

**A Woman's Life Is Tough, But It Could Get Better: A Scale for Measuring Social Change Enhanced by Microcredit for Entrepreneur Women**

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### INTRODUCTION

A notion of a fair world is spread broadly and well accepted: law, justice and prison practices act as coercive mechanisms to mislead behaviors and protect well-fare of all citizens in organized countries. This concept of justice generates a false impression that injustice is a kind of exception and opportunities are equal for all. Medina (2014) emphasizes that this blindness has ideological effects in ways that implicates in making injustice invisible.

Professor Muhammad Yunus, during his classes of Economics in Bangladesh, in 1970 was not oblivious to these questions; in fact, he was anxious to do something about poverty and famine spread in a huge part of his country population. His concern aroused microfinance as an important tool for a world free of poverty. Using Grameen Bank model, the Bangladeshi initiative of Yunus, with 116 million of entrepreneurs in 2016, 84% are women, which borrowed money from this microcredit institution (YUNUS, JOLIS, 2000; MIX MARKET, 2017).

The main goal of microfinance is to support small entrepreneurship activities with credit, but business consultancy and training are also common. Since the very beginning, women are Grameen Bank priority and this establishes a model of operation against poverty replicated in many countries. Microcredit purpose is aligned with feminist perspectives when considers relevant any kind of initiative that increases women agency (GARIKIPATI, 2013) or changes power relations throughout society (MAYOUX, 2010).

These changes have been analyzed from a set of researchers related to women empowerment in Asia, Africa and even in Central America, but no studies are found covering Brazilian or South America contexts. The closer to this is Hamad and Fernald (2015), in Peru, who analyzed the impact of microcredit participation on women' health, but not empowerment. These few articles show a huge space for increasing the comprehension of woman empowerment provided by microfinance institutions. Brazil has 3.2 million of clients, 60% of which are female, corresponding almost 2 million of women (MIX MARKET, 2017) and the most important microcredit program in South America is Crediamigo that belongs to the Northastern Bank of Brasil (BNB) over 2 million clients which 67% are female (BANCO DO NORDESTE, 2018).

Besides, a management perspective of empowerment has very few approaches. The subject is usually discussed by economics or development publications. So, none of these researchers try to contribute with a feature or a tool for microfinance institutions management. This kind of tool could help planning, internal policies and practices and could even be helpful in a results control for donors or governmental agencies interested in how effective microcredit is.

Calás, Smircich and Bourne (2009), Ahl (2006) and Hughes *et al* (2012) reinforce the need for new approaches to study entrepreneurship under a feminist point of view. Studies of women entrepreneurship are full of bias and male stereotypes (AHL, 2006) besides they excluded power relations and gender discussions (HUGHES *et al*, 2012). Therefore, these researchers suggest a new range of studies directed to social change promoted by entrepreneurship (CALÁS; SMIRCICH; BOURNE, 2009) or its emancipatory aspects, through a feminist perspective. Calás, Smircich and Bourne (2009, p. 564) suggest the following question: "What else are poor women doing under the mantle of microenterprise discourses?" The changes enhanced by microcredit make it a perfect source for women entrepreneurship studies.

Also, women continue to be oppressed and have their rights deprived all over the world, but as Garakipati (2013) reinforces, context is very important in order to comprehend women oppression. Chen, Chang and Bruton (2017, p. 798) discuss the same point, the need for research to be more focused on a small group of countries or make limited comparisons. According to them:

Contextual factor including social norms, the institutional environment, and relative poverty levels are likely to have varied effects on the relationship between microfinance provision and entrepreneurial outcomes, and should be studied in more detail so the practice of microfinance can be improved.”

