Analysis of relations between "Equality of Life Chances" and "Early Childhood Care and Education", as foundations for social justice and human development: a case study of Mauritius

Christian Morabito

Supervisor: Prof. Dr. Michel Vandenbroeck

Proefschrift ingediend tot het behalen van de academische graad van
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Between persons of equal income there is no social distinction except the distinction of merit. Money is nothing: character, conduct, and capacity are everything. There would be great people and ordinary people and little people, but the great would always be those who had done great things, and never the idiots whose mothers had spoiled them and whose fathers had left them a hundred thousand a year; and the little would be persons of small minds and mean characters, and not poor persons who had never had a chance. That is why idiots are always in favor of inequality of income (their only chance of eminence), and the really great in favor of equality

(George Bernard Shaw)

Acknowledgments

When I first thought about embarking on an academic research journey, my intention was to obtain a higher education certificate to increase my employability with international organizations. At that time, I was working at the office of the United Nations in Mauritius, admittedly a quite comfortable position. However, as soon as I became deeply involved in the research project, I found myself thirsting for knowledge, and taking full advantage of all the opportunities this learning offered. Rather than being just another diploma on the "wall of fame" of my house, or in my curriculum vitae, my PhD can and should be more; it is a life choice. After a couple of years undertaking research activities while continuing working for the UN in Mauritius, I decided to leave my smooth career as an international bureaucrat to enter uncharted waters by making research the center of my professional life. I moved from a continent with a lot of sun to another with none at all; I left my friends, and went through hard times, struggling financially to sustain my research. But in the end, it has been well worth all the challenges. And this final dissertation has come at the same time of another, much greater life achievement: my first child, Eva.

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Chapter 1

Introduction

1.1. The origins of the research project

I started to familiarize myself with the topic of inequality and its relations with life chances in Mauritius about ten years ago. In 2006, I joined the country's office of the United Nations Development Programme (UNDP) to coordinate a national project to reduce poverty through the improvement in the level of educational achievements in deprived regions of the country. The project, co-managed by the United Nations and the Ministry of Education and Human Resources of Mauritius paralleled a larger strategy adopted by the Government of Mauritius, the so-called 'Empowerment Programme'. That project aimed to address poverty and inequality through enhancing skills and competencies of both children and their parents in the most marginalized areas. Education was identified by the government as the means to reduce poverty and inequality. For children, interventions focused on ensuring equal access to early childhood care and education (ECCE), along with the provision of food, clothing, transportation and pedagogical material. Parents were supported through life-long learning schemes for employability and also programmes to enhance parenting practices (NEF, 2015).

In spite of the expected outcomes, my overall impression was that this strategy did not substantially reduce poverty and inequality in Mauritius. As an example, the number of educational underachievers among the most deprived children in Mauritius remained extremely high after the intervention that I coordinated. As highlighted also by the Government of Mauritius, the persistence of educational inequalities may potentially undermine the sustainability of the economic and social development of the country, which is strongly dependent on human resources (Government of Mauritius & UNDP, 2013).

This experience brought me to critically question the egalitarian approach adopted not only by the Government of Mauritius, but also

advocated for by international organizations. From their perspective, an increasing focus on early childhood education as a means of poverty reduction is to be noticed. As a result of this experience, I wished to critically analyse these claims of ECCE as an equalizer, in a structured manner through a PhD research programme. Cyril Dalais, a former UNICEF expert and a reference in the Sub-Saharan African region, supported me in this plan. At the time of my engagement at the UNDP Office, Cyril Dalais was the advisor of the Minister of Education and Human Resource of Mauritius. His role was instrumental in refining my embryonic ideas with regard to a proper research proposal. He also suggested the use of the data from the Joint Child Health Project, a longitudinal study started in 1970s, for which he worked, being responsible for the educational intervention. The relation with Ghent University came in 2010, when I participated in the International Conference of ECCE in Moscow organized by UNESCO. There, John Bennet, a leading scholar in ECCE who also supported my academic venture, introduced me to my (future) supervisor Professor Michel Vandenbroeck.

1.2. The dominant discourse on ECCE as equaliser

The last three decades have been characterized by increasing socio-economic inequalities world-wide (OECD, 2015). Yet, in the same period, we have seen a substantial rethinking of equality and fairness among policy makers, in particular in international organizations. There seems to be a trend that questions outcome redistribution and favours distributive justice models focusing the equalisandum on 'opportunity'[1]. Education in general and early childhood education in particular are framed as powerful (and consensual) equalizers. This evolution seems to be contingent on a shift from poverty policies to child poverty policies (Schiettecat, Roets & Vandenbroeck, 2015). It also appears to be in a

[1] In our thesis, the terminology "equality of life chances" and "equality of opportunity" are used indistinctively.

tense relation with the international definition of social work which states that "principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledge, social work engages people and structures to address life challenges and enhance well-being" (International Federation of Social Workers, 2014; emphasis by us).

Our first research question therefore relates to the rationale for this shift in focus from international organisations such as the World Bank, UNICEF or UNESCO. This can be traced back to the work of contemporary egalitarian philosophers such as John Rawls (2001), Amartya Sen (1992, 2009), Ronald Dworkin (1981a, 1981b), and John Roemer (1998). Although these scholars developed different theoretical perspectives, they introduced the concept that equality should instil individual responsibility.

Next, we look at how this shift in focus relates to social policies in general and early childhood education policies in particular. It must be pointed out that the human capital paradigm, with its focus on early learning, has been the subject of a dominant discourse over the last few years. In that vein, international organisations and scholars from various disciplines have associated opportunities with skills required by the present knowledge economy and society. As a result, the early acquisition of these skills is principally framed as a return on investment (Heckman 2008). Equality of opportunity is then redefined as equalizing human capital, in a global meritocratic context dominated by 'brainpower' (Castells, 1996; Heckman, 2000).

International organisations in the educational field have, contingent with the market logic of this rationale, increasingly legitimised their existence in these economic terms. They advocate that skills and inequalities in their acquisition are formed in the early years and that they are

influenced by circumstances in which the child is born and grows up—gender, ethnicity, religion, disability, family, socio-economic status, as well as geographical and housing conditions (UNESCO, 2007; World Bank, 2006). The argument suggests that high quality child care and preschool education is a powerful instrument to close the gap and that this will yield significant savings in the welfare system later on (Barnett, 2011; Barnett & Masse, 2007; Cunha & Heckman, 2006; Gormeley, 2011; Heckman, 2008; Heckman & Masterov, 2007; UNESCO, 2010). This prevailing discourse has received very critical attention for its focus on individualised parental responsibilities (Connolly & Harms 2012; Furedi 2014), its conceptualisation of the welfare state as residual (Schiettecat, Roets & Vandenbroeck, 2015), and for the narrow focus that excludes parents, staff and local communities from the democratic debates about the very meaning of early childhood education (Biesta, 2007; Moss, 2013; Vandenbroeck, Roets & Roose, 2012). Our second research question is the following: how may the different opinions about fairness and equality of opportunity lead to diverse social policies in general and early childhood policies in particular?

In addition to the previous critical remarks, questions should also be raised about the evidence on which the equalising claim is based. Most of this evidence comes from longitudinal studies conducted in the US (Barnett, 2011; Barnett and Masse, 2007; Cunha and Heckman, 2006; Heckman, 2000, 2008, 2009; Heckman & Masterov, 2007; Heckman, Moon, Pinto, Savelyev, & Yavitz, 2009), and cross-sectional analyses undertaken in developing countries (Alderman, 2011; Engle *et al.*, 2011). Very often poor children in high quality early childhood education are compared to equally poor children who do not receive any preschool or attend a preschool of low quality. These effects are therefore studies primarily in children who are identified as ‘at risk’, in relation to their demographic and family’s socio-economic background. As a result, the studies referred to, may be used to justify the claim that early childhood education benefits poor children, yet a claim of

equalisation is not justifiable, as this would necessitate comparison with children from higher socio-economic backgrounds. In fact, longitudinal studies that have followed a mixed cohort are rare and almost non-existent in developing countries (Alderman, 2011). Nevertheless, the potential equalising role of early childhood education remains an important issue for social work research. Not only is it inextricably interwoven with conceptions of social policy and constructions of the welfare state, it is also at the heart of what social work research is about. Social change is a central principle that drives social work as an academic discipline, and refers to the emancipation from structural barriers such as historical, socio-economic, cultural, spatial, political and personal ones which prevent people from fulfilling their potential to flourish (International Federation of Social Workers, 2014). In this way, we wish to contribute to disentangle the paradox of social work, whose objectives are to promote social justice, collective responsibility and the overcoming of structural inequalities, whereas contemporary policy making towards equality and fairness tends to focus instead on individual responsibility (Lorenz, 2005). Therefore we have added quantitative analyses of an existing longitudinal database and examined two additional research questions as follows: what circumstances before entering the school system influence cognitive outcomes and school results later on? Does high quality early childhood education have a beneficial effect and does it close the gap between more and less privileged children?

As stated above, a fundamental criticism of the human capital and return on investment paradigm is that it excludes parents from the debates regarding what is at the heart of their concern—the life chances of their children. We therefore added a qualitative component to our research endeavours to examine what parents' views are in Mauritius on equality of opportunity, fairness, individual and collective responsibility and the role of (early childhood) education.

1.3. Thesis development

Chapters 2 and 3 lay out the theoretical and analytical framework for the empirical part which follows in chapters 4, 5 and 6. We have examined the changing understandings of equality and the alleged prominent role of early childhood care and education in social policies. We looked at conceptualisations of equality and fairness developed by contemporary philosophers, and sketched possible normative divergences in operationalising redistributive policies, depending on the role given to individual responsibility vs circumstances. We have then critically reviewed the main arguments exposed by international organisations in favour of considering Early Childhood Care and Education as a powerful equaliser and, in so doing, we posed question marks to the alleged consensual policy.

In chapters 4 and 5, we have assessed the arguments in favour of ECCE as an equaliser using data from the longitudinal cohort of the Joint Child Health Project (JCHP) Mauritius. The JCHP consists of a longitudinal cohort involving 1795 children born in 1969 in Mauritius. Data have been regularly collected for more than 40 years on a number of variables from age 3 years up to adulthood. Our study, however, was limited to the data from ages three to eleven. The dataset of the JCHP is unique in many ways. Unlike many other studies, it contains data from children of diverse ethnic origins and diverse socio-economic statuses. In addition, 100 children were selected to participate in a high quality ECCE intervention in 1972 when they were 3 years of age. These randomly selected children were matched with 100 children in a control group, enrolled in low-quality community preschools. We analysed which circumstances before preschool age influenced later cognitive outcomes as well as school results at age eleven (chapter 4). Second, by using the sub-sample of 200 children who participated in the experiment, we examined both the potential beneficial and equalising effects of high quality early childhood education with respect to preschool inequalities

(chapter 5). As a result, our study differs from most studies in the United States and Europe, as it involves children from different socio-economic and demographic backgrounds, which enables us to not only look at the beneficial effects of ECCE on school results, but also the extent to which ECCE is able to close the gap.

In chapter 6, we complemented previous theoretical and quantitative research work by investigating the point of view of parents from diverse socio-economic and ethnic backgrounds in Mauritius. We explored their meaning making of inequality, opportunities, individual and collective responsibility and fairness.

1.4. The Mauritius case study

Mauritius is an island in the Indian Ocean with an area of 61 km from north to south and 47 km from west to east. It gained independence from UK in 1968. Its population was 0.75 million in 1972 when the Joint Child Health Project started and had increased to 1.3 million at the time of the 2012 census (Government of Mauritius & UNDP, 2013). It is the third most densely populated country in the world. The majority of the population consists of descendants of the indentured labourers. The other major ethical group is the so-called ‘Creoles’, descendants of continental African slaves. The population also includes descendants of European colonialists and Chinese immigrants (Addison & Hazareesingh, 1984).

Various post-independence governments have essentially adopted the same socio-economic development strategy, based on generous welfare state provision, but focused on health and education, not income (i.e., free and universal primary education and health care since the 1970s), within a free market system with little state intervention in business (Dommen & Dommen, 1997; Salverda, 2010). The origins of this consensual policy can be traced back to the first post-independence national unity government, led by the Labour Party (socialist democratic

orientation), in coalition with the Social-Democratic Party, a conservative-liberal movement (Bowman, 1991; Salverda, 2010).

Mauritius differs from the rest of the sub-Saharan Africa region, as it has been characterized since independence by stable and democratically elected governments and a rapid socio-economic development (Dommen & Dommen, 1997). In the early 1970s, thus at the time of the Joint Child Health Project, the economic and social development of Mauritius was undergoing unprecedented expansion which was mostly due to substantial growth in sugar industry exports and the setting up of export processing zones. The economic growth favoured employment and rising salaries (Bowman, 1991; Dommen & Dommen, 1997). The GDP per capita almost doubled during the 1970s (Stiglitz, 2011). Economic dynamics were accompanied by progress in education, health, and social security; in the 1970s Mauritius was the only country in the sub-Saharan Africa region to have reached 100% coverage of primary education for both boys and girls. Family planning effectively reduced the family size from an average of six children at the beginning of the 1960s to three in 1973, thus supporting the financial sustainability of welfare provision. An extensive system of primary health care covered the entire island and was accompanied by specific family-child support programs (as an example, child immunization coverage was 80% in 1974) (Dommen & Dommen, 1997). In addition, Mauritius is one of the few countries in the region that has placed ECCE at the centre of its national development agenda since the mid-1980s (Parsuramen, 2006), with an expansion in the last decade—reaching 98% coverage in 2012—as a result of poverty reduction strategies focusing on redistribution through education (Ministry of Education of Mauritius, 2009; NEF, 2015). At present, according to the Human Development Index 2013, Mauritius is in the category ‘high human development’, with an index value of .771 (63rd in the world rankings) compared to the sub-Saharan African average of .502 (UNDP, 2014).

