A Work Project, presented as part of the requirements for the Award of a Masters Degree in Economics from the NOVA – School of Business and Economics.

PROGRAM ***CATAPULTAS***

EDUCATION FOR DEVELOPMENT IN BAIRRO PADRE CRUZ

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Program *Catapultas*

Education for Development in Bairro Padre Cruz

Abstract

The aim of this Work Project, in partnership with WACT, is to propose a pilot program based on solid research to extend WACT's activities in Bairro Padre Cruz, a neighborhood in disadvantaged socio-economic circumstances. ***Catapultas*** focuses on children and their education, given its large benefits for current and future generations. Researchers agree that family background is a main driver of educational inequality and its persistence. ***Catapultas*** is a mentoring pilot program for 20 children in the 5th grade, it aims to introduce an external element, the mentor, in their lives, leading to improvements in educational and social development.

Keywords: Education, Mentoring, Bairro Padre Cruz.

1. Motivation

This Work Project is the result of a partnership between NOVA School of Business and Economics and WACT – We Are Changing Together. WACT is a NGO for Development whose mission is to change the world by changing the people, with the believe that everyone should be an active citizen. The goal is to build and prosper social entrepreneurs that can make the change and spread it. WACT's projects in Portugal are located in Bairro Padre Cruz (henceforth, BPC), a council housing neighborhood in Lisbon. Most of WACT's on-going projects focus on children and their education, whose large benefits for the current and future generations are well documented.

This Work Project proposes a pilot program based on solid research to extend WACT's activities in BPC, with the aim of providing the children of this community better opportunities and a wider range of choices through individual capacity development. Educational underachievement is a fundamental problem in BPC, students of the 2nd and 3rd cycle have one of the lowest achievements in Portugal.[1] The lack of motivation for school observed in BPC is a common problem concerning children in disadvantaged neighborhoods (Wentzel and Wigfield, 2009).

One of the main insights of Economics of Education is that family background is one of the main drivers of school achievement inequality, with the corresponding consequences in the labor market (see, e.g., Haveman and Wolfe, 1995, Hanushek, 1998, Cameron and Heckman, 2001, Carneiro and Heckman, 2003, Todd and Wolpin, 2007). Parental influence occurs through several channels, such as financial investment in resources and education; skill formation by promoting activities that boost skill development; and behavior both directly taught or observed and replicated. School

[1] According to the Portuguese Ministry of Education data base.

resources, although important, are less determinant of school achievement inequality. Evidence shows that schools with the same level of resources can rank very differently in achievement, largely depending on the background of their students (Coleman, 1966; Carneiro, 2008).

We plan to address the underachievement in BPC through a Mentoring Program. The basis of mentoring is to offer disadvantaged children a one-to-one relationship with an adult that contributes with advice, guidance and emotional support, complementing the one received from the parents. A mentor is by definition someone trustworthy and willing to share her experience; she is ultimately an older friend, a role model. This approach introduces an external element in the lives of the children, with the purpose of breaking the cycle of intergenerational transmission of educational outcomes. There is evidence of the effectiveness of mentoring programs; benefits can be seen in risky behavior, school attendance and attainment, and relationship with parents (Tierney et al., 2000, DuBois, et al., 2002). This type of program is also relatively low-cost, community-based and in the scope of the third sector to enhance public schooling.

2. Literature Review

Education is a means of empowerment. It can create conscientious and active citizens capable of facing future challenges of their societies and the world. There is, at present, academic consensus that education brings benefits at both individual and societal level (Card, 1999, Hanushek and Kimko, 2000, Grossman, 2000, Krueger and Lindahl 2001, Haveman and Wolfe, 2002, Harmon et al., 2003, Carneiro and Heckman, 2003, Milligan et al., 2004, Dee 2004, Carneiro 2008).