In line with the women perspective, some authors reinforce the academy needs to update entrepreneurial studies. They argue that the expansion of scopes may capture multidimensional facets of entrepreneurship and overcome the economic view of pursuing opportunities. Lumpkin, Bacq and Pidduck (2018) suggest management studies involving social entrepreneurship and communities; Rindova, Barry and Ketchen (2009) discuss the emancipatory aspects of entrepreneur’s activities; Bureau and Zander (2014) analyze its subversive and resistance character and Steyaert (2007) emphasizes the need of comprehending entrepreneurship as practice. Considering microcredit institutions as successful spaces of practices for underprivileged women entrepreneurs and using these new approaches to construct an innovative framework, this article aims to develop a scale to measure social changes (SC) achieved by women, promoted by entrepreneurship and enhanced by microfinance. This scale combines dimensions purposed by Lumpkin, Bacq and Pidduck (2018): physical, financial, human and social capital with resistance practices dimensions, based on Medina’s (2014) *Epistemology of Resistance*.

The structure of this paper is as it follows. First, we discuss these new approaches for entrepreneurship research and connect them to microfinance experience, introducing part of the scale structure. Then we analyze resistance and emancipatory perspectives through empowerment discussions associated to microcredit in the last 5 years. After that we finish defining the construct and go to the scale procedures and methodology. Then, we end the article with potential applications, limitations and point out future directions for research.

## **MICROCREDIT AS A SOCIAL SUBVERSIVE PRACTICE**

The economic opportunities in the bottom of the pyramid market were discussed by Prahalad (2009) in a way that emphasizes consumption needs of poor people. He presents a new way of thinking about products, processes, and strategies with an intention to make them become available to this enormous market. In a new way to look at the same situation, achieving poor people needs, Yunus and Weber (2008 p. 35) present social firms as a possibility for a new capitalism form. With profits as the main goal “companies weren’t able to face most of pressing social problems of the present time.” These social firms must be worried with injustices, act to create changes, especially to underprivileged people, and the main goal must be social changes over profit maximization.

Social entrepreneurship encompass organizations that intend “to benefit society more so than organizations” (LUMPKIN; BACQ; PIDDUCK, 2018, p.24) or “to achieve specific social goals” (YUNUS; WEBER, 2008, p. 35). To do so these organizations need an entrepreneurship practice full of imagination and boldness to break some (or all) stabilized procedures in a field of action.

We can see that in microcredit institutions practices, which disrupt traditional financial system behavior when they establish new ways to deliver credit to underprivileged and disempowered actors. According to Rindova, Barry, and Ketchen (2009), these are examples

of emancipatory organization. These practices involve staff members who visit the clients at their homes and businesses, divide the installments into weekly amounts or do not demand legal instruments between borrowers and lenders.

This pragmatic sight is appointed by Steyaert (2007, p. 471) as “entrepreneurship” and must situate “process in the lived world and experience”. In line with client's limitations and needs, it is necessary to create practices that will overcome current barriers. Thus, these entrepreneurial practices involve social ontology, an ongoing transformative process committed with making difference wherever possible.

This approach is coherent with Bureau and Zander (2014) when they compare concepts associated with subversive art to discuss subversive entrepreneurship. These authors defend that entrepreneurship' subversive practices must attend three main characteristics: not be totally autonomous but connected to society; produce new representations and emotional perceptions; and have behavioral impact beyond the business world.

We defend that microcredit institutions, committed to Grameen Bank statements, with social purpose (i.e. social enterprise), have subversive practices. They attend the triad, three interdependent actors that must exist to an activity be subversive: the system, the masses and the activists (BUREAU; ZANDER, 2014).

The dominant system in this specific case is, mainly, the traditional financial system, that excludes poor people essentially because they cannot attend requirements such as collaterals or accountability procedures. However, another system is also being challenged: the female oppression. When Grameen Bank chooses women as main clients they subvert society patterns.

All those underprivileged poor people, excluded from the financial system and oppressed by an enormous amount of social problems, represent the masses: gender oppression, lack of housing, education, healthcare and so on. Female Global Entrepreneurship Monitor (Kelley, 2017) reports 274 million female entrepreneurs spread in 74 economies around the world.

