M0	0.219		0.078	
		[0.201 - 0.236]		[0.071 - 0.084]	
Jan-June 2016	H	98.9%	86.8%	88.2%	71.1%
		[98.1% - 99.7%]	[79.3% - 94.2%]	[85.1% - 91.3%]	[61.6% - 80.5%]
	M0	0.193	0.127	0.073	0.046
		[0.182 - 0.205]	[0.098 - 0.155]	[0.066 - 0.081]	[0.036 - 0.055]
July-Dec 2016	H	99.2%	71.3%	77.1%	58.4%
		[98.6% - 99.8%]	[67.1% - 75.4%]	[72.6% - 81.7%]	[53.8% - 62.9%]
	M0	0.162	0.101	0.056	0.036
		[0.150 - 0.173]	[0.092 - 0.111]	[0.049 - 0.063]	[0.031 - 0.041]
Jan-June 2017	H	97.1%	73.0%	71.0%	55.7%
		[95.5% - 98.6%]	[67.8% - 78.3%]	[65.5% - 76.5%]	[49.6% - 61.8%]
	M0	0.108	0.087	0.039	0.032
		[0.097 - 0.118]	[0.076 - 0.097]	[0.035 - 0.044]	[0.026 - 0.038]

The results of the OLS estimation (presented in tables 2 and 3) suggest that in any of the three study semesters and aggregated over the entire study period, those who are doing their follow-up survey have indeed less deprivations (counting both Yellows or Reds) compared to those who are newly entering the program. For extreme poverty (counting only Reds as deprivation), the same is true on the aggregate and in two of the three study semesters. The size of the effect is a reduction of between one and two Yellows or Reds for the “Overall Poverty” index, and a reduction of between 0.5 and one Reds for the “Extreme Poverty” index, over an average period of about 6 months.

Table 2 Results of OLS estimation of the effect of program participation (PS) on the overall deprivation count.

	<b>Aggregate</b>	<b>Semester 2</b>	<b>Semester3</b>	<b>Semester 4</b>
<b>PS</b>	-.0345*** (-8.68)	-.0506*** (-5.77)	-.0255*** (-4.24)	-.02** (-3.35)
<b>Date</b>	-.00018*** (-10.06)	0.000063 (0.86)	-.00047*** (-6.04)	-.00012* (-2.14)
<b>Income p.c.</b>	-.00056*** (-12.69)	-.00063*** (-13.17)	-.00057*** (-9.91)	-.00035*** (-7.96)
<b>rural</b>	.0128 (1.99)	.00941 (1.20)	.0248 (1.97)	.025*** (4.07)
<b>Intercept</b>	.261*** (33.09)	.235*** (12.87)	.366*** (12.23)	.193*** (5.77)
<b>N(total)</b>	1,1143	2,351	3,224	3,083
<b>N(follow-up)</b>	2,373	122	1,618	633
<b>R2</b>	.336	.296	.34	.281

Office-level fixed effects included but not reported. Standard errors clustered at office level.  
t-statistics in parenthesis. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table 3 Results of OLS estimation of the effect of program participation (PS) on the extreme deprivation count.

	<b>Aggregate</b>	<b>Semester 2</b>	<b>Semester3</b>	<b>Semester 4</b>
<b>PS</b>	-.0126*** (-5.82)	-.0207*** (-3.92)	-.00721* (-2.30)	-.00641 (-1.69)
<b>Date</b>	-0.000065*** (-6.16)	-0.000041 (-1.18)	-.00019*** (-5.51)	-0.000065* (-2.13)
<b>Income p.c.</b>	-.00024*** (-10.54)	-.00029*** (-8.94)	-.00022*** (-9.02)	-.00014*** (-5.98)
<b>rural</b>	.0129*** (4.12)	.0111* (2.55)	.0139* (2.52)	.0173*** (4.52)
<b>Intercept</b>	.0868*** (19.80)	.0987*** (10.59)	.121*** (8.87)	.0732*** (3.80)
<b>N(total)</b>	1,1143	2,351	3,224	3,083
<b>N(follow-up)</b>	2,373	122	1,618	633
<b>R2</b>	.265	.286	.256	.25

Office-level fixed effects included but not reported. Standard errors clustered at office level.  
t-statistics in parenthesis. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

The results are encouraging and support the conclusion of the previous studies that participation in the PS program helps families reduce their deprivations. However, this analysis has some important limitations, most prominently the lack of a true control group. Furthermore, as follow-up data is available only for about 35% of program

participants, systematic program attrition is a serious concern. While the results don't change qualitatively if the analysis is limited to those clients for who follow-up data is available, a potential bias from systematic attrition cannot be ruled out. Additionally, loan officers/PS mentors decided when to do a follow-up survey, based on perceived program performance. This implies a possible endogeneity problem. In the absence of a valid instrument we used propensity score matching to check for the robustness of our results. Preliminary results of this analysis support the conclusion that program participation helps families to reduce their deprivations; the estimated effect size is comparable to the OLS results. While more research is needed to draw confident conclusions about the program effect, yet these early results are promising.