Nevertheless, this progress has not been distributed equally among the population. As an example, Creoles are still suffering from negative stereotypes, which have been generated during slavery and transmitted across generations (Palmyre 2007; Romaine & Ng Tat Chung 2010). As a result, they continue to be the most marginalised group in Mauritius at both an educational and socio-economic level (Carosin 2013). In addition to the ethnical divide, socio-economic status also influences the life trajectories of individuals, starting from their education (Chinapah, 1983, 1987; MES, 1991).

The present report is the result of the investigation of the controversial claims of ECCE being the greatest of equalisers, and makes use of both a mixed method research, and combines a critical literature study, quantitative data analyses of a longitudinal database and qualitative focus groups with diverse Mauritian parents.

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Chapter 2

‘The greatest of equalisers’: a critical review of international organisations’ views on early childhood care and education

Abstract[2]

There is a large consensus among international organisations (e.g., United Nations and the World Bank) in considering Early Childhood Care and Education a prominent policy to equalise opportunities. Moreover, it is common opinion that interventions in early childhood aiming at equalising 'opportunities' rather than 'outcomes' will overcome political dissent. These two claims draw upon a particular interpretation of the work of contemporary egalitarian philosophers, as well as a number of studies in both developed and developing countries, finding higher benefits for disadvantaged children. Despite the tradition of analysing welfare provision from an equality perspective, the shift towards early childhood education as an equality policy has not yet fully been analysed. We critically examine the consensus advocated by international organisations regarding Early Childhood Care and Education as key to 'levelling the playing field' and suggest that the first claim (early childhood as greatest equaliser) should be considered with caution. We also argue that the alleged consensus on this claim may lead to a depoliticisation of social policy.

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2.1. Introduction

There is a long-standing interest in analysing welfare provision from an equality perspective (e.g., Bolderson, 2011; Wilson, 2000) and in critically examining policies in this regard (e.g., Page, 2007). Recently, a gradual shift in redistributive policies towards interventions in early childhood has been noticed, coinciding with a paradigmatic shift from equalising outcomes to equalising opportunities (Staab, 2010). This shift can be noticed both in developed countries (e.g., Council of the European Union, 2009) and in developing countries. International organisations such as United Nations agencies (UNICEF and UNESCO) and the World Bank largely concur in identifying the first years of life as key to neutralising inequalities of opportunities. This focus on the early years is much debated in developmental psychology, brain research and education as is illustrated by the special issues of *The Lancet* and *Science*, both published in 2011 (Engle *et al*., 2011; Alberts, 2011). It is however less well analysed from a social policy perspective.

In the present chapter, we critically review how *justice* and *equality* are conceptualised in international organisations (e.g., the World Bank), leading them to consider Early Childhood Care and Education (ECCE) policies as a solution to inequality. In so doing, our focus is on both the developing and developed world. Space prevents us from exploring conceptual discussions of what 'opportunities', 'outcomes' or 'equality' may mean. Instead, we focus on how these concepts are used in international organisations. We argue that international organisations' claim that ECCE is the most important equaliser should be considered with some caution. We also argue that the apparent consensus on this claim may entail a *depoliticisation* of welfare policies.

Regarding the first claim (ECCE as the most important equaliser), this is what the Director General of UNESCO, Irina Bokova, had to say in her

opening speech for the World Conference on Early Childhood Care and Education 2010:

> [Early childhood programmes] increase education attainment and productivity, resulting in higher earnings and social mobility. No matter what internationally agreed goal you take, it is the poorest and marginalized groups that are deprived of education, health care and other basic human entitlements required to live in dignity. Early childhood care and education is a starting point for levelling the playing field. It is the greatest of equalizers (UNESCO, 2010(b), p. 3–4).

This quote eloquently illustrates the assertion that ECCE has the potential to 'level […] the playing field', as UNESCO (2010) and World Bank (2006) claim, creating a situation where 'a person's life achievements are determined primarily by his or her talents and efforts, rather than by pre-determined circumstances such as race, gender, social or family background' (World Bank, 2006, p. xi). This distinction between personal effort (responsibility) and predetermined circumstances that lie beyond an individuals' responsibility is inspired by contemporary egalitarian philosophy, notably the work of Rawls (1999), Sen (1979, 1992, 1997, 2009), Dworkin (1981a, 1981b) and Roemer (1993, 1998, 2002, 2005). As we will explain in more depth later, the terms 'effort' and 'responsibility' are particularly important here, since it can be assumed that the youngest of children cannot be held responsible for their effort and therefore it is 'just' or 'fair' to invest in them.

International organisations outline that inequality in life achievements, i.e., educational performances, job position and earnings in adulthood, are to a large extent moulded by disadvantage in accessing opportunities, associable with cognitive, physical and socio-emotional development, which are generated at birth by inherited 'circumstances' (e.g., gender, socio-economic status) and reinforced in the early years (Engle *et al.*,

2011). Economics Nobel laureate Heckman states that these inherited circumstance have cumulative effects on skill formation over the years and therefore labels this as ‘the accident of birth' (Heckman, 2008, p. 49). His thesis is strengthened by recent findings in neuroscience underlining that the first years of life represent a sensitive period for brain development and that the development of synapses in the brain is significantly nurtured through social connections and emotional, cognitive and physical stimuli (Shonkoff and Phillips, 2000), therefore by circumstances in which the child is born and grows up in. Assessments of the impact of ECCE programmes on early as well as later development have gained momentum in developed countries, in particular through longitudinal studies in the US (Barnett, 2011; Barnett and Masse, 2007; Cunha and Heckman, 2006; Heckman, 2000, 2008, 2009; Heckman and Masterov, 2007; Heckman, Moon, Pinto, Savelyev and Yavitz, 2009) and in Europe (Burger, 2010). More recently, similar studies, as well as cross-sectional assessments of ECCE programmes, have also emerged in developing countries (Alderman (ed.), 2011; Engle *et al.*, 2011). This vein of research shows robust evidence of positive effects of ECCE on cognitive, physical and non-cognitive development in early childhood, leading to higher educational performance and earnings; these positive effects are particularly salient for children identified as *at risk* for being disadvantaged. Hence, ECCE programmes are identified by international organisations as a powerful playing-field leveller with the potential to reduce the impact of inherited determinants on the unequal distribution of opportunities (defined, among others, as access to higher education, better-paid jobs, etc.). In doing so, international organisations explicitly refer to the present global knowledge economy and society in which human capital is crucial.

It needs to be noticed, however, that in many of the studies underpinning this policy, disadvantaged children enrolled in ECCE programmes are compared to equally-disadvantaged children not benefiting from ECCE, rather than to their better-off peers (Barnett, 2011; Engle *et al.*, 2011).

Moreover, the conceptualisation of *disadvantage* or *risk* in childhood generally refers to a restricted bundle of circumstances, namely, those which can be measured, (e.g., gender, socio-economic status, geographical location, ethnicity). As a consequence, most studies neglect the incidence of unobservable circumstances constructed by formal and non-formal social structures that shape disadvantage beyond childhood (such as racial or gender discrimination), influencing life outcomes in unfair ways. As we will further argue in more detail, despite the robust evidence that is produced in many effectiveness studies, the claim that ECCE programmes *as such* are 'the greatest of equalisers' should be considered with some caution.

Regarding the second claim, international organisations highlight the consensual character of interventions in early years aiming at equalising opportunities. We analyse this with a focus on World Bank policy documents geared at developing countries, although the conclusions may be applicable beyond the developing world. The alleged consensus is believed to overcome political and ideological cleavages. As Marcelo Giugale (in Paes de Barros *et al.,* 2009, p. xvii), World Bank Director of Economic Policy and Poverty Reduction Programs for Africa, states:

> Much more important than inequality of outcomes among adults is inequality of opportunity among children. (…) The idea of giving people equal opportunity early in life, whatever their socioeconomic background, is embraced across the political spectrum — as a matter of fairness for the left and as a matter of personal effort for the right.

Despite attempts to reach a consensus, redistributive policies remain highly controversial and a source of ongoing debate between left and right (e.g., Page, 2007; Wilson, 2000; also see Mouffe, 2005). The alleged consensus on ECCE resides in the simple fact that all can agree that circumstances at birth are beyond the individuals' control and that effort or responsibility do not play a crucial role in early childhood. The

assumption that international organisations (and nation states for that matter) should primarily invest in those circumstances that are beyond the individuals' control and effort is legitimised by a specific interpretation of contemporary philosophers' work, as will be explained in the next section. This alleged consensus might, however, mask a *dissensus* or 'antinomy' (Mouffe, 2005) on other aspects of social welfare policies.

One of the core aspects of disagreement is indeed precisely whether to also include interventions that reduce gaps in parents' material capital (i.e., income), such as redistributive measures. It can be argued that in order to equalise opportunities (of children) one would need to reduce the inequalities of outcomes of parents, as they shape children's opportunities, making the alleged ideological and political 'consensual' character of ECCE less obvious.

In what follows, we adopt the definition of early childhood care and education (ECCE) used in UNESCO's Education For All Global Monitoring Report (2007), including a broad array of formal, informal and non-formal services related to health, wellbeing and education from birth to primary school.

2.2. Egalitarian philosophy and The World Bank

Among international organisations, the World Bank has dedicated important resources to defining and 'measuring' equality of opportunities. This process started with the World Development Report *Equity and Development* (World Bank, 2006), which included a review of egalitarian philosophical scholars, leading to a definition of equality. The World Bank's rationale for justice and equality refers to the work of Rawls, Sen, Dworkin and Roemer. Despite the differences in various aspects of their thinking, these scholars agree to recognise, either explicitly (Dworkin and Roemer) or implicitly (Rawls and Sen),

individual responsibility as accounting for life outcomes along with factors beyond individual control, and therefore make a clear distinction between unfairness of inequalities (of outcomes) determined by the latter and fair inequalities if due to free and responsible choices or actions or to effort. Accordingly, they move from equalising outcomes to equalising opportunities.

Contemporary philosophy indeed contributed to deepen the discussion on defining the *equalisandum*: the '*what* to equalise'. Rawls (1999, p. 78) described the *what* as an index of 'primary social goods' that rational individuals want in order to pursue their life plans: opportunities, wealth and income, social basis of self-respect (along with rights and liberties). Those 'goods' reflecting socio-economic positions in the society – or, broadly, 'opportunities' (Van Parijs, 2009) – should be made available for everyone, or 'open to all' (Rawls, 1999, p. 53), and distributed in accordance with the 'difference principle' (Rawls, 1999, p. 65). This is also known as the 'maximin' principle maximising the advantage of groups belonging to the lowest positions in society.

Sen (2009) outlined that primary goods are means, enabling an individual to 'achieve those things that one has reason to value' (p. 231) or desire to be. Yet the transformation of goods into a function that a person can effectively use (to be free to choose or pursue a choice), is shaped by variations, i.e., personal heterogeneities, environmental diversities, variations in social climate, differences in relational perspectives, distribution within the family (Sen, 1997, p. 385–86). Sen advocates prioritising the equalisation of 'basic capabilities', representing a set of functions that every individual should acquire in order to be 'able to do certain basic things' (Sen, 1979, p. 218), thus meeting minimal living conditions – i.e., nutrition, housing, participation in social and community life.

While Rawls and Sen imply the importance of individual responsibility, Dworkin (1981a;b) more explicitly develops individual responsibility as a factor determining life outcomes (and thus inequalities). He highlights that individuals are responsible for their preferences, yet he acknowledges that circumstances beyond the individual's control can determine poor outcomes, including innate talent. Dworkin associates the *equalisandum* with 'resources', and states that their distribution should be focused on compensating individuals for poor results due to factors for which they cannot be held responsible, but not for results of preferences and actions. In the same vein, Roemer underlines the role of 'effort' as an individual responsibility in determining outcomes, which he calls 'advantage' (Roemer, 1998, p. 24), together with uncontrolled 'circumstances'. Therefore, an equalising policy should allocate (or redistribute) available resources so that people showing a similar degree of effort will gain similar outcomes, independent of circumstances. From this literature, the World Bank extracts a normative definition of equality, recalling commonalities among the four authors:

> We do not dwell on the fine distinctions between Sen's capabilities and Roemer's opportunities. As in both frameworks, we acknowledge the central role of individual responsibility and effort in determining outcomes. We focus on eliminating disadvantage from circumstances that lie largely beyond the control of the individual but that powerfully shape both the outcomes and the actions in pursuit of those outcomes (World Bank, 2006, p. 78)

As a result, the playing field is levelled when opportunities (capabilities, resources) are equalised and pre-determinants do not account (or account less) for unequal life achievements. Inequalities are then solely the result of responsible and free choices, actions, efforts or talent. It is to be noticed that the World Bank's definition of justice and equality differs from the philosophers' views. One example of this refers to the concept of 'talent': the World Bank considers inequalities due to talent as

acceptable (based on the rationale of economic efficiency), while most contemporary philosophers identify talent as part of the 'circumstances' that should not affect outcomes (Paes de Barros *et al.*, 2009; World Bank, 2006).