Activists are all those who, aligned with Grameen Bank spirit, want to change the world through promoting microcredit access. Together, these actors interact with subversive practices and counter-subversive practices pursuing a better world.

This search for world-changing constitutes a defiance to all those which operate in social entrepreneurship spheres, with emancipatory and subversive practices. Due to these practices, they need to look for results not only inside the company, but outside, in their communities where they develop their practices. Lumpkin, Bacq and Pidduck (2018) purpose a model to evaluate social entrepreneurship practices. They argue that communities must be the center of evaluation in order to measure the effectiveness of the managerial practices. They developed a framework for supporting community identification and evaluation. Firstly, it is necessary to comprehend what kind of community the social entrepreneurship is inserted. Here is the authors proposal (LUMPKIN; BACQ; PIDDUCK, 2018):

1. Geographical Community: those populations, organizations or markets located in the same geographic area, not necessarily in hard boundaries. They can also involve local culture, norms and laws.
2. The community of Identity: share a common identification in culture, ethnic heritage, nationality, sports teams or religious affiliation.
3. Intentional Community: initiated and engaged in by people for their own purposes that are in a position to provide help and support to each other.
4. The community of Interest or Solidarity: concerned about minority groups rights or equal access to public goods or, specifically in this case, microcredit access.

After identifying the community nature, Lumpkin, Bacq and Pidduck (2018) framework present four dimensions for an extra organizational level of analysis of social

entrepreneurship results. Their framework has the following four dimensions and each one is interested in how community life changed after joint to a social entrepreneurship initiative:

1. Physical capital: buildings, furniture, inventory and other "hard" assets present in the community. Might include refurbishing a building or constructing a new one.

2. Financial capital: essentially cash resource, but also receivables, promissory notes and other assets that can be converted to cash.

3. Human capital: training, development of new skills, and managerial experience.

4. Social capital: social trust, norms, networks, and collective learning.

To understand how social entrepreneurs create change in each one of these dimensions is a challenge as well as to provide microcredit institutions with a broad feature that allow them to have better comprehension about their subversive practices consequences.

### **Resistance Practices as a Face of Microcredit**

In the 1970's, Resistance used to be a subject often associated with labor and workers action, derived from the Marxist discussion. Nevertheless, in recent years, feminist and race theory encompassed resistance debate, enriched with fresh ideas and new perspectives, since struggle, emancipation and transformative change are central to them as well as rooted in resistance practices. Resistance debate highlights injustice and oppression and forces a different comprehension of the world: as an unfair place to the majority of the population (e.g. women or black people) (PRASAD; PRASAD, 2000; THOMAS; DAVIES, 2005a; HARDING; FORD; FOTAKI, 2013; MEDINA, 2014).

The consciousness of injustice is fundamental to look for alternatives in order to change things. Medina (2014) calls attention to a kind of insensitivity and numbness that involves us and do not allow being in touch with pain, problems and suffering of other people. These behaviors create a kind of blindness that consent not to see what is happening around, a kind of normalization of injustice under a mantle of justice as a premise. However, some people have the lucidity about the injustice that generates resistance practices.

The practice of resistance is an opposition of forces in a battlefield with a strong reactive connotation "(...) includes both an active or a passive meaning: to exert oneself so as to counteract or defeat; and to withstand the force or effect of" (MEDINA, 2014, p. 48). Alternatively, according to Thomas and Davies (2005b p. 687) "(...) a constant process of adaptation, subversion and reinscription of dominant discourses."

Thomas and Davies (2005b) also emphasize that it is very important to comprehend resistance not only in a reductionist view, control versus resistance, or a negative paradigm, but above and beyond the attempt of resistance where it happens because it is shown in subtle ways and manners that create change step by step.