### ***3.2 PS end empowerment (empowerment study in progress)***

According to Fundación Paraguaya, one of the most important contributions of the Poverty Stoplight intervention is its empowering effect on its participants (Burt 2016). In order to uncover the empowering effect of the Poverty Stoplight, an empowerment study is taking place<sup>11</sup>. Specifically, the research explores the process of enhancing empowerment as experienced by individuals participating in the Poverty Stoplight in urban context in Paraguay. Given that empowerment is a mainstream concern of poverty alleviation programs, the research is relevant to the development sector. The literature suggests that funders, program developers, and practitioners tend to focus on empowerment solely as an outcome instead of as a process of personal and collective transformation. Further, while governments, donors, international and national organizations believe they have a good understanding of what needs to be done to achieve or enhance empowerment through programming, they are much less clear about obstacles that get in the way of realizing empowerment outcomes (Cornwall 2016; Green 2017; Martinez-Restrepo and Ramos-Jaimes 2017). In other words, they concentrate exclusively on empowerment as a destination ignoring what is arguably a much more important aspect: the process of how empowerment actually happens. In

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<sup>11</sup> A Ph.D. researcher from the Institute of Development Study from the University of Sussex in the UK is leading the research called "The Process of Empowerment in Hybrid Poverty Interventions: Evidence from Urban Paraguay". For details about this research, please contact [j.panesolis@ids.ac.uk](mailto:j.panesolis@ids.ac.uk)

addition, most poverty programs focus solely on material interventions to enhance empowerment, ignoring the possible complementary effect that non-material interventions could have. A poverty intervention on vulnerable people that complements material and non-material intervention to overcome poverty is called 'hybrid poverty intervention' in this research.

The lack of attention to the process of empowerment and the related lack of knowledge on the empowerment effect of hybrid poverty interventions (material and non-material interventions together), creates an opportunity for impactful research. For this purpose, the ongoing research has developed a conceptual framework, informed by interdisciplinary literature and a specific program case that lays out the pathway of empowerment that takes program participants from disempowered to empowered. Using this framework, the research aims to understand the process by which the Poverty Stoplight intervention, a hybrid poverty intervention, enhance empowerment in a context-specific scenario. This research proposal sets the theoretical and programmatic theme for inquiring into the process of enhancing empowerment as experienced by participants of the Poverty Stoplight.

The main question the research aims to examine is: How does hybrid poverty interventions contribute to the process of empowerment?

The sub questions are:

- 1.1 What are the experiences of empowerment of participants of hybrid poverty interventions?
- 1.2 Do non-material poverty interventions increase empowerment?
- 1.3 How and following what steps do material and non-material aspects of hybrid poverty interventions interact to enhance the process of empowerment?

To answer these research questions, the design is based on a rigorous action research methodology employing a mixed methods evaluation with the purpose of uncovering complex causal mechanisms that underpin the process of empowerment. This study intends to understand the empowerment experience of individuals who participate in hybrid poverty interventions (the Poverty Stoplight in this case). To understand



participant's definitions of empowerment, the study will use a participatory inquiry to explore what empowerment means for participants. To determine how or if non-material poverty interventions increase empowerment, the researcher will collect quantitative data. For this purpose, the researcher along with Fundación Paraguaya staff have co-designed an original empowerment survey that will be applied to participants of the Poverty Stoplight intervention. Lastly, to understand in what ways and following what steps the Poverty Stoplight intervention interact to enhance the process of empowerment, the researcher will conduct micro-narrative interviews with participants of the Poverty Stoplight. The main contribution this study expects to make is to build an understanding of the currently opaque process of how hybrid poverty interventions might enhance empowerment. This research seeks to go beyond the "Does it work?" question to the "How does it work?" question. This improved understanding of hybrid poverty interventions and how they contribute to empowerment as a process and outcome can help academics and practitioners in improving poverty programming.

#### **4. Conclusions**

This paper presented an ongoing study concerned with the question whether a multidimensional poverty self-assessment and mentoring intervention can increase participants' agency and thus reduce poverty. The theoretic part of this paper developed the PS as a Capability Application, using the Capability Approach to explore the potential of the PS intervention to increase agency and decrease deprivations, while the empirical part presented the preliminary results of a mixed-methods study of the intervention outcomes. Both the theoretical analysis of the Poverty Stoplight using the framework of the CA, and the preliminary results of the empirical analysis, suggest that multidimensional poverty self-assessment and integrated mentoring is a promising approach to support families on their pathway out of poverty.