The World Bank's approach towards justice and equality assumes that the shift in the *equalisandum* from outcome to opportunities will lead to an 'ideologically neutral' or politically consensual conception of equality, since it takes into account the concern of the left regarding fairness (the role of circumstances) as well as the concern of the right to include the reward of effort:

> The inequality caused by unequal opportunities is viewed by most people as fundamentally unfair. Thus, shifting the debate from inequality of income or earnings to inequality of opportunity, and to the policies needed to tackle that inequality, might facilitate a political and policy consensus. When the focus of the debate is on inequality of income or any other outcome, the views about how much to redistribute—if any at all and through which mechanisms would vary from left to right across the political spectrum. However, when the focus shifts to the equalization of opportunity, political consensus about the need to reduce inequity is easier to achieve, and the direction this principle gives to policy is clearer. (Paes de Barros *et al*., 2009, p. 27)

The next step for the World Bank was to operationalise the concept of opportunities in order to make it measurable. As admitted by the World Bank, this is quite a complex exercise, since choice of circumstances is beyond the individual's responsibility, or 'morally irrelevant' (World Bank, 2006, p. 26). Likewise, indicators of 'opportunities' as inputs necessary for individuals to pursue life plans vary according to normative considerations, influenced by cultural or political contexts (Roemer, 1998; Sen, 1979, 2009), and their measurement can be difficult

due to lack of data, particularly in developing countries. Despite these difficulties, the World Bank developed a tool for comparing countries' progress towards equality of opportunities: the Human Opportunity Index (HOI), focusing on 'basic opportunities for children' identified as a) the completion of six grades of education and enrolment at 10–14 years (education opportunities), and b) access to drinking water, electricity and sanitation (housing opportunities). The index measures whether a) and b) are distributed regardless of a limited bundle of circumstances (measurable across countries): gender, birthplace, race or ethnicity, educational attainment of parents and their occupation. (Paes de Barros *et al.*, 2009). The World Bank acknowledged that these only provide 'a partial, and often rudimentary, picture of the full range of inequity that might exist in a country' (World Bank, 2006, p. 44). While the HOI is less applicable in developed countries, operationalisations of opportunities' may vary and other indicators may be used to measure equality of opportunity for children, such as completion of compulsory education and access to higher education and culture, opportunities for leisure and recreational activities, good health and nutrition status, body integrity (i.e., Burchardt, 2006; Nussbaum, 2011). This is, of course, especially salient in the realm of the human capital paradigm.

2.3. From equality of opportunity to early childhood

International organisations highlight the role of human capital as a major opportunity in the context of globalisation, innovation, knowledge and technologies. The connection between equality and childhood refers to global economic and social dynamics, radically mutating the nature of the workforce from 'manpower' to 'brainpower' (Castells, 1996; Dickens, 2003; Giddens and Diamond (ed.), 2005; Heckman, 2000), associating opportunities with human capital, as cognitive skills, but also physical and non-cognitive abilities (Alderman (ed.), 2011; Cunha and Heckman, 2006; Eming Young (ed.), 2002, 2007; Esping-Andersen, 2008, 2009; Heckman, 2000, 2008, 2009; Heckman and Masterov, 2007;

Naudeau *et al.*, 2011). Heckman (2008) outlines that 'cognitive abilities are important determinants of socioeconomic success ... so are socio-emotional skills, physical and mental health, perseverance, attention, motivation, and self-confidence. They contribute to performance in society at large and help determine scores on the tests that are commonly used to measure cognitive achievement' (pp. 49–50).

Early childhood is identified as a fundamental period in life when opportunities related to human capital are developing and inequalities can be seen as the sole product of circumstances. Neuroscience affirms that these skills (or opportunities to 'play in the current field') substantially develop before school-age and much of their development is moulded by interactions between the child and its environment (Shonkoff and Phillips, 2000). Brain growth, as well as physical, socio-emotional and intellectual abilities (e.g., language), is to a large extent shaped before entrance into schooling, particularly in the first three years of life (Alderman (ed.), 2011; Eming Young, 1997, (ed.) 2002, 2007; Irwin et al., 2007; Naudeau et al., 2011; UNESCO; 2007; UNICEF, 2008). Despite some severe critiques of the too-deterministic nature of this assumption (e.g., Bruer, 1999), it is generally accepted that mutually-rewarding interactions between the child and a responsive adult stimulate the formation of brain routes and the development of complex skills and abilities. The contribution of neuroscience to the debate on equality is clearly illustrated by the following quote from the World Bank:

> The stimuli (experience) from the sensing pathways to which the sensing neurons are exposed during critical, sensitive early periods of development (including in utero) set most of the brain's capability to interpret the signals and pathways in the brain which govern or control language, intellectual, emotional, psychological, and physical responses. (…) The nature–nurture debate has, until recently, led to a strong view that the major factor in human brain development was primarily genetically

> driven regardless of experience. Today we know that although genetics are important, experience and the environment in which individuals exist from the in utero period through to adult life have a significant effect on gene activation and expression (Eming Young (ed.), 2007, p. 43).

Furthermore, international agencies unanimously agree that low socio-economic status of parents is strongly associated with negative developmental outcomes in children aged three to four and that these deficiencies increase during primary education and beyond, since 'learning begets learning' (Heckman, 2000; Heckman and Masterov, 2007). As a result, inadequate exposure to stimuli is basically the result of circumstances. While to some extent the debates on the fairness of gaps determined by nature do not reach consensus (economic efficiency vs. ethical concerns), the disadvantage in 'nurture' associated with negative socio-economic and demographic characteristics is perceived as totally unfair.

To conclude, evidence from neuroscience and its interpretations by economists reinforce the thesis that the acquisition of fundamental opportunities, such as critical thinking and problem solving, readiness to learn, stress management and social cooperation, is founded in early childhood. The unequal distribution of such is clearly due to circumstances. As a result, a policy to equalise opportunities is supposed to intervene as early as possible and to aim at 'human capital' acquisition.

2.4. The greatest of equalisers?

Now that the problem of unfair inequalities has been located in early childhood, we can move on to look at ECCE as the solution. Over the past few years, leading international organisations and academic scholars have joined forces to publish evidence on the impact of ECCE

in top journals (Engle *et al.* 2011; Gormley, 2011; Lake, 2011). In particular, three well-known longitudinal studies are frequently mentioned in publications by international organisations: the High/Scope Perry Preschool Study, the Chicago Child–Parents Centers and the Abecedarian Project. These are also programmes economists refer to when computing the return on investments of ECCE in affluent countries (Barnett and Masse, 2007; Cunha and Heckman, 2006; Heckman, 2000, 2008, 2009; Heckman and Masterov, 2007; Heckman *et al.*, 2009). Both in developed and developing countries, longitudinal and observational studies have received increased attention from international organisations (Alderman (ed.), 2011; Eming Young (ed.), 2002, 2007; Engle *et al.*, 2012; Nadeau *et al.*, 2011; UNESCO 2007). In these studies, children are identified by a variety of *risk* variables, along the same lines as the Human Opportunity Index and the UNESCO Global Monitoring Report series (UNESCO, 2009, 2010a): ethnicity, gender, family or household income, parents' occupational status and level of education, geographical residence, housing conditions (e.g., siblings, sanitation, availability of books and toys), physical environment and family type (e.g., single parents, teen parents, orphans).

In terms of measurement of cognitive, physical and non-cognitive development (basic human capital opportunities), a range of indicators is used: IQ, memory, learning readiness, language comprehension, literacy and numeracy, school absenteeism, dropout, repetition, completion, problem solving, behaviour and sociability, motor and physical development (stunting, body mass, anaemia, immunisation, hygiene), looking as well at the effects of opportunities in childhood on school results, employment status, earnings, income and consumption in adulthood. Studies generally show positive associations between better outcomes and participation in ECCE programmes. Yet there are some methodological remarks to be made that question the certainty with which ECCE is proposed as the solution for inequality.

In order to evaluate the equalising impact on opportunities of whatever policy, the 'treatment' (i.e., ECCE) has to reduce the association between circumstances and selected indicators, assuming that innate differences in talent might be acceptable for economic purposes or, in any case, difficult to compensate through interventions. Diverse techniques can be envisaged (Ferreira and Gignoux, 2011; Paes de Barros *et al.*, 2009; Van de Gaer, Vandenbossche and Figueroa, 2011). Following Roemer's approach (1996), we could for instance group children based on combinations of circumstances (inherited) and construct types of circumstances, expecting to observe higher gains for the worse-off, as an implementation of the Rawlsian 'maximin' principle. However, the present studies rarely allow for such unambiguous conclusions about the opportunity-equalising strengths of ECCE, since they are characterised by perfect homology, in terms of circumstances, between disadvantaged children receiving treatment and those who are not benefiting from ECCE (e.g., Barnes *et al*., 2005; Barnett, 2011; Barnett and Masse, 2007). Unambiguous conclusions would require that children belonging to different combinations of circumstances (well-off as well as disadvantaged children) are studied and that higher benefits are observed for the worse-off children. Such a study design would account for the reality in most countries, where ECCE is targeted at children identified as being 'disadvantaged' but where one could expect that more fortunate children also access high-quality provision of their own means. Only if disadvantaged children have higher benefits then their better-off peers can it be concluded that ECCE has an equalising effect. Yet most studies do not include such a design. In few cases where comparison of low vs. higher socio-economic status is made, the impact of ECCE in reducing the gap is more limited (Burger, 2010). This is not to say that ECCE does not influence later outcomes, as there is robust evidence that it does, but our point here is that the equalising power of ECCE might be overestimated.

There are some additional problems – both technical and ethical in nature – in identifying the long-term outcomes (i.e., educational attainment, earnings and consumption, social behaviour or participation in political life in adulthood) of equalising policies. In general, studies do not take into consideration the increasing influence on life opportunities and achievements of 'cultural' or 'systemic' circumstances (Sen, 1997), produced by formal or informal social structures (families and societies) such as racism and discrimination (Burchardt, 2004, 2006; Rigg and Tefton, 2006). These circumstances may particularly influence the fairness of the 'process' from opportunities to outcomes (Nozick, 1974), or the openness of positions (Rawls, 1999). As an example, in many developed and developing countries, 'systemic' cultural circumstances such as discrimination in terms of gender or ethnicity not only affect chances in childhood and beyond, but also influence outcomes and access to positions, regardless of merit (Paes de Barros *et al.*, 2010; UNESCO 2009, 2010a; World Bank, 2006). Other aspects that tend to get lost in the dominant vein of research are the multi-dimensionality of opportunities and the interactions among policies (Burchardt, 2004, 2006; Van Lancker, 2013).

The selection of a limited set of circumstances (those more easily measurable) in the studies we mentioned excludes more complex interactions with 'systemic' formal and non-formal determinants. In brief, even when assuming that ECCE levels the playing field by equalising human capital, the persistence of possible 'unfairness' in the playing field during life paths makes it hard to ascertain the equalising power of ECCE (Staab, 2010).

To conclude, while research presented by international organisations shows beneficial effects of ECCE for children identified as 'at risk' or disadvantaged, its claim that ECCE is the greatest of equalisers should be interpreted with caution and would better be considered as a 'partial'

equaliser (Burchardt, 2006; Paes de Barros *et al.*, 2009; Van de Gaer, Vandenbossche and Figueroa, forthcoming).

2.5. Depoliticising inequality

It is precisely the avoidance of broader inequalities in society that lies at the basis of the alleged consensus supposedly overcoming cleavages between left and right. The rationale for supposing this consensus resides in a particular normative interpretation of equality that presents outcome (i.e., income) redistributions as potentially unfair and inefficient, since it denies effort or personal responsibility and economic incentives. Defining the *equalisandum* as opportunities early in life, before effort plays a role, rather than as outcomes in adulthood is believed to meet the concerns of the 'left' (fairness) as well as of the 'right' (reward of effort):

> The debate about public policy and inequality reduction must recognize that inequality is made of heterogeneous components, some much more unfair, undesirable, and unnecessary than others. Most people would probably view income gaps that arise from different choices as less objectionable than those related to ethnicity, location of birth, gender, or family background, which are all factors beyond the individual's responsibility and thus might be deemed unfair. Consensus could easily be reached about the need for policies devoted to reducing or eliminating the unfair influence of some of these components. However, other potential sources of inequality may be necessary to give people proper incentives to provide the effort to require education and translate it into earnings […] Equality of opportunities is desirable, equality of outcomes (earnings, income, wealth) not necessarily (Paes de Barros *et al.*, 2009: pp. 26–27).

Restricting the perspective of equality – distinguishing unfairness of unequal distribution of opportunity in childhood from fair outcomes in

adulthood – prevents the discussion of possible compensation for negative results later in life and thus what Mouffe (2005) calls 'the political' – disappears from the debate. As Waldfogel (2004) states, 'there is an important role for early childhood education policy to play, but there is a role for other policies as well' (p. 5). However, enlarging the ECCE scheme to interventions for families would provoke a fracture in the alleged political 'consensus' for reducing inequalities of opportunities in childhood.

From an economic perspective, families' capacities to invest in their children's opportunities are an important vehicle of inequality transmission (Heckman, 2000), and therefore could also be considered a potential lever for change. International studies concur that home circumstances affect children's physical, cognitive and non-cognitive development (Alderman (ed.), 2011; Bennett, 2008a, 2008b; Eming Young (ed.), 2002; Irwin *et al.*, 2007; Naudeau *et al.*, 2011; UNESCO 2007, 2009, 2010a, 2011; UNICEF, 2010a and 2010b). The extent to which they do so (and consequently the potential for intergenerational socio-economic mobility) differs highly from one country to another, as is demonstrated in the work of Wilkinson and Pickett (2009) and OECD reports (e.g., 2012) showing that inequality highly influences social mobility. It is therefore highly questionable that an egalitarian social policy can be reduced to an early childhood policy without also addressing other policies (e.g., employment policies) and tackling unequal opportunities at their source, including parents' material, social and cultural capital (Van Lancker, 2013).