In organization studies, resistance is pointed out in different practices, as the meaning of personal belongings in offices or working spaces (YU KWAN; HOPFL, 2011) or the wasting of work hours in activities not related to work (PAULSEN, 2015).

Spicer and Böhm (2007) classify resistance in two poles: workplace and civil society and in two natures: politics and infra-politics. In organization context, resistance can be organized as workplace resistance (e.g. unions) or organizational misbehavior (e. g. cynicism). However, they didn't recognize organizations that aim to bring new patterns of behavior, like Grameen Bank, for example, cited by Rindova, Barry, and Ketchen (2009) as an organization with emancipatory practices. In this aspect, Grameen works as a space of resistance as a practice.

Medina (2014, p.8) explains the importance of institutions like microcredit companies in an oppressive environment when he affirms:

“In particular contexts, practices and institutions designed to provide a safe and nurturing space for underprivileged groups can have a great democratic value. Under specific conditions, such practices and institutions may be precisely what are required for the self-empowerment of oppressed groups (....)”

Microcredit achieves echoability (Medina, 2004) with 84% of all women derived from 116 million of microcredit clients. The need for resistance actions is debated, engaged, replicable and widespread in order to be part of a performative chain or a new social pattern.

Therefore, microcredit institutions, especially those aligned with Yunus philosophy, are fundamental because they establish themselves as a tool to fight for wronged people like the poor and women, for example. They are committed to change clients' situation and are conscious about poverty and oppression. This tool is able to let free men dream and allow “(...) even the poorest among the poor to achieve dignity, respect and a sense for his life” (YUNUS, JOLIS, 2000, p. 327). From the original proposition of Grameen Bank, we suggest the following categories for our dimension of resistance - dream capability, dignity, respect and sense for life.

The ability to give back the dream capability (YUNUS, JOLIS, 2000) is very adherent with Medina's (2014, p. 256) *Epistemology of Resistance* when he argues about resistant imagination. Resistant imagination is a kind of difficult to break with (...) our habitual or automatic ways of imagining (that) need to be disrupted or transformed in order to repair or prevent unfair treatments”. Thus, when microfinance promotes dreams it is breaking unconscious structures that imprison underprivileged people, especially women.

An assumption of microfinance is that all clients are entrepreneurs and s will allow them to improve activities conditions and increase revenue and competitiveness reaching poverty alleviation and SC. Keeping original Yunus goals alive, special attention must be given to women and social transformation experienced by them when supported by microfinance. However, it is necessary not forget that contextual conditions like cultural and economic aspects can have great influence over women conditions (YUNUS, JOLIS, 2000; DUFLO, 2012; CREPON, DEVOTO, DUFLO, PARIENTE, 2015; DINEEN, LE, 2015).

The most usual manner used to evaluate SC for women is trying to measure empowerment enhanced by microfinance. Empowerment, in a feminist point of view, can be “(...) understood to be a set of processes that result in the expansion of woman's agency—where agency refers to the woman's ability to use resources at her disposal in a way that allows her to make choices that affect her life and circumstances” (GARIKIPATI, 2013, p.56).

## **Systematic Literature Review**

To comprehend which aspects of gender empowerment enhanced by microcredit have been studied in the last years, we carried out a research with some of the most important scientific databases in the world: Emerald, Ebsco, Sage, Science Direct, Elsevier and others. The terms women empowerment and microcredit were retrieved 566 articles which were published in the last five years. Title and abstracts were analyzed and those with full text available were selected resulting in 41 papers for a depth reading. After reading all 41 papers, seven of them were eliminated because they did not present results by gender, one was a repeated paper found in a different database, and eight did not discuss empowerment. In fact, 25 articles were included in our study to be considered. We also considered articles that associate domestic violence and microcredit (DINEEN; LE, 2015; BAJRACHRYA; AMIN, 2013; NAWAS, 2015, CEPEDA, LACALLE-CALDERON; TORRALBA, 2017, SCHULER;

NAZNEEN, 2018) understanding violence against women as one of the worst faces of oppression.