According to the Human Capital Theory, first proposed by Schultz (1961) and developed by Becker (1964), education through schooling and training is an investment

in individual human capital that increases skills and knowledge. This type of investment affects the productivity of the individual as a worker and hence raises its lifetime earnings. Returns on education have been the subject of several studies and it is well accepted that more educated individuals tend to have higher earnings and employability (Card, 1999, Harmon et al., 2003). In Portugal, one additional year of schooling brings about an average increase of 7% on earnings and 1% on employment probability, and schooling outcomes alone explain 40% of the total variance of wages for males, and 50% for females (Carneiro, 2008). Tertiary education can increase earnings by 50%, compared with upper secondary education (OECD, 2011). In addition, education has non-pecuniary returns on health (Grossman, 2000), on civic participation and political involvement (Milligan, Moretti and Oreopoulos, 2004; Dee 2004), on criminal behavior (Haveman and Wolfe, 2002), and on family formation and child development (central in further discussion) (Carneiro and Heckman, 2003). This evidence suggests that education can be a source of inequality; to ensure equality of opportunity it is necessary to equalize educational outcomes (Schuetz, Ursprung and Woessman, 2005).[2]

The importance of education is clearly stated in the European Council Conclusions of 23/24 March 2006 (Brussels) according to which "education and training are critical factors to develop the EU's long-term potential for competitiveness as well as for social cohesion". Therefore, it is important to understand what determines inequality in educational achievement.

The Coleman Report, a seminal study that analyzed the availability of equal educational opportunities in public U.S. schools back in 1966, reached the unexpected conclusion that school resources are not a major determinant of schooling outcomes,

[2] Equality of opportunity posits that income inequality is acceptable when it stems from different effort, but not from unequal circumstances (such as family background, race, and gender) (Roemer, 1998).

while family background is the underlying factor explaining inequality in school achievement. These results inspired several theoretical and empirical studies on the sources of inequality in educational achievement, where the influence of parental education systematically shows up as the fundamental explanation (e.g., Haveman and Wolfe, 1995, Hanushek, 1998, Jencks and Phillips, 1998, Cameron and Heckman, 2001, Carneiro and Heckman, 2003, Fryer and Levitt, 2004, 2006, Todd and Wolpin, 2007). Carneiro (2008) suggests that the findings of The Coleman Report seem to hold for Portugal. "A major determinant of successful schools is successful families. Schools work with what parents bring them. They operate more effectively if parents reinforce them by encouraging and motivating children." (Carneiro and Heckman, 2003: 6).

Inequality of opportunity arises because more educated parents provide a wider range of opportunities to their children, when compared to less educated parents. More educated parents tend to investment more in their children education and tend to be more concerned about their development (Carneiro, Meghir and Parey, 2007). Parental education influences both income and behavior. Currie and Moretti (2003) concluded that more educated mothers are more likely to have healthier babies, as measured by weight and gestational age. According to the role model hypothesis, children's behavior, attitudes and ultimately aspirations are shaped by parents' behavior. If a child has economically inactive parents, in the future will be more likely to be economically inactive as well (Haveman and Wolfe, 1999). The effects of parental education on adopted children seem to be similar to those of biological ones, hence family environment, rather than genetics, seems to be the main driver of intergenerational transmission (Dearden, Machin and Reed, 1997, Sacerdote, 2002).

Family also exerts a major influence on the process of both cognitive and non-cognitive skill formation. Both depend on family background and family learning environment and are determinants of success in school and labor market. Cognitive skills are generally related with intelligence and can be measured by IQ tests or tests on reading, mathematics and science, like PISA (Brunello and Schlotter, 2011).[3] Non-cognitive skills ones and their effect on school achievement and wages, on the other hand, are more difficult to measure because they include qualitative aspects of personality trait (e.g., self-esteem, emotional control, motivation, sociability, perseverance, autonomy, discipline). They have been discussed by sociologists and psychologists and, to a lesser extent, by economists. Heckman, Urzua and Stixrud (2006) estimated that an individual movement on the non-cognitive skills distribution from the 25^{th} to the 75^{th} percentile leads to a 10% and 40% increase in wages for males and females, respectively. Variance in earnings unexplained by schooling years, experience or cognitive performance is due to behavioral traits (Bowles et al., 2001). Human capital accumulation and the production of skills is a dynamic process. Skills acquired in one stage of the lifecycle will affect the formation of skills later on in life. Skills formation begins in the first year of life largely influenced by parents' choices; hence inequality arises early and tends to persist (Carneiro and Heckman, 2003). According to neuroscience expertise, cognitive skills are totally formed at the age of 8 and non-cognitive skills can change until the age of 20, when there is no more malleability of the prefrontal cortex, which is the region of the brain that controls behavior and emotions (Cunha and Heckman, 2007). This evidence suggests that there is scope for interventions in children and adolescents that focus on the development of