A more integrated approach to early childhood could include interventions that impact indirectly on parents' ability to promote the best interests of children (e.g., taxation and benefits, adequate housing, working hours), as well as interventions that have more immediate consequences (e.g., perinatal health services for mother and baby, parent education, home visitors) (United Nations, 2006). Accordingly, most

international agencies propose social safety nets (i.e., income transfers) as a valid measure to enable parents' investment in their children's opportunities and as part of an high-quality ECCE policy, particularly in developing countries, where extreme poverty and absolute deprivation touch a majority of families and children (Alderman (ed.), 2011; Engle *et al.* (2011), UNICEF 2008; World Bank, 2006, 2009; Inter-agency, 2009). An example of such an intervention in the case of developing countries, promoted by international organisations, is the Conditional Cash Transfer (CCT) (World Bank, 2009; UNESCO, 2007). CCTs transfer cash to poor or vulnerable households on the condition that beneficiaries invest in their children; this is controlled by periodic check-ups for children and pregnant mothers, vaccination programmes and education enrolment and attendance. Recent assessments of the Mexican *Opportunidades* Programme have shown positive effects in opportunity-equalising terms, with higher gains for children in worse-off groups (Van de Gaer, Vandenbossche and Figueroa, 2011).

The point here is not to advocate for CCTs as the ultimate solution to inequality of opportunities. As a matter of fact, CCTs can also be severely criticised, as their emancipative aims inevitably go hand-in-hand with increasing control of the 'responsibility' of the poor. This paradox of social policy, in which emancipation and control are inextricably intertwined, has been extensively discussed both in history (Donzelot, 1994) and in the present (Lister, 2006; Lorenz, 2005). Our point is rather that different options on how to deal with this paradox are at the core of social political discussions and therefore way beyond consensus in developing and developed countries (e.g., Penn, 2010; Rosanvallon, 1995). As an example of this political dissensus, it can be argued that income redistributive policies (as *un*conditional transfers) in the Nordic countries of Europe, together with extended parental leave policies and universal access to high-quality preschool provision, are associated with more socio-economic mobility (Bennett, 2008a and 2008b; Giddens and Diamond (ed.), 2005; Esping-Andersen 2008, 2009;

Waldfogel, 2004; UNICEF, 2008). Others obviously would argue that such unconditional redistributive measures would be unfair, as they redistribute outcomes independent from effort and responsibility. Our point is not to have this political discussion here, but rather to point at the absence of it in the discourse on ECCE as equaliser, as well as in the research that supports this equalising claim. The World Bank, quoting Shonkoff, most eloquently expresses this:

> [ECCE] is not about government raising children. This is about government strengthening the capacity of families and communities to do the job well. This is not about seeking equality in outcomes. This is about striving for equality of opportunity. This is not about liberals versus conservatives. This is about wise investors who defy ideological labels (Eming Young (ed.), 2007, p. 31).

2.6. Discussion

Over the past decade there has been an increasing focus in social policy on the early years, based on a particular reading of contemporary egalitarian philosophy and informed by neuroscience, developmental psychology and economy. International organisations concur that the early years represent a crucial period for equalising opportunities, or 'levelling the playing field'. According to the normative definition adopted by the World Bank (2006), a fair policy requires that outcomes in life become less dependent on circumstances, i.e., morally unacceptable features beyond the control of individuals. In the present knowledge economy, lifelong learning and human capital are considered essential opportunities, and these are founded in the first years of life. Longitudinal and cross-sectional studies in both developing and developed countries showed beneficial effects of ECCE programmes for disadvantaged children. Based on these studies, international organisations tend to claim that ECCE is the greatest of equalisers and that investments in ECCE are an obvious social policy, beyond debate.

We have critically analysed these claims by looking at publications of international organisations, at contemporary philosophers cited by the World Bank, and at studies that form the rationale for these two claims. Our point was not to dwell on the (obvious) differences between developed and developing countries, nor to explore how local contexts influence the outcomes of ECCE, but rather to document how a shift in social policy is globally legitimised. In so doing, our purpose was not to question the importance of ECCE. Rather, it was to bring some nuance into the discussion, as well as to repoliticise the debate.

Nuance is much needed when looking at the beneficial effects of ECCE. Indeed, when following Sen's concept of capabilities (Burchardt, 2004, 2006), features such as unobserved circumstances, luck, inter-connections among opportunities influencing processes and outcomes in the life of individuals, are all to be taken account of. However, the studies on which ECCE policies are based very often do not make comparisons that allow doing so, and/or consider rather restricted bundles of circumstances that categorise disadvantage. The complexity of interactions between circumstances, effort and outcomes, embedding both individual and systemic features, suggests the need for more cautious statements about a single policy as the greatest of equalisers. The risk for international organisations to focus solutions on a 'magic bullet' (Waldfogel, 2004, p. 5), namely intervention at pre-school level, is for it to be ineffective in reducing inequality of opportunities for children.

As international organisations also acknowledge, programmes that wish to 'compensate' for the deprivation of disadvantaged children also need to look at reducing the socio-economic inequalities of parents. Yet when considering programmes and policies at that end, the alleged consensus disappears, since tackling disadvantage at the *source* (parents) can only mean that one must also somehow consider the redistribution of

outcomes (i.e., income). Clearly, depending on the size of the redistribution, the political right would claim denial of effort and therefore of economic efficiency, while the political left would have concerns over social justice. The rationale for considering ECCE as a consensual policy is based on the principle of a separation between opportunity and outcomes, thus circumstances and responsibility in life cycles, as supposedly preserving individual incentives and economic efficiency. Yet this separation in childhood is blurred and this inevitably reintroduces potential political cleavages.

While it may be unavoidable that international organisations look for consensual policies, given the specific ideological and political contexts in which they operate, dissensus should not be considered worrying. On the contrary, dissensus is the essence of the political (Mouffe, 2005). Presenting ECCE as the ultimate and consensual solution for inequality not only masks the complexity of social problems, in this case the inter-generational transmission of disadvantage; it might also shape what Moss (forthcoming) labels the dictatorship of no alternative. Children, in this vein, are considered 'in perspective' of becoming responsible (and economically-efficient) adults in a supposedly meritocratic society, meaning that their need for equality and justice and their voices 'here and now' might be undervalued. As a consequence, the very meaning of early childhood does not lie in early childhood itself, but in later adult life (Moss, forthcoming). These conceptions also shape the curriculum of early-childhood provision, which is then focused on mere learning outcomes for economic efficiency, rather than on social and cultural values.

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Chapter 3

Equality of opportunities, divergent conceptualisations and their implications for early childhood care and education policies

Abstract[3]

This chapter aims to explore the relations between equality of opportunity and early childhood. By referring to the work of contemporary philosophers, i.e. Rawls, Sen, Dworkin, Cohen and Roemer, we argue for different possible interpretations, based on political discussions, pertaining how to operationalize equality of opportunities. We represent these diverging options on a continuum, ranging from Responsibility-oriented Equality of Opportunity (REOp) and Circumstances-oriented Equality of Opportunity (CEOp). We then analyze how early childhood care and education policies can be constructed in relation to these conceptualisations and argue that the CEOp is a more plausible interpretative framework to operationalize equality of opportunity in early childhood.

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3.1. Introduction

The last three decades have been characterized by increasing socio-economic inequalities world-wide (OECD, 2011a; Ortiz and Cummins, 2011). Yet, in the same period, the interest in equality has gained momentum, in particular within the philosophical milieu, testified by the work of John Rawls (1999), Amartya Sen (1979, 1992, 1997, 2009), Ronald Dworkin (1981a, 1981b), Gerard Allan Cohen (1989, 2009) and John Roemer (1993, 1998, 2006, 2010). They share a conceptual rethinking of equality that embeds individual freedom and responsibility, proposing distributive justice models focusing the *equalisandum* on 'opportunity', rather than on 'outcomes'. The work of these egalitarian philosophers has substantially influenced educational policies. Furthermore, scholars from other disciplines have also contributed to the discussion on how to operationalize equality of opportunity by pointing, in particular, to early childhood education as a salient equalisandum. The Economy Nobel Laureate, James Heckman (Cunha and Heckman, 2006; Heckman, 2000, 2008; Heckman and Masterov, 2007), and the sociologist Gøsta Esping-Andersen (Esping-Andersen, 2008, 2009) argue that interventions stimulating children's cognitive and non-cognitive skills in the preschool period would represent a significant equalizing policy. The emphasis on the early development of individuals can be related to global economic dynamics, highlighting the major role of human capital in determining life outcomes.

This relation between contemporary egalitarian philosophy and education has been discussed extensively, including a focus on educational opportunities (Brown, 2006; Saito, 2003; Terzi, 2007). However, it is remarkable that while education policies increasingly look at preschool as the period in which to invest in order to equalise opportunities, early childhood education remains rather absent in the academic debate on equal opportunities, which is predominantly limited to compulsory education (Brighouse, 2004; Tooley, 2008).

The intention of this chapter is not to investigate the validity of the assumption that investing in early child development is effective in terms of equality of opportunity since we consider early childhood care and education as a right *per se* (Curren, 2009; Roose and Bouverne-De-Bie, 2008). What interests us here is the inverse relation, that is, to unravel how common understandings of equality of opportunity may lead to diverging interpretations by policy makers and practitioners, shaping interventions in early childhood (Roemer, 1998; Sen, 1979; Nussbaum, 2011).

We first briefly resume the principles constituting equality of opportunity, as commonly shared by contemporary philosophers. We then propose a way of framing diverging conceptualisations of equality of opportunity in a continuum ranging from responsibility-oriented Equality of Opportunity (REOp) to circumstances-oriented Equality of Opportunity (CEOp), depending on the extent to which individual's outcomes are believed to be determined by forces for which they are accountable. The next step then concentrates on linking these divergent interpretations with early childhood, policy and practice. Finally we argue why a circumstances-oriented approach might be associated with more preferred policies regarding early childhood education.

3.2. Equality of Opportunities: philosophical rationales

Since the 1970's, the revamping of the normative debates on justice and equality has been led by a group of contemporary philosophers, including Rawls, Sen, Dworkin, Cohen and Roemer. An exhaustive account of each philosopher's justice theory and distributive models is beyond the scope of this chapter. Rather, we concentrate on commonalities between their constructs, nevertheless leading to possible divergent interpretations and distinctive implications for policy. Most contemporary egalitarian philosophers concur that inequalities in life

achievements (or *outcomes*) can be considered acceptable (fair or just) if they are the result of a free and responsible choice, the preferences or effort of an individual and not determined by circumstances that are beyond the individual's control (thus morally arbitrary). For Rawls (1999), for instance, in a just and fair society, natural or 'familial' endowments, described as the 'natural lottery' are considered morally arbitrary and cannot legitimize differences in life outcomes among individuals. The *equalisandum* (what needs to be equalised) then consists of *opportunities*: goods, services, resources, needs that are necessary for an individual to pursue and achieve one's life plan and that are unfairly distributed due to socio-economic conditions of the family, ethnic and religious backgrounds, geographical location, or genetic traits. Rawls identifies as the equalisandum, the socio-economic advantage – or opportunities (Van Parijs, 2009b) – with an index of '*primary social goods*' (Rawls, 1999, p. 54), being a minimum set of goods, enabling an individual to achieve an end and determined by what should be the most rational life plan towards this end: opportunities, wealth and income, a social basis of self-respect. In addition, primary goods also comprise rights and liberties that should be distributed according to the principle that 'each person is to have equal rights to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties for others' (Rawls, 1999, p. 53). According to Roemer, Rawls' greatest contribution 'was to provide a sophisticated philosophical support for this ethical imperative: to make it respectable to say that being born into an advantaged family, or to have a good brain, is a matter of luck and not something which entitles a person to a larger income' (Roemer, 2006, p. 24).

Amartya Sen's theory might be considered a consequence of and a confrontation with Rawls. What he contests in Rawls' paradigm, is the choice of primary goods as the 'what to equalize'. Sen basically questions the idea of a fixed index of goods that is universally meaningful. Furthermore, he stresses the need of considering how goods

function for individuals as a means to pursue freely chosen ends. As a result, Sen develops the concept of 'capabilities', embedding goods *and* their 'functioning': doing things that individuals have 'reason to value' (Sen, 2009, p. 231). Sen associates the concept of capabilities with real opportunities of having more or less freedom to choose and achieve ends (as doing or being) that have value for individuals. Yet, the freedom of an individual is shaped by what he calls 'variations' (i.e. circumstances): in physical characteristics (e.g. disability, illness, age, gender, making needs divers); in climate circumstances (temperature, rainfall, flooding, etc.); in physical locations of individuals (including the presence of public health care and epidemiology, education, crime and violence, access to facilities, the nature of community relationships); in relational perspectives (e.g. commodity requirements in relation to the type of community, contentions and customs); and in distributional rules within the family (Sen, 1997). In this respect, Sen gives the most extensive version of opportunity.