Asia has been prevalent as a space for conducting this kind of research with 18 articles and Bangladesh (10) as the main country, followed by India (3), Pakistan (2), Malaysia (2), Vietnam (1), Azerbaijan and Kazakhstan (1 article for both countries). Africa occupies the second position (4 articles), with works in Ghana (2), Tanzania (1) and Côte d'Ivoire (1). Latin America has only Beck's (2017) discussions about the contradictory effects of microfinance and Cepeda, Lacalle-Calderon and Torralba's (2017) examination of microcredit and violence against rural women, both from Guatemala. Here is a gap to understand how it occurs in Brazil.

Another point is that these analyses have an important space in journals dedicated to Economics and Development (20 articles). By the way, no paper was found in publications from management areas, the closest are: Kato and Kratzer (2013) published in *Journal of Entrepreneurship Perspectives*; Lavoori and Paramanik (2014) that analyzed women's decision making and microcredit which is published in *Journal of Global Entrepreneurship Research* and Salia *et al.* (2018) that researched unintended consequences of microfinance for women empowerment and published in *Journal of Entrepreneurial Behavior & Research*.

It is important to emphasize that feminist publications have been contemplating these kinds of studies. For example, Lipe (2016) published in the *Journal of International Women's Studies* that discusses dignity, empowerment and microcredit. Cepeda, Lacalle-Calderon and Torralba (2017) that was published in *Journal of Interpersonal Violence* present a quantitative analysis that suggest association between access to microcredit for women and reducing violence against them.

Both, qualitative and quantitative methodology has been used very often; however, quantitative studies are the majority, i.e. fifteen articles, while there were only nine qualitative approaches. The most common qualitative techniques are in-depth interview, with semi-structured questionnaires, and focus group. For the quantitative analyzes, propensity score matching prevails. None of these articles aimed to purpose a feature that could be used by microcredit institutions to evaluate their own work.

Impact from microcredit has been examined over a varied spectrum of subjects such as HIV/AIDS (ARRIVILLAGA; SALCEDO, 2014), healthcare (HAMAD; FERNALD, 2015, MCHUGH; DONALDSON, 2017), gender ideology (KARIM; LAW, 2013) and even child marriage (ABDULLAH; QURESHI; QUAYES, 2015).

We revised the select articles using Lumpkin, Bacq and Pidduck (2018) framework for social entrepreneurship evaluation, besides our proposal for resistance evaluation, assuming only an evaluation of all these dimensions. All of them together will allow us to capture SC. The aspects shown in Charter 1 present the main traits under observation in the field researches associated with women's SC practices. Only Fofana *et al* (2015) present a broader evaluation, performed in Côte d'Ivoire - Africa, that encompasses three dimensions purposed by Lumpkin, Bacq and Pidduck (2018), but did not analyze Human Capital dimension. Other studies analyzed one dimension or at least two. Income generation is the most common investigated aspect, social capital and resistance dimension, with very different and mixed approaches, are the ones that have most variety. Human capital only appears in Kahn and Khan (2016) when they use training as a microcredit outcome. Physical capitals discussed in Weber and Ahmad (2014), Roy *et al* (2015) and Fofana *et al* (2015).

<b>Dimension</b>	<b>Aspects</b>	<b>Articles</b>
Physical Capital	Ownership of assets, the value of household assets	3

Financial Capital	Income generation, disposable income, expenditure, savings	8
Human Capital	Training	1
Social Capital	Participation in public and private political spaces, political empowerment, legal awareness: divorce, legal protection, claims over property, better status among other women and community, improve truth in in their peers	6
Resistance Practices	Control over income, loan and other resources, dignity, decision making power, changes in perception and reaction towards spousal violence, freedom to move, proud and dignified, feel secure and strong, relation of power and patterns of agency rearranged, enhanced their sense of self-worth, respect of husbands and male members, head of household, voice heard, decision in purchases	24

**Charter 1: Aspects associated with social change (SC)**

We classify as resistance practices all findings related to changes in women behavior inside or outside of house hold intending they are displacements against gender injustice (MEDINA, 2014) or production of new representations and emotional perceptions (BUREAU; ZANDER, 2014). With all these theoretical approaches we start to build our scale proposal.