[3] OECD Program for International Student Assessment (PISA)

non-cognitive skills. This type of intervention aimed at disadvantaged children may be a way to build up the non-cognitive skills neglected by their parents, with the potential to achieve lower inequality in educational and labor market outcomes.

The literature reviewed so far clearly points to little intergenerational mobility in educational achievement. In this context, schooling can be a mechanism to enhance intergenerational mobility and hence reduce educational inequality. Moreover, policies that improve education for one generation will also have positive effects on the next generations by improving health, social behavior, school attainment and labor market outcomes. Policy should focus on disadvantaged children to narrow the inequalities they are subject to in order to compensate, if possible, for their adverse family environment without invading families' autonomy or privacy (Cunha and Heckman, 2007, Carneiro, Meghir and Parey, 2007, Carneiro, 2008).

There is evidence that non-cognitive skills can be improved by mentoring programs in early teenage years. The effects of mentoring programs in disadvantaged adolescents can be seen in school outcomes, social behavior, and self-reported well-being (Tierney et al., 2000, DuBois, et al., 2002). We survey the existing evidence on the effectiveness of mentoring programs in the next section.

3. Lessons from Mentoring

In 1904, in response to the increasing number of young offenders in the juvenile court system, Ernest Coulter founded the first mentoring program organization in the US – Big Brothers Big Sisters of America. Currently, more than three million children are estimated to enjoy a mentoring relationship in the United States (MENTOR, 2006). Federal funding for mentoring programs in the United States has reached in 2004 an annual congressional appropriation of $100 million (Rhodes and DuBois, 2008).

Mentoring is a formal mechanism of providing a positive relationship with a caring adult to an at-risk child. It includes: emotional and psychological support; assistance and guidance; development of self-esteem and self-control; motivation and future goals orientation; and role modeling. The central idea is that a young person is more likely to become a successful adult if she has concerned and caring adults present in her childhood and adolescence. Attachment theory (Bowlby, 1969), in the field of psychology, suggests that relationships with adults develop cognitive and non-cognitive skills. Research on resilient children from disadvantaged background (Werner and Smith, 1982, Flaxman et al., 1988 Darling et al., 1994) has pointed to nurturing relationships with extra-familial adults as an important element.

Research on mentoring programs comes from several disciplines, but the evidence is limited by the lack of available data. Nevertheless, research does point to positive developmental outcomes (DuBois and Neville, 1997, Rhodes, 2002, DuBois et al., 2002, Jekielek et al., 2002, Tierney et al., 2000). A random experiment evaluation of the program Big Brother Big Sisters (Tierney et al., 2000) suggests positive outcomes from mentoring. Individuals in a mentoring relationship were 46% less likely to start using drugs and 27% less likely to start consuming alcohol. Mentoring halved school absence and also increased grades slightly. In addition, the mentored youth reported more perceived scholar competence and better relationships with parents and peers. Meta-analysis of mentoring programs found benefits in several areas of youth development, such as emotional/psychological, problem/high-risk behavior, social competence, academic/educational, and career/employment (DuBois et al., 2002); behavior, attitudes, health, relationships, and motivation (Eby et al., 2008); social and emotional

development, communication skills, cognitive skills and motivation (Dubois et al, 2011). However, these meta-analysis have shown small size effects.