While Rawls and Sen embed individual responsibility as an implicit component of their respective equality of opportunity theories, Dworkin, Cohen and Roemer, in turn, explicitly analyze interactions between innate or constructed features and responsible actions in shaping equality dynamics (Morabito, Vandenbroeck, Rose, 2013). They suggest defining the equilisandum by distinguishing aspects of a person's condition dependent of 'circumstances' and those that depend on 'choices' and are thus their 'responsibility'. They accept claims to compensation concerning deficiencies with regard to the former kind, but not with regard to the latter (Risse, 2002). Dworkin associates the opportunities to equalize with resources, which might be transferrable goods or wealth, but also 'internal' endowments, i.e. talent and handicaps, or family background. Social structures should redistribute resources in order to compensate people who suffer from disadvantageous endowments (Dworkin, 1981a;b), in order to let differences be determined by the sole responsibility of individuals (preferences, taste and ambition). Equally,

Cohen (1989, 2009) underlines that outcome inequalities are unjust if not chosen, and if caused by family backgrounds or natural misfortunes (i.e. genes). Roemer (1998) attempts to provide a model to operationalize equality of opportunity in terms of the allocation of resources available in society, by using econometrics. He argues that an advantage (or outcome) is determined by effort - referring to Dworkin's idea of responsibility - along with uncontrolled pre-determinants that he names 'circumstances'. Roemer defines opportunities as 'access to an advantage' and specify that 'an individual is responsible for turning that access into actual advantage by the application of effort (Roemer, 1998). Roemer explains that an equality of opportunity policy should 'level the playing field' (Roemer, 1998), thus make circumstances irrelevant, so that individuals expending a same degree of effort will achieve similar outcomes.

In sum, there is concurrence in defining the *equalisandum* as opportunities, as goods, services, needs, resources, enabling individuals to freely choose and pursue their life plans. The opportunities to equalise are those that are unequally distributed due to 'circumstances' beyond the individuals' responsibility. As a result, equalizing opportunities means compensating those who suffer from negative endowments (by neutralizing or maximizing the minimum), so that difference in life achievements will be the result of individual responsibility, preference, and free choices.

It needs to be noticed that although the discussion on equality of opportunities is in essence a discussion about fairness, matters of efficiency are also penetrating these discourses. Contemporary egalitarian philosophers concur on the idea that equality must be consistent with economic efficiency and that any egalitarian distributive model needs to be economically sustainable (Cohen, 2009; Dworkin, 1981a, b; Rawls, 1999; Van Parijs 2009a, b; Roemer 2010). As Van Parijs (2009b, p. 4) states, contemporary philosophers' theories of equality are efficiency-sensitive, meaning that 'some people can justly

have more than others because sustainably narrowing the gap would involve an unreasonable cost'.

3.3. Diverging conceptualisations and policy implications

Despite the philosophical commonalities, diverging ideas surface on how to apply these understandings of equal opportunities in practice and in policies. A major point of fracture in present political discussions, as argued by Roemer (1998), resides in the distinction between the role of personal responsibility and circumstances in determining life paths and unequal outcomes. Diverging views in policy making remain on when opportunities can be considered equalised and thus on when unequal outcomes may be considered 'just' or 'fair'. One possibility of framing these diverging opinions is to place them on a continuum of which one extreme position would assume that outcomes are predominantly determined by responsible choices and actions. The other extreme position of the continuum would attest that only circumstances shape life results (Morabito and Vandenbroeck, 2012). In between, one can identify two interpretations, characterized by a balance between individual responsibility and circumstances, more or less tending to one or the other extreme position. We call them *Responsibility-oriented Equality of Opportunity* (REOp) and *Circumstances-oriented Equality of Opportunity* (CEOp). Both policy approaches accept to compensate to some extent for negative circumstances, but they differ in the judgement on the intensity and desirability of compensating measures.

3.3.1. Responsibility-Oriented Equality of Opportunity

A responsibility-oriented approach (REOp) attaches more importance to individual responsibilities and therefore assumes that it is feasible and reasonable to define a separation between a situation *before* compensation (associated with opportunities) and *after* compensation (when responsibility shapes the outcomes). Before the turning point, a

person's opportunities are defined by circumstances (and consequently inequalities are unfair). After a certain point, life outcomes are the result of effort or choice and thus a matter of individual responsibility. Inequalities at this stage are to be considered as fair. Policies tending towards the REOp end of the continuum consider outcome inequalities as fair and necessary because the reward for individual choice and responsibility is a matter of fairness, as well as an instrument of economic efficiency by means of incentives in a capitalist, meritocratic and highly competitive system (Giddens and Diamond (ed.), 2005). Accordingly, REOp might opt for policy interventions as more 'distant' from 'outcomes' and closer to opportunities, preferably in its earliest stage, meaning in early childhood. Education in general and early childhood education in particular is an opportunity and a REOp perspective prefers to invest public means in this over income redistribution, as the latter is suspected to reduce the value of responsibility and create 'undeserved' support for those benefiting of it, thus considered 'unfair' and economically inefficient (Paes de Barros et al., 2009; Vandenbroucke and Vleminckx, 2011; World Bank, 2006).

The REOp perspective has been embraced by some international organizations since mid-1990s, notably the World Bank and the European Union (World Bank, 2006; Solga, 2014). As clearly stated by the World Bank (Paes de Barros et al., 2009): "Much more important than inequality of outcomes among adults is inequality of opportunity among children (p. xvii)" (…) "Most people would probably view income gaps that arise from different choices as less objectionable than those related to ethnicity, location of birth, gender, or family background, which are all factors beyond the individual's responsibility and thus might be deemed unfair. (…) However, other potential sources of inequality may be necessary to give people proper incentives to provide the effort to require education and translate it into earnings … Equality of opportunities is desirable, equality of outcomes (earnings, income, wealth) not necessarily" (p. 26-27).

Tendencies towards a REOp approach are also present in the European Commission's Lisbon Strategy and its social investment paradigm in which the basic character of the welfare state system narrowing the equalisandum down to human capital. Investments in "education, childcare, healthcare, training, job-search assistance and rehabilitation" The European Commission (2013, p.1) are preferred above income redistribution, as a way to ensure social justice, and economic efficiency (Cantillon, 2011; Diamond and Liddle, 2012; Solga 2014). Examples on the national policy level include governmental reports that welcome future cuts in the welfare system by investing in the early years (Allen, 2011; Field, 2010).

3.3.2. Circumstances-Oriented Equality of Opportunity

A circumstances-oriented approach (CEOp) will stress the need for continuous redistributive measures, as it assumes that a clear cut between before (opportunity level) and after compensation (responsibility) is unrealistic. A CEOp approach claims that not only opportunities but also choices are determined by circumstances. A classical example of this claim is the sociological research from the 1970's on that demonstrated how the education system itself reproduces inequalities, rather than compensating them (Bernstein, 1970; Bourdieu and Passeron, 1977). Since a distinction between circumstances and individual responsibility is most unlikely and total compensation is therefore not achievable, the reward for responsibility or effort when leading to significant outcome inequalities is deemed unfair. Accordingly, redistribution at the outcome level is fair as a key feature to guarantee social justice in capitalist societies, which are characterized by the persistence of negative circumstances and the unequal distribution of societal and economic gains (Stiglitz, 2012; Harvey; 2007). The CEOp perspective would more likely advocate for concentrating resources on education along with reallocating income (directly at wage level, or through the welfare state system, thus through public

structures), as a matter of fairness, since differences in outcomes can never be solely attributed to responsibility. This is believed not to be in contrast with economic efficiency, since studies conducted by international organizations and scholars suggest the absence of correlation between income inequality and economic growth (as assumed by the REOp). These studies rather suggest the inverse relation (Berg & Ostry, 2011; Krugman, 2012; Ortiz & Cummins, 2011; Ortiz, Daniels, Engilbertsdóttir (Eds.), 2012; Stiglitz 2012).

The CEOp approach is probably more in line with policy proposals that gained momentum among international development agencies after the 2008 financial crisis. The United Nations, as well as international NGO's (i.e. UNESCO or UNICEF) recently highlighted the need of redistributing both human capital (opportunities) and socio-economic gains (outcomes), since circumstances affect both individual endowments and systemic socio-economic and cultural structures (e.g. historical discriminations against women in the workplace) (Fukuda-Parr, 2012; UNDP, 2010; Morabito and Vandenbroeck, 2012). As an example, the synthesis report of the consultations on addressing inequalities in the post-2015 development agenda (UNICEF and UNWOMEN, 2013) states: "Just because children have the same opportunity to attend school does not imply that they have the same opportunity to learn, to be safe, to be fairly evaluated, or to thrive particularly if one of the children is a girl, has a disability, or is a member of an ethnic or religious minority. Similarly, a skilled woman who earns a good income but faces violence at home or has no control over her fertility cannot be said to maintain the same outcomes as a counterpart who does not. In practice, equality of both opportunities and outcomes are hard to separate" (p. 16-17). Accordingly, a future global development agenda should share, as underlined by a recent Save the Children's report (2012, p. 35-36) a "common commitment to tackle inequalities in opportunities and outcomes (thus including policies)

reducing income inequality and other disparities in wealth within countries".

Thus, while REOp and CEOp both agree on compensating disadvantage, it is clear that they differ in terms of how to do so. This becomes even more salient when the issue is early childhood education. Indeed, the early years can be considered as a period where individuals bear no personal responsibility at all since their unequal situations (or circumstances) are entirely dependent on others.

3.4. Shaping Early Childhood Policies

It is generally agreed that education represents a key opportunity for achieving whatever end individuals have 'reason to value' (Sen, 1979) in the context of on-going socio-economic changes in society (OECD, 2006). Rawls (1999) indicates education as the terrain where unequal circumstances should be countered, while Sen (1997) identifies education as a basic capability contributing to the functioning of other opportunities and Van Parijs (1995) considers education part of the basic universal income donated in kind. Roemer also estimates that in an advanced market economy, characterised by knowledge and technological innovation, inequality primarily refers to the unequal distribution of human capital. 'Investments in education should equalize the distribution of human capital or wage-earning capacity' (Roemer, 2006, p. 10).

Opportunities are, according to Esping-Andersen (in Giddens and Diamond, 2005; Esping- Andersen, 2008, 2009), less related to the content of the learning than to the development of the capacity to learn, to understand and respond to changes in a prompt and effective manner. Cognitive, physical and non-cognitive skills positively impact on ways of learning as well as on the results of the learning process since evidence (Cunha and Heckman, 2006; Heckman, 2000, 2008; Heckman

and Masterov, 2007) suggests that 'learning begets learning' and eventually is strongly related to earnings in highly competitive knowledge economies.

Inequalities arise early in life, shaped by circumstances, such as family background, gender or genes (Engle *et al.*, 2007, 2011). Neuroscience (Heckman, 2000; Shonkoff and Phillips, 2000) and longitudinal studies in the US (e.g. Barnett, 2011; Hines *et al.*, 2011), Europe (e.g. Burger, 2010) and developing counties (e.g. Engle *et al.*, 2011) suggest that high quality early childhood education has long-lasting beneficial effects on later educational results and that this is most salient for children from deprived backgrounds. This has also been reaffirmed in international organizations and policy (e.g. Council of the European Union, 2009; European Commission, 2011; OECD, 2006; UNESCO, 2007; UNICEF, 2008; World Bank, 2006). The young child has no responsibility for the acquisition of these early opportunities, which are crucial in present socio-economic dynamics. As a result, childhood is logically a pure 'ante-compensation' status where outcomes (i.e. child development) are entirely associated with the 'opportunity level', solely determined by circumstances.

Yet, research shows that home learning environments strongly influence children's development and that this home learning environment is socially stratified (Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2004). Therefore it needs to be noted that children's circumstances (beyond their responsibility) are defined by parents' outcomes (and are therefore their responsibility) (Esping-Andersen, 2008, 2009; Giddens and Diamond, 2005; Kanbur, 2009; Sen, 1997; Roemer, 2010). One generation's outcomes (responsibility) become the next generation's opportunities. As a result, no compensatory policy about childhood can avoid considering relations of inheritance. The implications of inheritance then change the scenario and may lead to a

renewed contrast between REOp and CEOp when it comes to early childhood policies.

From a redistributive point of view, both REOp and CEOp would focus on policies that favour the education (and health) of young children, and especially of disadvantaged children: pre-school and care services, nutrition and health, and parental education. However, compensation in early childhood might also imply measures to reduce outcomes inequalities for disadvantaged parents (i.e. income). Educational interventions are justified because they address inequality of opportunity rather than inequality of outcome. Yet, the inherent intergenerationalities play a major part in undermining the dichotomy between "circumstance" and "effort" and hence between equality of opportunity and equality of outcome (Kanbur, 2009, p. 11). When it comes to political implementations of what is considered as fair, matters of economic efficiency become also more critical. From a REOp point of view, differences in income and wealth are to be considered the result of individual responsibility and therefore just. In addition, redistributive measures risk diminishing the reward for effort and are therefore considered economically inefficient, as well as unfair. Even in the case of minimal income transfers, targeting the extreme poor to avoid a level of absolute deprivation that is morally and socially unacceptable, conditionality is deemed necessary to avoid the undeserving poor. Conditionality is considered, in the broadest possible terms, to consist of assessing the 'deserts' of benefit against the responsibility of parents towards themselves, their children and society (Vandenbroucke, 1999; Featherstone *et al.*, 2011). There is not necessarily a direct causal relation to observe between REOp versus CEOp on the one hand and funding policies on the other. Yet, a focus on individual responsibility is often contingent with a focus on the free choice of the individual and it is often assumed that the market is a good warrant of free choice. Consequently, REOp, stressing individual responsibility and cherishing the concept of choice; may prioritize early childhood services that

operate on the market rather than state funded provision (Penn, forthcoming). Market-based services are believed on one side to enhance parental responsibility actions (responsible choice in the free market) and are also believed to enhance quality of services at a reasonable cost through competition (Moss, 2009). In mots case the inequalities that result from the marketed approach are compensated by a voucher system for targeted populations, as this is considered a way to increase opportunities of children in most disadvantage (e.g. Lee, 2006). Policies favoring market-based systems generally assume that accessibility could be ensured through a voucher system that offers vouchers to parents who otherwise would not be able to afford the provision (Lee, 2006; Noailly, Visser & Grout, 2007).