**CONCEPTUAL AND SCALE DEVELOPMENT PROCESS (METHODOLOGY)**

As to scale development process, we decided to follow an established method, following Netemeyer, Bearden and Sharma (2003) general processes, as well as consulting other works, to give the process robustness, like Clark and Watson (1995). Naturally, we adapt it to the specificities of our reality.

To make possible to successfully develop our scale, it is necessary to clarify the target population which the scale is directed to. We define women as the subject of our scale to measure SC. So our scale objects are entrepreneur females who have taken microcredit loans.

Therefore, for the field research we choose the most important microcredit program in South America, Crediamigo, and their clients as an intentional community (LUMPKIN; BACQ; PIDDUCK, 2018). This is important because is a way to encompass contextual aspects, otherwise, conditions from rural women are different from those who live in the cities. The programs belong to the Northastern Bank of Brasil (BNB) and are the biggest ones in Brazil and South America in number of clients. Crediamigo alone got over 1,3 million female entrepreneurs who have taken microcredit loans (BANCO DO NORDESTE, 2018), precisely the object of our scale. We made this choice out of pertinence to our research, importance and relevance of BNB in Brazil and to poor people of the world as well as convenience and access. Therefore, we use Banco do Nordeste (2018) microcredit program, Crediamigo as a field of research.



## Construct definition and dimension development

With the subject of the scale well specified, it is essential to clearly define the construct that we aim the measure. To make it so, we started with a literature review, as presented before and took several concepts related to SC. We decided to follow Lumpkin, Bacq and Pidduck (2018) framework with four types of capital measuring the gain of social entrepreneurship, as a measure of social change, each of them a dimension in our construct. Since we are developing a scale aimed specifically towards women, we decided to add additional dimension, resistance, to the scale, to take in account the SC specific to this underprivileged group (women) that is our subject, coherent with Medina (2014).

As the first aspects of the construct were broadly defined, we proceeded to narrow the definition through a systematic literature review, aiming to comprehend which aspects of gender empowerment enhanced by microcredit have been studied in the last five years. The review narrowed the concept of SC viewed through the lens of gender empowerment, the perspective adopted by our scale, since we are measuring the gain of an underprivileged gender. We were then able to identify the main aspects related to each of our five proposed dimensions for SC, Lumpkin, Bacq and Pidduck (2018) four types of capital plus Resistance.

With the concept narrowed, to finish the construct definition, we got a managerial view as expert validation. The construct definition was presented and discussed with a high manager of BNB (2018) microcredit programs and with the former general manager of the same micro credit programs, who worked with the program for over eleven years and has been in charge of them for four years. Both managers discussed profusely about the construct, getting to the conclusion that the concept proposed and the aspects were adequate and proceeding to help us with item generation as translation validity.

## Item generation

As stated, the item generation process was aided by the managers, seeking translation validity. Content validity was sought through the items generated. The questions items were generated using as basis the main aspects identified in each dimension in the systematic literature review as well as our proposed aspects for the Resistance dimension, that were determined based on Yunus and Jolis (2000) in line with Medina (2014). The discussion with the aid of the managers helped us to generate 21 items. Charter 2 shows the distribution of items per dimension:

<b>Dimension</b>	<b>Number of items</b>
Physical Capital	5
Financial Capital	5
Human Capital	3
Social Capital	4
Resistance	4