Mentoring positive impacts on youth increase with the duration of the relationship. Grossman and Rhodes (2002) used data on Big Brothers Big Sisters and found that children whose mentoring relationships terminated in the first 3 months experienced a decrease in self-worth and perceived school competence, while those whose mentoring relationships lasted more than 12 months revealed increases in both, but also in perceived social acceptance and parental relationship quality, as well as lower drug and alcohol use. There is a positive correlation between the youth improvement in both academic and social areas and the quality of the relationship (Goldner and Mayseless, 2009). Emotional closeness is important for a mentoring relationship to be successful (Styles and Morrow, 1992, Herrera et al. 2000, DuBois et al., 2002, Rhodes 2008). Rhodes and DuBois (2006, p. 3) stress that "At the most basic level, a necessary condition for an effective mentoring relationship is that the two people feel connected – that there is mutual trust and a sense that one is understood, liked, and respected". The challenge in the design of a formal relationship is to trigger empathy and authenticity. More research is needed regarding the reasons why some mentoring relationship terminates early or the features that work better in the formation of a close relationship.

The design of the program is crucial because the impact of the program in their beneficiaries depends on the program's objectives, characteristics and structure. (Dubois et al., 2002). Research indicate best practices that include screening of prospective mentors, mentor pre-match training, matching based on mutual interests, frequency of contact, on-going mentor support, supervision, parent involvement (Dubois et al, 2002, Grossman and Rhodes, 2002).

4. Bairro Padre Cruz

WACT's projects in Portugal are in Bairro Padre Cruz, a council housing neighborhood in the parish of Carnide, in Lisbon. Despite its inner city location, this neighborhood has been secluded from the city, mainly given to its geographic location, which contributes to social exclusion of its inhabitants. The total population of BPC is approximately 7000 inhabitants, including a majority of Portuguese, born in the area of Lisbon, and part of the population from the former Portuguese African colonies of Angola, Sao Tome and Principe, Cape Verde and Guinea-Bissau.[4] The data is clear about the socio-economic problems of BPC, mainly concerning school achievement and economic activity.

Table 1: Socio Economic Data: Comparison BPC - Lisbon

Indicator	**BPC**	**Lisbon**	**Source**
Inactivity Rate	55%	47%	INE Censos 2001
Unemployment Rate	10%	7%	INE Censos 2001
Population with Tertiary Education	1%	19%	INE Censos 2001
Illiteracy Rate	20%	6%	INE Censos 2001
Disadvantaged Children[5]	85%	47%	Lisbon Municipality, 2009/2010
Children enrolled in at least 3 activities of curriculum enrichment	0%	81%	Carta Educativa de Lisboa, 2008

The school of 2nd and 3rd cycles of basic education of BPC is one of the few in the Lisbon Municipality that scores "good" in state of conservation and the educational supply in BPC's group of schools is quantitatively adequate in terms of number of students (Carta Educativa de Lisboa, 2008).[6] Despite de physical quality, according to the Portuguese Ministry of Education, the school of BPC ranks 1268th in a total of 1283 of Portuguese schools with 2nd and 3rd cycles of basic education.[7]

[4]Instituto Nacional de Estatistica (INE), Censos 2001.
[5]Refers to children enrolled in pre-primary or primary education. Children considered economic disadvantaged and enjoy total or half state contribution in school expenses (food, books, school material and extra-curricular activities).
[6] The group of schools of BPC includes pre-primary, primary and lower secondary education.
[7] This ranking is based on the average grades on the national exams for Mathematics and Portuguese.

The illiteracy constrains the adult population in the access to economic activities and also in the academic support to their children, enhancing school devaluation which consequently deals to high absenteeism and early drop out. Youth from this neighborhood tend to initiate economic activity very soon in life in jobs with poor conditions or even in illegal activities, implying that low socio-economic status persists across generations (Agrupamento de Escolas do BPC, 2009). The socio-economic context of BPC conducts to the inefficacy of the educational system and the frequent arousal of problems such as violence, indiscipline, drop out, and low school achievement.

The government program TEIP aims to offer extra instruments and resources to educational communities with persistently low achievement.[8] The TEIP implementation in BPC aims at boosting educational success, in order to promote social equality, but also to involve and develop the community. A mentoring program, given the engagement of the parents and the teachers, is largely a community-based program, and is thus aligned with the government's objectives. The ultimate objective of a mentoring program is to reduce the gap of social inequality.