A CEOp oriented approach is more often to be found in countries where traditionally states play a more prominent role, as public provision is considered a sound way to ensure equal services (Esping-Andersen, 2008, 2009, 2011; Moss, 2009). As a result, CEOp-oriented policies would prefer to target children's development along with redistributive measures for adults, via wage solidarity and post-taxation transfers (Esping-Andersen, 2008, 2009; Waldfogel, 2004). Conditionality can also be favoured, but only to ensure the efficacy of positive trade-offs for children's opportunities. In this view, conditionality goes beyond mere deserts since, for CEOp, the redistribution of parents' outcomes is primarily a matter of fairness.

Another issue relates to visions of the child and the child's place in society. The science that contributed to relating early childhood and equality of opportunity refers to human capital in the present knowledge-based economy. However, equalising human capital might either aim at obtaining individual rewards for responsibility, or contribute to neutralising circumstances along the life path and to solidarity. This clearly implies opposite pedagogical scopes and instruments (Bennett, 2008a, 2008b; Lister, 2006; Skevik, 2003; Staab, 2010; Penn, 2010;

Terzi, 2007). REOp narrows the child-equality matter by linking early childhood policies to future individual profits and counting on the market to ensure fair results. On the other hand, CEOp looks at an individual's unequal circumstances in a continuous search for equality that comprises the dimension of 'here and how' from childhood to adulthood.

3.5. Discussion: a plea for circumstances-oriented equality of opportunity in education

Differences between REOp and CEOp in operationalising early childhood care and education policies refer to considerations about individual responsibility and intergenerationalities (one generation's outcomes is the other generation's opportunities). As outlined by Sen (in: UNDP, 2010, p.16) "differences in reasonable people's outlooks make perfect agreement unfeasible – but more important … it is not necessary either. We can agree that some states of affairs are better than others". We argue that a CEOp orientation is more realistic than REOp in considering the role of the child as well as the parents in equality dynamics. CEOp seems to be more comprehensive as it considers redistributive measures for parents as part of early childhood policies. The major arguments for REOp in avoiding income redistribution are that early childhood education has the potential to make redistributive policies redundant (for instance Field, 2010), and once compensation is made through education since early childhood, results are only determined by responsible efforts and choice and therefore major inequalities should not be considered as unjust (i.e. implying the possibility of a clear cut), and they promote economic efficiency. The first argument cannot be supported in theory or by empirical research. Research evidence outlines that the effectiveness of interventions that are only targeting children (e.g. pre-school or care services), in equalizing opportunities and compensating for inheritance in cognitive, physical and non-cognitive development is limited (Alderman, 2011;

Bennett, 2008a, 2008b; Esping-Andersen, 2008, 2009; OECD, 2006; UNESCO 2007, 2010; UNICEF, 2008; Waldfogel, 2004). While there is robust evidence for the beneficial effects of early childhood education on later educational attainment (see Burger, 2010 for an overview), there is no or very limited evidence for an equalizing effect (Sylva et al., 2004). Second, the basic assumption of REOp is that individuals will eventually overcome negative endowments when living in a social structure associated with a free market. Free markets are, in that vein, considered *a priori* as 'fair playing fields', guaranteeing positions 'open to all' (Rawls, 1999), therefore making results fair too.
These assumptions are severely criticized:

> If we really believed that success or failure in the marketplace was entirely down to our own effort, it would be harder to make the case that inequality is a problem. Or at least, while it might be possible to say that inequality is problematic, it would be more difficult to justify redistribution… Of course, effort and hard work play an important role in determining whether people succeed or not. But other factors, which are evidently not within our control also play a part. In fact there are good reasons for thinking that while ideas of economic efficiency should mean we value the role of markets, our intuitions about desert should make us sceptical that market outcomes are inevitably fair outcomes' (Giddens and Diamond, 2005, pp. 42-43).

It seems that the preconditions that egalitarian philosophers agree on, namely merit and fairness in the allocation of positions as a condition *sine qua non* for effectively guaranteeing justice (Rawls, 1999; Sen, 1979, 1992, 1997, 2009; Roemer, 1998) are not met. It is well documented that the market does not rule out discriminatory and non-meritocratic practices such as vis-à-vis gender, religious and ethnic diversity, and disability that determine life paths and results, rather than effort or preferences (Van Parijs, 1995, Stligtliz, 2012). Moreover, considering increasing wage gaps, the market has largely been

demonstrated to be unable to provide a symmetric 'value' for outcomes (i.e. income) in terms of responsibility and effort expended. How can it be argued – in times where salaries of CEO's (at least partially) responsible for the banking crisis have increased - 'outcome' differences are legitimised by differences in responsibility and effort (Stiglitz, 2012)? Moreover, parents who have suffered from discrimination in outcomes allocation and did not benefit from compensation might transmit the endowment of disadvantage and injustice to their children, undermining their will and preferences, as well as individual responsibility and effort along their life path (Save the Children, 2012).
Furthermore, the hypothesis that redistribution of income undermines economic efficiency and sustainability does not seem to pass empiric scrutiny. Analytical studies such as analyses of the relation between redistributive policies (e. g. Bolsa Familia) on the GDP growth in countries such as Brazil severely contradict the hypothesis (Berg & Ostry, 2011; Ortiz & Cummins, 2011; Ortiz, Daniels, Engilbertsdóttir, 2012; Wilkinson and Pickett, 2009). Another often forgotten, yet important issue is that interventions or investments at an early age are expensive if one wishes to have both the high quality that is needed for effective impact on children's development and the assurance that provision reaches poor families. The earlier one starts, the more expensive early childhood education is (Barnett and Masse, 2007). This is especially the case when one wishes to achieve universal access, since comparative studies show that regions with universal access have higher enrollment rates by families in poverty than regions with targeted provision, even when targeted at the poorest families (Van Lancker, 2013). Generating the necessary public funding therefore requires substantial taxation.

As explained earlier, REOp tends to believe in the fairness of markets and to adhere to the hypothesis that competition (such as in market systems) will enhance the quality of services and lower prices, due to rewarding effort. This is why a REOp approach is more likely to favour

the funding of the users (i.e. through vouchers) than the funding of provision (through subsidies to early childhood initiatives). This is for instance the case in the U.S. where over 2 million children benefit from vouchers, as well as in the Netherlands where ECEC shifted from a state funded provision to a market oriented service in 2005. It is expected that when in competition, effort of services will be rewarded by users. Studies, however, show that funding the users is not as effective when it comes to the accessibility of services for populations at risk of poverty. In the case of the U.S. it has been documented that, despite a comprehensive voucher system, accessibility for families in poverty is not evident (Weintraub et al., 2005) and in the case of the Netherlands is has also been demonstrated that accessibility in poor urban areas and in rural areas has significantly decreased since the marketization. The problematic functioning of vouchers for poor families in market-oriented systems has also been documented in California (Whitebook, Kipnis and Bellm, 2007), Canada (Cleveland, 2008), Hong Kong (Yuen, 2007) and Taiwan (Lee, 2006).

In the interesting case of the Netherlands, the comprehensive longitudinal monitoring of quality also indicated that the marketization entailed a continuous drop in quality on many criteria, but most significantly on the criteria related to the interaction between adults and children (NCKO, 2009). Osgood (2004) explained that this is mainly the case because market-oriented providers tend to cut the staff costs and invest less in higher qualified staff, whereas staff qualifications are significantly associated with children's outcomes (Early et al., 2007). International overviews have indeed documented that the market does not keep its promises regarding competition, quality enhancement and reasonable prices, as may me assumed in a market-oriented REOp approach (Moss, 2009).

Cross-country comparisons show that countries considering early childhood education as an entirely public matter (e.g. the Scandinavian countries), despite facing some problems of access for newly arriving

immigrants (see Wall & Jose, 2004), have far better results in enrolling children from diverse and poor backgrounds (Van Lancker, 2013). These seem to be also the countries that fare relatively well when it comes to the equalizing power of the educational system, considering the extent to which the home situation influences the academic achievements in secondary school, according to the PISA reviews or (OECD, 2011b; 2012).

Finally, REOp and CEOp may also lead to different curricula for early childhood education. Adopting whichever equality of opportunity perspective does not simply mean seeking instruments that enable the fair allocation of 'material' positions in a society. It also entails strengthening egalitarian values, as a *sine qua non*, in relation to whatever compensation we intend to pursue. In this case, the role of pedagogy in early childhood cannot be restricted to the enhancement of individual human capital with the ultimate scope of gaining material rewards. It should also serve as the transmission of values that represent the essence of any social contract founded on justice and equality, such as democracy, freedom, mutuality or fraternity (Rawls, 1999; Van Parijs, 1995), solidarity (Roemer, 2006), or community (Cohen, 2009). For Cohen, 'in the just society, each member embraces the ideal of social justice as a goal and is dedicated to conducting her life so as to secure and maintain it' (cited in Arneson, 2008, p.372-373). By recalling arguments provided by Judt (2010), social trust, community engagement and the prominence of the common good vs. individual egoism, i.e. on a solidaristic 'ethos', are in contrast with individualised vision of responsibility, i.e. rewards for effort and deserts. Accordingly, is there not a paradox residing in an interpretation of equality of opportunity which embraces basic anti-egalitarian values?

To conclude, REOp, by associating fairness and economic efficiency with the income inequalities of parents, might lose efficacy in the scope of equalizing opportunities for children. Policies on the CEOp side of the

continuum are likely to be more compelling for effectively coping with intergenerational dynamics that shape inequalities in children's opportunities. Further empirical research is welcome to look at how early childhood education in varying welfare state contexts does or does not effectively contribute to more equal life opportunities. This means that not only the traditional experiments (comparing poor children in experimental projects with equally poor children in care as usual, often meaning no care at all) are conducted. It would also include longitudinal research designs that look at a socio-economic diversity of children and compare the effects of the 'natural lottery' with structural interventions in early childhood.

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Chapter 4

A longitudinal study of early predictors of inequalities in cognitive abilities in Mauritius

Abstract[4]

The chapter examines inequalities in children's cognitive abilities and primary school performance associated with conditions prior to school entry, using data from the Joint Child Health Project longitudinal cohort, composed by 1795 children born in 1969 in two large cities of Mauritius. Cognitive abilities collected when children were of age three years, were significantly associated with the socio-economic status of parents, gender (higher for girls), malnutrition and sociability measured at the same age. The same associations were found for cognitive abilities at age 11 (yet higher for boys). The same early predictors, along with ethnicity, were associated with differences in school test scores at age 11. For some children (i.e. those whose mothers had low educational levels), the gap with their peers widened during primary school.

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4.1. Introduction

The present chapter examines predictors of cognitive inequalities in a developing country, using data from the longitudinal cohort of the Joint Child Health Project (JCHP) in Mauritius, comprising 1,795 children from a 1969 birth cohort. The cohort has been followed at regular intervals from age three to adulthood. The JCHP data set includes socio-economic and demographic variables, cognitive test results at ages three and 11, as well as school performance at age 11. The population of Mauritius was 0.75 million in 1972 and had increased to 1.3 million at the time of the 2012 census (Government of Mauritius & UNDP, 2013). The Mauritian population is marked by ethnic and religious diversity Mauritius has since its independence (1968) been characterized by rapid socio-economic development and public welfare provision (Bowman, 1991; Dommen & Dommen, 1997). Economic dynamics were accompanied by progress in education, primary health care, and social security (Dommen & Dommen, 1997). At the time of the JCHP, Mauritius achieved universal and free primary education, with a gross enrollment rate of almost 100% for both males and females (Parsuramen, 2006). The education system of Mauritius was conceived as a 6+5+2 structure, with six years of primary school leading to a Certificate of Primary Education (CPE) examination at age 11, five years of secondary education concluding with the Cambridge School Certificate (SC), and an additional two years for the Cambridge Higher School Certificate (HSC) (MES, 1991).

We tested the following hypotheses:

- Cognitive abilities at age three are associated with gender, ethnicity, socio-economic status of parents, nutrition and health, and temperament;
- The association between early factors and cognitive abilities is also significant at the end of primary school cycle (age 11);

- Early factors are associated with changes in cognitive development between the ages three and 11.

4.2. Methods

4.2.1. Variables

Children in the cohort came from two large cities of Mauritius, Quatre Bornes and Vacoas, having an ethnical distribution similar to that of the rest of the country (Raine et al., 2010). In this study, we will focus or analyses on measurements conducted in 1972, when children were three years of age, and in 1983, at age 11.