Some important open questions remain about the program with regards to the CA. Without any claim to comprehensiveness and in no particular order, these include the following. First, the pronounced objective of the PS interventions is to help participants become "Green in everything". Considering that a number of the indicators are to be

located on the space of resources of functionings (as opposed to capabilities), it is not clear how to reconcile this prescribed objective with the claimed focus on agency and the areas a participant values. For instance, it is certainly conceivable that a person has the real freedom to vote, but actively chooses not to; or, that a person has all the knowledge and capacity required to plan and budget, but chooses not to do so.

Second, closely related, one might argue that in many cases the PS does not in fact promote capabilities, but specific functionings and thus specific lifestyle choices instead. Given the inherent difficulties in measuring “choice”, this is a common problem of multidimensional poverty metrics based on the CA. However, the PS is not just a pure metric that needs to resort to proxy measures where the real concept of interest is not available. Rather, its indicators are developed with the explicit purpose of encouraging reflection and promoting agency. Therefore, one might argue that resorting to the space of functionings or resources is a bigger problem for the PS than it is for metrics such as the MPI. The implications on empowerment and human dignity remain to be analyzed.

Third, from the principle of each person as an end it follows directly that the central focus has to lie on individuals, not on the groups they belong to. The PS, while typically working with individuals, has however a focus on families: According to FP, the family is the central unit of analysis, and in fact most indicators are formulated at the level of the family (Fundación Paraguaya, 2014; 2017; 2018c). FP argues that families generally share resources, and it will be impossible to eliminate the poverty of, say, the family’s children without at the same time eliminating the poverty of the mother. A scholar developing an instrument strictly from the perspective of the CA would most likely not make that choice, and its implications for the interventions from the perspective of the CA deserve further scrutiny.

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## Annex 1: Overview of the Poverty Stoplight Indicators

Dim.	#	Indicator Name	Nussbaum's Central Capabilities	Space
Income and employment	1	Income above the Poverty Line		Resource
	2	Family savings		Functioning
	3	Access to credit	10 - Control over one's environment	Capability
	4	Diversified source of income	10 - Control over one's environment	Capability
	5	Documentation: Identity document		Resource/ Functioning
Health and environment	6	Unpolluted environment		Functioning
	7	Garbage disposal	8 - Other species	Functioning
	8	Access to drinking water	2 - Bodily Health	Functioning
	9	Access to health services	2 - Bodily Health	Capability
	10	Nutritious diet	2 - Bodily Health	Resource/ Functioning
	11	Personal Hygiene		Functioning
	12	Sexual health	2 - Bodily Health, & 3 - Bodily Integrity	Functioning
	13	Healthy teeth	2 - Bodily Health	Functioning
	14	Healthy vision	2 - Bodily Health	Functioning
	15	Vaccines	2 - Bodily Health	Functioning
	16	Insurance		Resource
Home and infrastructure	17	Safe house	2 - Bodily Health	Resource/ Functioning
	18	Comfortable home	2 - Bodily Health	Resource
	19	Separate bedrooms		Resource/ Functioning
	20	Raised and ventilated kitchen	2 - Bodily Health	Functioning
	21	Bathroom	2 - Bodily Health	Resource/ Functioning
	22	Refrigerator and other goods		Resource
	23	Telephone or mobile phone		Resource/ Functioning
	24	Sufficient and appropriate clothing	7 - Affiliation	Resource/ Functioning
	25	Personal safety	3 - Bodily Integrity	Capability
	26	Security of property	3 - Bodily Integrity	Capability
	27	Electricity		Resource/ Functioning

	28	Regular means of transportation	3 - Bodily integrity	Capability
	29	All-weather access road	3 - Bodily integrity	Resource
Education and culture	30	Children enrolled throughout high school	4 - Senses, Imagination, and thought	Functioning
	31	Knows how to read, write and comprehend	4 - Senses, Imagination, and thought	Capability
	32	School supplies and books		Resource
	33	Ability to plan and budget	6 - Practical reason	Functioning/ Capability
	34	Ability to generate income	10 - Control over one's environment	Capability
	35	Access to information (TV or internet)		Resource
	36	Access to entertainment	9 - Play	Functioning/ Capability?
	37	Respect for diversity	7 - affiliation	Capability
	38	Human rights awareness	7 - affiliation	Capability
	39	Child labor		Capability
Organization and participation	40	Forms part of a group	7 - affiliation	Functioning
	41	Influence in the public sector	10 - Control over one's environment	Functioning/ Capability
	42	Ability to resolve problems and conflicts	5 - emotions	Capability
	43	Register to vote and vote during elections	10 - Control over one's environment	Functioning
Interiority and Motivation	44	Awareness of one's needs	6 - Practical reason	Functioning/ Capability
	45	Self esteem	7 - affiliation	Capability
	46	Moral conscience	7 - affiliation	Capability
	47	Emotional-effective capacity	5 - emotions	Capability
	48	Domestic violence	3 - Bodily Integrity	Capability
	49	Entrepreneurial spirit	6 - Practical reason	Capability
	50	Autonomy and ability to make decisions	10 - Control over one's environment	Capability