5. Mentoring Program Proposal

The aim of this Work Project is the development of a program proposal. It is an essential first step for the implementation and an important tool to gather commitment from stakeholders. It includes a statement of the program's objectives, a detailed description of its activities, a list of the necessary resources, management proposal and, an evaluation proposal. This pilot mentoring program proposal focuses in 20 children of the 5th grade of BPC school.

[8] Territórios Educativos de Intervenção Prioritária

5.1 Program Title and Mission

Program ***Catapultas***

For every child living in BPC there is a caring adult willing to share her time, support and motivation. A close mentoring relationship with a positive role model boosts a positive change in life perspectives, attitudes and behaviors.

5.2 Program Description

Catapultas aims to increase the chances of children in BPC to become successful adults, by providing a one-to-one mentoring relationship with a volunteer adult with different background and opportunities. The mentoring program central idea is the introduction of extra support aimed at individual growth and development. The mentor is a facilitator who should guide the mentee into the discovery of his own objectives. The basis of a mentoring relationship is understating, respect and mutual trust, and the value of the relationship is built together with inputs from both parts. There are expected benefits for participating children in educational achievement, social and emotional development, health and interpersonal relationships. ***Catapultas*** is voluntary for both mentors and mentee which is the only way to achieve productive results.

The target youth group is a classroom of the 5^{th} grade, aged between 9 and 12 years old from the school of BPC. For this proposal we assume that a total of 20 children in the selected classroom will be interested in mentoring. The target youth was chosen given the evidence that mentoring is effective in these ages and perceiving the 5^{th} grade as a transition year (new school and classroom, different curricular structure). The target volunteer mentors are students enrolled in universities in the area of Lisbon. ***Catapultas*** mentoring meetings are weekly and there are also meetings out of BPC and gatherings with community and everyone involved in the program.

5.3 Program Objectives

Catapultas aspires to be a driver of positive changes in the lives of children in BPC. The program focuses in three main objectives: increase academic performance; reduce risky behavior; and boost social and emotional development.

5.4 Program Partnerships

5.4.1 School of 2nd and 3rd cycles of basic education of BPC

The target beneficiary youth is a 5th grade classroom BPC school. Support from the school focuses in 3 areas: facilities, familiarity, and information. Some mentoring meetings are in the school facilities. Given the knowledge and privileged contact with the children and their parents, teachers and school direction can facilitate their endorsement. Moreover, to perform an objective evaluation of this program, we shall need information, namely student's achievement records and teacher's report which requires de permission of the school and each child's parents.

5.4.2 Universities in Lisbon

A partnership with universities is important to reach out to volunteers and ensure their commitment. Currently, several universities, such as the NOVA School of Business and Economics, have a database of students interested in volunteer work and match them with organizations that need volunteer workers. Universities are also important to implement an incentive scheme to ensure the volunteers commitment, for instance, after one year of effective mentoring the volunteer earns the right to have an honorable mention of active citizenship in its degree diploma.

5.4.3 Parents' Association of BPC

To ensure the children participation in ***Catapultas*** it is necessary to involve the parents. A partnership with The Parents Association of BPC may accomplish the parents support and provide them information about the program.

5.4.4 Investors: Private Companies

The funding model focuses on private companies that will be considered Financial Mentors by donating funds that allow one child in BPC to have a mentor for at least two years. ***Catapultas*** aims to be a priority in the corporate social responsibility strategy in several companies, and will always acknowledge its Financial Mentors.

5.5 Program Activities

The following activities concern one year of the mentoring program ***Catapultas***. These activities were selected carefully, according to the best practices on youth mentoring, and based on evaluations of different mentoring programs.

5.5.1 Establishment of Partnerships

The partnerships described above must be ensured for at least one year before the beginning of the program. School and parents' association have the important role of parents' supporters. As the main channel to the volunteers' recruitment, partnerships with universities should also be established in advance.

5.5.2 Release of the Program in the School of BPC

Teachers inform the selected 5th grade classroom about the launch of the mentoring program and encourage them to participate. The school and the parents' association explain the details and expected benefits of the program to their parents.