Cognitive abilities at age three were measured by six subtests of an early version of the 'Boehm Test of Basic Concepts - Preschool Version' (BTBC) (Raine et al., 2002). The test was designed to assess relational concepts about persons, objects, and situations; construction and copying; and making judgements of space, quantity, and time. Cognitive skills at age 11 were assessed with seven subtests of the 'Wechsler Intelligence Scale for Children' (WISC) (Schneider, Niklas, & Schmiedeler, 2014; Wilhelm & Engle, 2005). Full cognitive scales were measured through sub-tests of working memory and visual-spatial concepts: the similarities and digit span subtests were used to form an estimate of working memory cognitive abilities, while the block design, object assembly, coding, mazes, and picture completion subtests were used to form an estimate of visual-spatial abilities (Raine et al., 2002). BTBC and WISC subtests in the JCHP were modified to take account of Mauritian cultural norms and were administered in the Creole language (Liu et al., 2003; Raine et al., 2002). Raw scores for full scales were normalized and standardized (at mean 100 and SD 15).
The JCHP longitudinal dataset contains scores of the national examination (CPE) undertaken by children at age 11. The CPE comprises four subjects: English, French, Mathematics, and

Environmental Studies. Scores are awarded for each subject from one to five and the total CPE examination score is calculated as the weighted sum of score for English*3 + score for French*2 + score for Maths*3 + score for EVS*2, thus ranking from 0 to 50 (MES, 1991). Scores of BCBT, WISC and CPE are treated as dependent variables. The following were treated as independent variables (see Table 4.1.).

Gender and ethnicity:

Mauritius represents an interesting case to study educational inequalities in association as women and men have equal access. The JCHP sample consisted of 51.8% males and 48.2% females (Table 1) and gender was defined as a dummy variable "Female". Assignment to ethnic groups was based on self-reports by the parents (Table 4.1.). Since studies conducted in Mauritius have shown significantly poorer educational performance for children from a Creole ethnic background (Chinapah, 1983; Palmyre, 2007), we recoded ethnicity as a dummy variable "Creole".

Socio-economic status:

Studies conducted in developing countries show that children with poorer cognitive and learning outcomes are those who grow up in households in the bottom income quartiles; whose parents are unemployed or low-skilled workers, and have few years of schooling (Alderman, 2011; Bogin & MacVean, 1983; Hubbs-Tait et al., 2002; Macours, Schady, & Vakis, 2008; Paxson & Schady, 2007; Sigman et al., 1989); and who live in overcrowded home environments, with poor facilities in terms of sanitation, water, and hygiene, and an absence of educationally stimulating assets such as books and toys (Alderman, 2011; Paxson & Schady, 2007). The variables "mother's education" and "father's education" were measured as the number of years of schooling ranging from 0 (no education) to 16 years for mothers and 19 for fathers. The employment status of the mother and father was coded into a dummy variable (one if the father or mother was employed and zero if

unemployed). Housing density at age three, was coded as the number of people per room, ranking from 1 to 13.

Health:
Malnutrition was measured by the z-standardized score of observed height as a percentage of expected height for children at age three in Mauritius and ranged from -2.47 to 3.19. Data on the level of anemia at age three were available as z-standardized hemoglobin levels measured in blood tests (Raine et al., 2010) and ranged from -3.71 to 4.99. Data on serious illness amongst mothers during pregnancy was retrospectively collected and referred to exposure to the 1969 Hong Kong influenza epidemic during pregnancy (Raine et al., 2010). Information about serious illness amongst children at age three was also available. The variables on serious illness amongst mothers during pregnancy and children at age three were coded as dummies: "mother seriously ill" and "child seriously ill".

Temperament:
The temperament of children during the cognitive tests at age three was coded by JCHP staff in the laboratory and used as a proxy for early socio-emotional skills. The variable "child friendly" is a dummy variable (Table 4.1.).

Information on parents' additional training; whether the mother was the principal caregiver at home; and birth order were inserted as co-variates in the regression.

Table 4.1. Descriptive Statistics of the JCHP Cohort.

		M **BTBC**	***M*** **WISC**	***M*** **CPE**
Gender				
Males	51.8%	99.81	100.47	21.51
Females	48.2%	100.47	97.33	24.91
N	1795	1385	1260	1411
Ethnicity				
Chinese	1.8%	104.79	106.29	35.83
Creole	25.8%	100.47	101.53	23.76
Hindu	39.0%	99.26	98.62	23.90
Muslim	19.6%	99.38	99.82	24.40
Tamoul	10.0%	101.25	101.54	24.92
Other	3.8%	100.76	99.36	29.28
Creole	25.8%	100.47	101.53	23.76
Any other ethnic background	74.2%	99.81	99.48	24.65
N	1795	1385	1260	1411
Mother's education (y of school)	Mean			
Quartile 1 (Bottom 25%)	0	97.15	95.49	19.20
Quartile 2	2.63	98.29	94.88	18.07
Quartile 3	4.53	100.16	99.50	22.06
Quartile 4 (Top 25%)	7.04	102.38	105.00	31.12
N	1795	1385	1260	1411
Father's education (y of school)	Mean			
Quartile 1 (Bottom 25%)	0	96.18	94.24	17.40
Quartile 2	3.23	98.91	98.19	22.63
Quartile 3	5	97.14	100.74	23.83
Quartile 4 (Top 25%)	7.62	102.87	103.95	29.36
N	1795	1385	1260	1411
Number of people per room	Mean			
Quartile 1 (Bottom 25%)	1.83	102.26	103.68	29.82
Quartile 2	3	100.20	101.41	26.49
Quartile 3	4,39	99.73	98.28	22.35
Quartile 4 (Top 25%)	7.13	96.55	97.20	19.00
N	1795	1385	1260	1411
Serious illness of the child				
Child seriously ill	24.2%	99.90	98.94	22.79
Not ill	75.8%	100.01	100.30	24.90
N	1795	1385	1260	1411

Mother seriously ill (pregnancy)				
Mother seriously ill	15.2%	99.06	97.33	21.51
Not ill	84.8%	100.15	100.47	24.91
N	1795	1385	1260	1411
Anemia	Mean			
Quartile 1 (Bottom 25%)	-1.65	101.93	103.16	28.19
Quartile 2	-.74	99.41	100.29	25.23
Quartile 3	.11	99.80	98.87	23.82
Quartile 4 (Top 25%)	1.84	98.98	97.26	20.66
N	1574	1206	1108	1245
Malnutrition (PEM)	Mean			
Quartile 1 (Bottom 25%)	-1.25	101.75	103.94	28.70
Quartile 2	-.34	101.15	101.00	26.59
Quartile 3	.29	99.17	99.69	22.59
Quartile 4 (Top 25%)	1.29	96.79	94.83	19.25
N	1720	1327	1212	1350
Sociability during cognitive tests				
Friendly	77.7%	101.03	101.25	25.54
Unresponsive	22.3%	95.48	95.32	20.49
N	1790	1381	1257	1407

4.2.2. Data analysis

We followed a hierarchical regression approach (consisting on several models) in which blocks of predictors were entered in a sequential fashion - to explore the hypothesis that differences in cognitive ability at age three; age 11; and school performance at age 11, were associated with factors measured at age three. An initial model (Model 1) was constructed with a first block of 'exogenous' predictors, determined at birth and not molded during the first three years of age: gender, ethnicity, and proxies of the socio-economic status of the parents: mother's and father's years of schooling, and housing density. This was followed by multiple analyses, each time adding a set of predictors: in Model 2, serious illness of the mother during pregnancy and serious illness of the child, child anemia, and malnutrition at age three; and in Model 3, sociability during cognitive tests at age three (Tables 4.2., 4.3., and 4.4.). We repeated the regression analysis for the outcome variables

BTBC, WISC, and CPE. We also repeated the regression analysis by inserting, as co-variates, variables about father and mother working status and the child's birth order (Table 4.6.).

Finally, a regression analysis was conducted with the difference between the two cognitive tests at ages 11 and three (ΔWISC-BTBC, Table 4.5.) as the dependent variable. The results generated by the four models show the predictors' regressions slopes (B) with their standard errors, along with an F statistic (F) and the total amount of variance explained by the model (R^2). Changes in the F statistic (ΔF) and explained variances (ΔR^2) across the models are indicated.

4.3. Results

4.3.1. Factors associated with cognitive abilities at age three

Cognitive skills at age three were significantly associated with several conditions at the same age, $F(5, 1149) = 16.48$, $p < .001$, $R^2 = .067$. Children of higher educated fathers and mothers had higher test results that children of lower educated parents at age three. Children living in overcrowded houses (more than three people in the same room) had lower cognitive abilities at age three. Females had slightly better cognitive performances than boys. Ethnic background was not significantly associated with cognitive test results (Table 4.2., Model 1).
When health variables in Model 2 were added, there was a significant improvement in the model's fit, $\Delta F(9, 1145) = 5.28$, $p < .001$, and the explained variance increased ($\Delta R^2 = .032$). There was no significant association between cognitive skills at age three and serious illness of the child or of the mother during pregnancy. In contrast, malnutrition was a strong predictor of early cognitive abilities: malnourished children had more limited cognitive skills at age three.
Model 3 (Table 4.2.) analyzed the contribution of children's sociability during cognitive tests. The model's fit, $\Delta F(10, 1144) = 29.97$, $p < .001$

and the explained variance (ΔR^2 = .023) significantly increased. The friendlier a child was at testing, the higher the early cognitive abilities measured at age three.

Table 4.2. Predictors (age 3) of BTBC (age 3)

		Model 1		Model 2		Model 3
Female	2.27**	.86	2.36**	.85	2.79**	.84
Creole	-.20	1.01	-.34	1.00	-.31	.99
Mother's education (y of school)	.40*	.16	.34*	.16	.31*	.15
Father's education (y of school)	.70***	.14	.66**	.14	.64***	.14
Housing density (n people per room)	-.64**	.24	-.55*	.24	-.57*	.24
Child seriously ill			-.30	.32	.28	1.02
Mother seriously ill (pregnancy)			-.35	1.21	-.35	1.19
Anemia (hemoglobin level)			-.30	.32	-1.81	.44
Malnutrition (PEM)			-1.87***	.44	-.37***	.32
Child friendly (during testing)					5.70*	1.04
	F(5, 1149)=16.48***		F(9, 1145)=11.64***		F(10, 1144)=13.74***	
	R^2=.067		R^2=.084		R^2=.11	
	N=1154		N=1154		N=1154	
			ΔF=5.28***		ΔF=29.97***	
			ΔR^2=.017		ΔR^2=.023	

* p<.05, ** p<.01, *** p<.001

4.3.2. Predictors of cognitive skills at age 11

The findings suggest that socio-economic status of parents at age three and gender of the child also predict cognitive development when children reach 11 years, $F(5, 1057) = 42.84$, $p < .001$, $R^2 = .169$. Children of parents with higher education levels at age three had higher cognitive scores at age 11. Children living in more crowded houses at age three had lower cognitive scores at age 11. While girls scored higher at age three, this changed and boys achieved higher scores on the WISC than girls at age 11 (Table 4.3., Model 1).

By adding the block of variables on early child health and nutrition (Model 2), the model's fit improves, $\Delta F(9, 1053) = 10.45$, $p < .001$, as well as the variance explained ($\Delta R^2 = .032$). Serious illness of the mother during pregnancy, and the child being seriously ill at age three were not predictors of cognitive skills measured at age 11, while malnutrition was. Children with a higher level of malnutrition at age three had lower cognitive scores at age 11 (Table 4.3., Model 2). Children's sociability also increased the model's fit, $\Delta F(10, 1052) = 24.60$, $p < .001$, $\Delta R^2 = .018$. The child being friendly during testing at age three was associated with a higher score on cognitive skills at age 11 (Table 4.3., Model 3).

Table 4.3. Predictors (age 3) of WISC (age 11)

	Model 1		Model 2		Model 3	
Female	-5.54***	.84	-5.24***	.83	-4.84**	.82
Creole	-.79	1.00	-.90	.99	-.80	.98
Mother's education (y of school)	.93***	.16	.81***	.15	.78***	.15
Father's education (y of school)	.80***	.14	.75***	.14	.73***	.13
Housing density (n people per room)	-.78**	.24	-.66**	.23	-.65**	.23
Child seriously ill			-.49	1.01	-.52	.99
Mother seriously ill (pregnancy)			-1.59	1.16	-1.55	1.14
Anemia (hemoglobin level)			-.52	.31	-.55	.30
Malnutrition (PEM)			-2.32***	.42	-2.32***	.42
Child friendly (during testing)					4.83***	.97
	F(5, 1057)=42.84***		F(9, 1053)=29.30***		F(10, 1052)=29.30***	
	R^2=.169		R^2=.193		R^2=.219	
	N=1062		N=1062		N=1062	
			ΔF=10.45***		ΔF=24.60***	
			ΔR^2=.032		ΔR^2=.018	

* p<.05, ** p<.01, *** p<.001

4.3.3. Factors associated with the Certificate of Primary Education

Model 1 variables, measured at age three, were significantly associated with CPE results at age 11, $F(5, 1179) = 53.69$, $p < .001$, $R^2 = .185$. In particular, children with highly educated fathers and mothers, and children living in houses with a limited number of people per room at age three, had higher results in the CPE examination. Girls outperformed boys on the CPE results, albeit by only two points in a system ranging from 0 to 50 (Table 4.4., Model 1). Although there was a significant correlation between the WISC at age 11 and CPE scores at the same age, r (N = 1090) = .65, p < 001, not all predictors of cognitive skills at age 11 were also associated with school results at age 11. This was the case for ethnicity: Creole children had a lower performance in school than children from other ethnic backgrounds, while no significant differences were observed in relation to cognitive development at the same age. Because the effects on CPE scores were based on a different sample than the sample employed to measure association between predictors and the WISC, we verified whether the condition of being Creole would remain significantly associated with CPE results (and not for the WISC) by using exactly the same sample across the two tests., Performance in CPE test scores remained significantly lower for Creole children, while no significant differences were found among ethnic backgrounds in relation to cognitive development (WISC) measured at the same age (Appendix Table A.4.). This result is particularly important, as children from a Creole ethnic background enjoyed relatively advantaged early socio-economic conditions, with 20.7% of their mothers having had seven or more years of education, compared to 6.8% for children from other ethnic backgrounds, $\chi 2$ (1, N = 917) = 36.07, $p < .001$. Furthermore, 18.9% of their fathers had a higher education level, compared to 13.6% for children from other ethnic backgrounds, $\chi 2$ (1, N = 917) = 3.68, $p < .05$.