### **Charter 2: Number of items per dimension after the first round of generation**

We thought that the number of items per dimension was low, since they might decrease in the factor analysis yet to be done. It is pertinent to point out that the managers had already warned us that the intended respondents might have trouble with a high number of questions in the scale. Even considering that, seeking to improve content validity, i.e. to represent every aspect of the dimensions and of the construct, we proposed additional items and sent them to the managers for validation. As a measure of face validity, we kept the additional items proposed at 10, with a total of 31. Then, based on the response, we eliminated three items and

split another item in two, finishing this step with 29 items, distributed in the dimensions as shown in Charter 3:

<b>Dimension</b>	<b>Number of items</b>
Physical Capital	6
Financial Capital	7
Human Capital	4
Social Capital	5
Resistance	7

**Charter 3: Number of items per dimension after the second round of generation**

Then, the scale was also validated by a PHD, who pointed out some changes in the scale structure and questions. After that, questions were then presented to readability to three Crediamigo loan officers, to make editions as to make the questions easier for their clients to understand. As a result, the agents pointed out some words that might be troublesome for the target population. So we decided to conduct a pre-test with 12 clients. Indeed, some of them, with a more basic education, couldn't understand the questions. Based on this result and taking in account that 51% of Crediamigo's clients haven't completed elementary school (BNB, 2019), made some modifications in the questions and we decided to make the scale an assisted questionnaire. This decision is corroborated by Newman et al. (2014) that argues that survey on microfinance research should be done by face-to-face administration rather than by self-administration. One of the main reasons for that is that "many microfinance clients may not be able to read at a level sufficient to complete a survey independently (Newman et al., 2014, p. 172). Therefore, we included an extra set of instructions for the assistant, aiming to make the application process as homogenous as possible. This decision is also coherent with Yunus original proposition that microcredit should aim to help the poorest of the poor (YUNUS; JOLIS, 2000). Since the questionnaire is directed to microcredit users and it is likely that they will be at the BOP, with lower education levels, it is reasonable to make it assisted as a measure of face validity.

Having the items generated and the questionnaire validated by the theory and the experts, we proceeded to the field aiming to purify the scale. Clark and Watson (1995) claim that for this preliminary pilot test, a moderated sized convenience sample, like 100-200 respondents, it is enough. We were able to acquire an initial sample of  $n = 197$  in the first field application. For that, we needed the help of 32 appliers. From the total of questionnaires applied, 128 had no missing values, 40 had one missing value and 29 had two or more missing values. We decided to eliminate the questionnaires with two or more missing since they might give us more problems than benefits when analyzing the data, so we made our first analysis with  $n = 168$ . We followed the treatment suggested by Hair et al. (2009) for missing values, eliminating questionnaires which had the last question missing. We then worked with  $n = 162$ , still within the accepted parameters. With such elimination, we were able to determine that our missing values were due random reasons, since no distinct pattern emerged in our analysis. There, we were able to use a treatment in our missing data without introducing a great bias in our analysis. Considering that our missing values were Missing Completely at Random (MCAR), we decided to substitute the missing data for the mean. Hair et al (2009) argue that this method is best used when there are relatively low levels of missing data and the relations are relatively strong among variables, which is expected. Schaefer and Graham (2002, p. 149) alert that this method "accurately predict missing data but distort estimated variances and correlations". However, considering that this is only the first

purification of the scale and the level of missing data is really low (40 items of 4.860), we understood that such potential disadvantages were acceptable.