5.5.3 Promotion of the Program in Universities

Mentors recruitment strategy applies internal database of students interested in volunteer work of Universities in Lisbon that are ***Catapultas***' partners.

5.5.4 Screening and Selecting Mentors

The potential mentors are informed about the details of the program. Selection is based on written application, interview, and orientation and training sessions.

5.5.5 Meeting with the Children and Parents

This meeting prepares both children and parents for the engagement in a mentoring relationship and explains the details of the program. The objective is to provide realistic expectations, guarantee the understanding of the mentee's role, answer to questions and doubts, elaborate a sheet with important information about each child, and for parents to formally authorize the collection on data regarding their child.

5.5.6 Mentor Orientation and Training

Prior to the mentoring relationship start there is a 10-hour orientation and training course to give the mentor tools to lead a relationship with a child from a disadvantaged neighborhood and decide the activities to do together, accounting for individual mentee characteristics and objectives of ***Catapultas***. The course will cover topics such as: development stages of youth, awareness of cultural differences, conflict management, limit-setting, relationship building. This course, which is part of the selection process, intends to clarify the role and responsibilities of a mentor and answer their questions.

5.5.7 Matching Process

The quality of the mentoring relationship depends on the empathy between mentor and mentee. The matching process is based primarily on shared interests.

5.5.8 On-going Support and Supervision

There is a monthly meeting with a staff member, for mentors and mentees separately, to talk about the mentoring experience and share their feelings about the

program. In the first meeting, the participant must state clear individual objectives. The staff member should be aware of the date, time and location of all mentoring meetings.

5.5.9 Mentoring Relationship

The mentoring relationship will be based in weekly meetings with two hours of duration, located in the school or in the WACT House in BPC. Mentor and mentee are free to arrange the meetings schedules, yet it should be communicated to program staff members. Once every two months, the meeting may take place in a different location, for instance in a museum, a cinema, a theater, or a park.

5.5.10 Gathering with the Community

Twice a year there will be a gathering with everyone involved in ***Catapultas***, with the aim of providing for parents' involvement and mentors' recognition.

5.5.11 Closure Management

Mentoring provides a formal relationship that requires a formal closure. Expectations for further contact must be clear for both mentor and mentee and achievements of the mentoring relationship should be recognize and celebrated. When a match terminates early it is even more important to manage closure; staff member must clarify with both mentee and mentor the problem that lead to early termination. Mentee should be supported and prepared to a potential new mentoring relationship.

5.6 Program Management

The effective management of ***Catapultas*** requires three volunteer social entrepreneurs and one evaluator, who are the staff members. Two of the staff members are the face of the program for mentors and mentees; they are responsible for the success of the matches and for on-going support and supervision. One of the staff members is in charge of the partnerships, funding, and resources management. The last

staff member is the evaluator responsible for the continuous evaluation of the program. Staff members should dedicate to the program an average of 8 hours per week.

5.7 Program Evaluation

Evaluation is important to understand is the program is accomplishing the expected benefits for the mentored children. It exposes the features that require adjustment or modification and it can be used to attract new investors.

Due to the ethical and sensitivity issues that can emerge if the opportunity of mentoring is restricted to only a few in the same classroom, the treatment group is an entire classroom. Since classrooms were previously composed and most likely not randomly, an experimental design is not possible because treatment and control group are not randomly selected. Therefore, the evaluation methodology is a quasi-experimental design, based on the identification of a control group which is composed by students from the others three classrooms of the 5^{th} grade of BPC school, this control group credibly represents what would have happened to the treatment group without the mentoring program. Those two groups allow the estimation of the program's impact, which is the difference of outcomes between them (Grossman, 2009). To evaluate the impact on the beneficiary youth, data must be collected before and 12 months after the beginning of the mentoring, for both treatment and control groups. This data includes surveys to mentors, mentees, parents, and teachers; individual information provided by the school and authorized by the parents; and information concerning social and emotional development collected in psychological appointments. We detail this data in Table 3. In addition, ***Catapultas*** should annually evaluate all the activities of the program based on interviews with the people involved: staff, mentors, mentees, parents, teachers and partners.

Table 2: ***Catapultas*** Evaluation Data

Objective	Indicator	Data Source	Frequency of Collection
Increase academic performance	Attendance rates	School records	Pre-mentoring program. Then, quarterly, at the end of school periods.
	School grades	School records	Pre-mentoring program. Then, quarterly, at the end of school periods.
	Motivation towards school	Mentee survey Teacher survey	Pre-mentoring program and 12 months after.
	Perceived academic competence	Mentee survey	Pre-mentoring program and 12 months after.
Reduce risky behavior	Drug and alcohol consumption	Mentee survey	Pre-mentoring program and 12 months after.
	Fighting	Mentee survey	Pre-mentoring program and 12 months after.
	School discipline breaches	School records	Pre-mentoring program. Then, quarterly, at the end of school periods.
	Suspensions from school	School records	Pre-mentoring program. Then, quarterly, at the end of school periods.
Boost social and emotional development	Relationship with parents and peers	Mentee survey Parents survey Teacher survey	Pre-mentoring program and 12 months after.
	Self-esteem and self-worth	Mentee survey Psychologist appointment	Pre-mentoring program and 12 months after.
	Communication skills	Mentee survey Teacher survey	Pre-mentoring program and 12 months after.
	Ability to set personal objectives	Mentee survey Parent survey Teacher survey	Pre-mentoring program and 12 months after.

5.8 Program Timeline

Table 3: ***Catapultas*** Timeline

	Jun	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Out
Establishment of Partnerships															
Release in School															
Promotion in Universities															
Screening and Selecting Mentors															
Meeting with Children and Parents															
Mentor Orientation and Training															
Matching Process															
Mentoring Relationship															
On-going Support and Supervision															
Gathering with the Community															
Closure Management															

5.9 Program Risk Analysis and Management

We identify three risk factors that can potentially avert the success of ***Catapultas*** or unable the desired outputs, and minimize them careful design and management.

5.9.1 Duration of the Relationship

Given the potential negative consequences of an early termination on the participating children, mentors assume a one-year commitment. Recognition of the work of the mentor is done through two different mechanisms: an honorable mention of active citizenship in its degree diploma and the gratitude of their work in the Gatherings

to raise the community awareness of their positive contributions. To entice the mentees there are meetings out of BPC, in a place chosen accordingly to their interests.

5.9.2 Quality of the Relationship

The mentoring relationship must be close and motivating to yield the desired outcomes. The on-going support and supervision meeting with the staff member are important to guarantee the quality of the relationship and satisfaction of both parts. It is not on ***Catapultas*** interest to have low quality matches, there is flexibility to rearrange matches that are not working as they should.

5.9.3 Support from the Parents

Parents' support of the mentoring relationship is key for the mentee's motivation. The partnership with the parents' association of BPC can work as a certification of the program's quality and collaborate to enhance the parents' support. Moreover, parents are invited to the Gatherings to celebrate their children accomplishments; parents can attend with their children to on-going support and supervision meetings; and whenever requested staff members can schedule a meeting for parents and mentor.

5.10 Program Expected Benefits

Catapultas expects to achieve long-term socio-economic positive impacts for the youth living in BPC and also to the overall community of BPC and to the participating volunteers. Relating to the participating children, ***Catapultas*** expects to impact their school achievement through the introduction in their lives of an element of extra support and motivation. A close contact with a university student can stimulate the children to value school in a different way. Furthermore, the emotional support given by the mentor can modify the way the child sees the world and herself, augmenting her non-cognitive

skills, and improving her attitudes and behaviors. Taken together, these impacts on BPC youth are important steps in the long way of closing the educational achievement gap.

Catapultas will strength the capacity of the community of BPC to respond to youth related problems. In addition, the participation of volunteers will raise the awareness to the problems faced by the BPC community, and allow for an enlargement of their personal and professional network. Additionally, this program increases the participation in volunteering by youth adults and offers them the opportunity to develop new skills.