Then, an Exploratory Factor Analysis (EFA) was run using SPSS 21.0. We decided to use a principal component analysis with a VARIMAX rotation, following the recommendation of Netemeyer, Bearden and Sharma (2003). The first model was a four factor model (using the eigenvalue > 1 criteria) with a good fit (KMO > 0,9; Barlett's sig at 0.001). The only communalities below 0.5 were those of questions 1, 8 and 29. Even though it was a four factor model, we tried to set the number of factors to five, since we theorized five dimensions in the literature review. After setting the model to five factors, we noticed that all communalities were above 0.5 and the model was still a good fit (same KMO and Barlett's). Even though the eigenvalue of the fifth factor was a little below 1 (0.913), in the rotated solution, its eigenvalue was above 1 (1.153). The five factor solution had 66.75% of variance explained against 63.60% of the four factor solution. In both solutions, two of our dimensions were well defined: Financial Capital (using 5 of 7 indicators) and Resistance (using all 7 indicators). In the five factor solution, the Social Capital dimension was also well defined (using 4 of 5 indicators). However, the extra factor from the five factors solution didn't go in line with theory, so we decided to follow with the four factors solution. Removing variables 15 and 17, who had cross loadings, structured the Social Capital dimension in the four factors solution as well.

Then, after applying several criteria (testing different rotation methods, removing low communalities and cross loadings) we arrived with four distinct factors, as shown is Charter 4:

<b>Factor</b>	<b>Number of items</b>
Physical and Human Capital	5
Financial Capital	5
Social Capital	3
Resistance	6

**Charter 4: Number of items per dimension after EFA**

As stated, three of our five dimensions were reassured empirically by the EFA. As for our other two dimensions, they fused into one, a new dimension. Analyzing the questions from that new dimension, it's clear that they all refer to business aspects of both previous dimensions. Physical Capital had items concerning work place and home; Human Capital had items concerning business skill and personal education. Only the first remained in both cases, therefore, we decided to call the new dimension that emerged from the field Business Development.

So, we finished our fist purification with the following dimensions: Financial Capital, with 5 items explaining 20.94 percent variance ( $\alpha = 0.90$ ); Resistance with 5 items explaining 19.43 percent variance ( $\alpha = 0.88$ ); Business Development with 5 items explaining 19.29 percent variance ( $\alpha = 0.86$ ); and Social Capital with 3 items explaining 10.68 percent variance ( $\alpha = 0.73$ ), totalizing 18 items explaining 70.33 percent variance ( $\alpha = 0.91$ ). This information is summarized in the Charter 5, as it follows:

<b>Dimension</b>	<b>Number of items</b>	<b>Variance explained</b>	<b>Cronbach's Alpha (<math>\alpha</math>)</b>
Financial Capital	5	20.94%	0.90
Resistance	5	19.43%	0.88

Business Development	5	19.29%	0.86
Social Capital	3	10.68%	0.73
<b>Total (SC Scale)</b>	<b>18</b>	<b>70.34%</b>	<b>0.91</b>

#### Charter 5: First purification result

Clark and Watson (1995) argue for alpha coefficient level of at least 0.80 for a new scale. Such is the case of our scale; even though the Social Capital dimension it's a little below the suggested threshold, we consider it acceptable since it's only of one dimension and not the entire scale. Also, is worthy of notice that the dimension has 3 items and coefficient alpha is affected by the number of items. The average inter item correlation of the scale was 0.37, inside the expected range of 0.15 to 0.50 (CLARK; WATSON, 1995). Corrected item to total correlations are expected to range between 0.51 and 0.73 (CARMINES; ZELLER, 1974); our items were in the suggested range, except for items 19, 26 and 27 which all had values 0.49. We considered these values acceptable and proceeded to collect more data.

#### CONCLUSION

We were able to apply the project of scale to a considerable sample and the empirical data appears to agree with the theory and the systematic literature review. As a result, so far, we got evidence a suitable measure for change that microcredit provides for women agree with the framework proposed by Lumpkin, Bacq and Pidduck (2018), complemented by Medina's (2014) *Epistemology of Resistance* and supported by Yunus ideals.

So far, we can present a tool supported both by theory and by the field. Such tool could be really useful for institutions to measure a key aspect for microcredit loans to avoid mission drift, the social change for a group historically disadvantaged: women entrepreneurs. Since this is a work in development, we expect to make another empirical validation of the scale and improve the tool even more.

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