5.11 Program Budget

Table 4: ***Catapultas*** Total Annual Budget

Area	Input	Quantity	Unit Cost	Total Cost
Promotion	Posters	20	0.60€	12.00€
	Program Print	80	0.15€	12.00€
Training Course	Trainer	10 hours	40.00€	400.00€
	Course Contents	10 hours	20.00€	200.00€
Gathering the Community	Material for Activities	2 gatherings	50.00€	100.00€
	Food and Drinks	2 gatherings	100.00€	200.00€
Meetings Activities	School Supplies	20 matches	10.00€	200.00€
	Stationary Material	20 matches	10.00€	200.00€
Meetings Out	Entrance and/or Other Expenses	120 meetings	15.00€	1800.00€
Administration	Prints	200	0.05€	10.00€
	Paper	2	4.00€	8.00€
	File	2	2.50€	5.00€
	Notebook	4	1.00€	4.00€
	Pen	5	0.20€	1.00€
	Puncher	1	5.00€	5.00€
	Stapler	1	5.00€	5.00€
	Pen Drive	1	10.00€	10.00€
Transportation	Partnership Meetings Transportation	5	10.00€	50.00€
	Others Transportation Costs	5	10.00	50.00€
Evaluation	Evaluation Forms Print	200	0.10€	20.00€
	Psychologist	40 meetings	50.00€	2000.00€
			Total Annual Cost	**5292.00€**
			Total Annual Cost per Mentee	**264.60€**

5.12 Program Logic Model

Table 5: ***Catapultas*** Logic Model

Objectives →	Inputs →	Activities →	Outputs →	Outcomes →	Benefits
Youth in Bairro Padre Cruz to: ▪ Increase academic performance ▪ Reduce risk behavior ▪ Boost social and emotional development	Staff members Promotional materials Children Volunteers Mentor training course and trainer Office material	Partnerships Financial Mentors agreements Release of the Program in the school of BPC Promotion in universities Screen and select mentors Meeting with children and parents Mentor orientation and training Matching Process On-going support and supervision Mentoring relationship Gatherings Closure management Program evaluation	Partnerships with the school of BPC Partnerships with the parents' association of BPC Partnerships with Lisbon Universities 3 Social Entrepre-neurs 20 Financial Mentors 20 children mentored 20 trained mentors 20 matches with success Evaluation statement	Increase school attendance Increase school achievement Increase sense of well-being Improve relationships with parents and peers Decrease in alcohol and drug use Increase social competence Increase self-esteem and self-worth	Increased youth motivation for school Decreased educational gap Increased youth emotional support Increased community capacities Increased BPC community network Increase participation in volunteer-ring

6. Conclusion

Educational inequality implies monetary (earnings, employment probability) and non-monetary (health, civic participation, criminal behavior, child development) differences in returns on education. Researchers agree that family background is the main driver of educational inequality and its intergenerational persistence. ***Catapultas*** aims to introduce an external element, the mentor, in the life of a child exposed to environmental risk, with the intent of breaking the cycle of intergenerational transmission of low educational achievement. ***Catapultas*** seeks to tackle two problems, namely lack of family support and positive role models in order to increase the motivation for school from children. In spite of enjoying physical resources of decent quality, the BPC school is one of the worst in school achievement in Portugal. Overall, research has shown that mentoring boost resilience. ***Catapultas*** was designed based on best practices for mentoring programs and includes features pointed by evidence as yielding the best results for children. More research on the features that best yield duration and quality of mentoring relationships is still needed. In addition, there is lack of research on the cost-effectiveness of mentoring programs or its social return on investment. ***Catapultas*** aims to contribute to scientific knowledge on mentoring programs by implementing a careful quasi-experimental evaluation procedure from the beginning.

Catapultas' growth prospects include the provision of mentors to every child of the 5^{th} grade from BPC and follow her until at least the end of the 9^{th} grade with the lowest rotation of mentors as possible. This growth in the number of beneficiary will imply hiring paid human resources. ***Catapultas*** was design for BPC but it is replicable in neighborhoods in similar socio-economic circumstances.

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