The fit of Model 2 significantly improved by adding variables on child health and nutrition, $\Delta F(9, 1175) = 15.61$, with an increase in the variance explained ($\Delta R^2 = .041$). Children who suffered from malnutrition and anemia at age three had significantly lower school results at age 11, while serious illness of the mother during pregnancy and of the child at age three were not significantly associated with later school performance (Table 4.4., Model 2).

Sociability of the child during tested at age three was significantly associated with school performance assessed through the score in the CPE examination, with fit increased, $\Delta F(10, 1174) = 18.75$, and an improvement of the variance explained ($\Delta R^2 = .012$) (Table 4.4., Model 3).

Table 4.4. Predictors (age 3) of CPE (age 11)

	Model 1		Model 2		Model 3	
Female	1.92*	.92	2.04*	.90	2.31**	.90
Creole	-4.21***	1.11	-4.42***	1.09	-4.42***	1.08
Mother's education (y of school)	1.26***	.17	1.12***	.17	1.09***	.17
Father's education (y of school)	1.07***	.15	1.01***	.15	0.98***	.15
Housing density (n people per room)	-1.58***	.26	-1.43***	.26	-1.40***	.26
Child seriously ill			-1.10	1.11	-1.10	1.10
Mother seriously ill (pregnancy)			-2.21	1.30	-2.20	1.29
Anemia (hemoglobin level)			-0.73*	.34	-0.75*	.34
Malnutrition (PEM)			-3.04***	.47	-3.01***	.47
Child friendly (during testing)					4.59***	1.06
	F(5, 1179)=53.69***		F(9, 1175)=38.25***		F(10, 1174)=36.82***	
	R^2=.185		R^2=.221		R^2=.239	
	N=1184		N=1184		N=1184	
			ΔF=15.61***		ΔF=18.75***	
			ΔR^2=.041		ΔR^2=.012	

* $p<.05$, ** $p<.01$, *** $p<.001$

4.3.4. Evolution in cognitive skills

An additional regression was performed, using the difference between the two cognitive tests at ages 11 and three (ΔWISC-BTBC) as the outcome variable. The results (Table 4.5.) show that early predictors had significant effects on the evolution in cognitive test results over time, $F(10, 798) = 5.91$, $p < .001$, $R^2 = .057$. Children's cognitive abilities significantly increased only in relation to the level of education of the mothers and to gender. The cognitive abilities of children with more highly educated mothers at age three increased more (from age three to age 11) compared to children with mothers with lower levels of education. Girls suffered from a negative trend in cognitive abilities vis-à-vis boys between ages three and 11. For other predictors, the differences tended to be stable over time.

Table 4.5. Predictors (age 3) of ΔWISC-BTBC (age 11 - age 3)

Female	-7.42***	1.21
Creole	.15	1.42
Mother's education (y of school)	.50*	.22
Father's education (y of school)	.28	.19
Housing density (n people per room)	-.10	.34
Child seriously ill	.66	1.49
Mother seriously ill (pregnancy)	-1.18	1.70
Anemia (hemoglobin level)	-.32	.45
Malnutrition (PEM)	-.34	.62
Child friendly (during testing)	-1.85	1.50
	F(10, 798)=5.91***	
	R^2=.057	
	N=808	

* $p<.05$, ** $p<.01$, *** $p<.001$

Finally, no significant changes in effects were observed when adding mothers and fathers working status, or child's birth order as co-variates. The absence of significant effects, in relation to parents' working status might be explained by the fact that 82% of mothers in the cohort were

housewives, and 96.6% of fathers did actually work. In addition, for 83.2% of the children the mother was the principal caregiver at home.

Table 4.6. Predictors of BTBC, WISC, CPE with parents' working status and birth order as co-variate

		BTBC		WISC		CPE		BTBC		WISC		CPE
Female	2.74**	.92	-4.53***	.91	2.35*	.99	2.78**	.84	-4.83***	.82	2.30*	.90
Creole	-.45	1.10	-1.63	1.11	-5.03***	1.21	-.32	.99	-.80	.98	-4.43***	1.08
Mother's education (y of school)	.13	.17	.84***	.17	1.14***	.19	.33*	.15	.79***	.15	1.06***	.17
Father's education (y of school)	.70***	.15	.71***	.15	.85***	.17	.65***	.14	.73***	.13	.96***	.15
Housing density (n people per room)	-.70***	.26	-.61*	.25	-1.49***	.28	-.62*	.24	-.66**	.23	-1.33***	.26
Child seriously ill	-.41	1.31	-1.43	1.26	-1.47	1.44	-.38	1.19	-1.55	1.14	-2.21	1.29
Mother seriously ill (pregnancy)	.28	1.10	-.35	1.09	-1.34	1.20	.28	1.02	-.51	1.00	-1.15	1.10
Anemia (hemoglobin level)	-.32	.35	-.45	.33	-.64	.37	-.38	.32	-.55	.30	-.75*	.34
Malnutrition (PEM)	-1.85***	.48	-2.34***	.47	-2.64***	.52	-1.80***	.44	-2.33***	.42	-2.98***	.47
Child friendly (during testing)	6.75***	1.15	4.62***	1.08	5.06***	1.18	5.67***	1.04	4.83***	.98	4.58***	1.06
Mother unemployed	1.69	1.26	1.62	1.31	-.56	1.47						
Father unemployed	2.23	2.76	.81	2.68	-1.36	2.92						
Child first born							-1.24	1.05	-0.35	1.04	1.80	1.14
	F(12,954)=10.76***		F(12,867)=17.69***		F(12,961)=23.93***		F(11,1143)=12.62***		F(11,1051)=26.73***		F(11,1173)=33.74***	
	R^2=.119		R^2=.214		R^2=.230		R^2=.108		R^2=.219		R^2=.240	
	N=966		N=879		N=973		N=1154		N=1062		N=1184	

* p<.05, ** p<.01, *** p<.001

4.4. Discussion

The present study reinforces the evidence that inequalities arise in the preschool years and tend to increase throughout childhood. In particular, the findings parallel similar studies, by associating differences in cognitive skills and educational performances, with a number of early predictors, including socio-economic status, housing density (Alderman, 2011; Bogin & MacVean, 1983; Hubbs-Tait et al., 2002; Macours, Schady, & Vakis, 2008; Paxson & Schady, 2007; Sigman et al., 1989), malnutrition (Alderman, 2011; Luna et al. 2004; Filmer & Naudeau, 2010; Paxson & Schady, 2007; Schady, 2006; Sigman et al. 1989; Walker et al. 2007, 2011) and sociability (Stevenson & Lamb, 1979). Notably, almost half of the variance for cognitive skills at age three is explained by sociability, malnutrition, mother's health condition during pregnancy, and health conditions of the child at age three, while the variance explained by these variables diminished to less than one third at age 11. Moreover, differences in cognitive ability between ages three and 11 increased for children with mothers with low educational levels, while remaining stable in relation to other predictors. While boys did less well than girls at age three, they outperformed girls at age 11 in terms of cognitive scores. These results reinforce the emphasis in the mainstream literature on the role of mothers' education in influencing children's cognitive development patterns (Coddington, Mistry, & Bailey, 2014; Kontos, 1991).

We also found some differences with previous studies. Health conditions, (i.e. anemia, complications during pregnancy) were not associated with cognitive ability in our study; and female status was not a disadvantage in school performance. These differences may be explained by the specificity of the socio-political context in Mauritius. During the 1970s, Mauritius developed an extensive system of public welfare provision in education, health, social security, and social housing, along with well-structured family planning programs and

interventions specifically targeting mothers' and children's well-being. This may have contributed to diminishing the effects of some factors (Dommen & Dommen, 1997). Similarly, our findings on the role of gender may be related to the substantial increased investment in education in fulfilment of free access to education for all in 1970s (MES, 1991). Studies of educational performance in countries with equal access to schooling indicate that girls usually outperform boys, particularly in reading skills, which are prevalent in the CPE (Hartley & Sutton, 2013), while not present in the WISC.

A particular result concerns the children from Creole families. While ethnicity was not related to cognitive ability (at either age three or age 11), children from Creole families did less well at the CPE examinations at age 11. The difference between WISC and CPE results for male and Creole children may also suggest that the primary school system favors or disfavors specific groups of children, as other studies conducted in Mauritius have suggested (Chinapah, 1983).

4.5. References

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Appendix

Table A.4. Predictors (age 3) of WISC (age 11) and CPE (age 11)

	WISC		CPE	
Female	-4.98***	.86	2.08*	1.01
Creole	-.55	1.03	-3.78**	1.20
Mother's education (y of school)	.59***	.16	1.08***	.19
Father's education (y of school)	.71***	.14	1.00***	.17
Housing density (n people per room)	-.75**	.24	-1.61***	.28
Child seriously ill	-1.35	1.05	-2.02	1.24
Mother seriously ill (pregnancy)	-1.28	1.22	-1.81	1.43
Anemia (hemoglobin level)	-.56	.32	-.83*	.37
Malnutrition (PEM)	-1.95***	.44	-2.82***	.52
Child friendly (during testing)	4.73***	1.01	5.78***	1.19
	F(10,907)=23.20***		F(10,907)=31.30***	
	R^2=.204		R^2=.248	
	N=917		N=917	

* p<.05, ** p<.01, *** p<.001

Chapter 5

Does preschool education equalize school performance? A longitudinal study of the Joint Child Health Project cohort in Mauritius

Abstract[5]

The mainstream literature argues that inequalities in children's education are associated with conditions prior to school entry. This narrative engenders a plea for a shift in redistributive policies, from schooling to investing in early childhood care and education. The present study uses data from the Joint Child Health Project Mauritius longitudinal cohort, composed of 1,795 children, whose demographic, socio-economic, and educational outcomes have been followed from the 1970s up to today. From the original JCHP cohort, at the age of three, 100 children were randomly selected and on a one-to-one basis paired with another child from the cohort. One of each pair was randomly assigned to an intervention group and received two years of high quality preschool education, while the other was assigned to a control group and experienced traditional Mauritian community preschool education of low quality. Children in the treatment and control groups were from diverse socio-economic and demographic backgrounds, enabling us to provide evidence on the equalizing strengths of non-discriminatory participation in high quality compared to low quality preschool education. We assess the effects of the high quality preschool intervention on educational outcomes, measured through the score in the national primary education examination at age 11. The findings show that the intervention had no significant overall effects. However, the educational test scores of children in the experimental group were found to be higher for those with poorly educated fathers, but lower for those with poorly educated mothers. Hence the effects of the intervention work in opposite directions: compensating (and hence equalizing) for the father's education level, but reinforcing (and hence dis-equalizing) for the mother's education level.

[5] This chapter is to be submitted to the *European Early Childhood Education Research Journal*, in the form of an academic article.

5.1. Introduction

The effects of preschool programs in enhancing the educational achievements of children from a disadvantaged socio-economic background have been extensively explored in academic research (Barnett, 2011; Burger, 2010; Engle et al., 2011; Heckman, 2008). As Heckman argues, the acquisition of cognitive and, more importantly, non-cognitive skills before the child enters primary school is a significant predictor of later academic achievement:

> Learning starts in infancy long before formal education begins and continues throughout life [...] Early learning begets later learning and early success breeds later success just as early failure breeds later failure. (Heckman, 2000, p. 5)

This thesis has been invigorated by research in the neuro-sciences that frames early childhood as a sensitive period for brain development, nurturing the formation of skills and abilities that accompany the individual throughout life (Grantham-McGregor, 2007; Walker et al., 2007; Walker et al., 2011). A number of factors are identified as early predictors of child development that lead to later educational inequalities. Poor early skills acquisition is significantly associated with an impoverished home environment, which, in turn, is associated with low socio-economic status (Davis-Kean, 2005; Feinstein, 2003; Foster et al., 2005; Heckman, 2000; Heckman & Masterov, 2007; Kontos, 1991; Mistry et al., 2010).

> Children with socio-demographic risk factors, such as ethnic minority status, low maternal education, low family income, and mothers with depression, are more likely to suffer poor academic and developmental outcomes. (Sektnan et al., 2010, p. 464).

Although studies on this topic have mainly been conducted in developed countries, analogous dynamics are observed in developing contexts

(Alderman, 2011; Eming-Young, 2002, 2014; Naudeau et al., 2011; Paxson & Schady, 2007; Schady, 2006; Walker et al. 2007, 2011). The narrative of the "early years" as the root of educational opportunity, or inequality, engenders a plea for a shift in redistributive policies from schooling to investing in early childhood care and education (Barnet, 2011; Barnett & Masse, 2007; Burger, 2010; Cunha & Heckman, 2006; Gormeley, 2011; Heckman, 2008; Heckman & Masterov, 2007). Engle et al. (2011, p. 12) argue that unless governments allocate more resources to high quality early child development programs for the poorest segment of the population, socio-economic disparities will continue to exist and to widen.

International policy makers (OECD, 2001; UNESCO, 2007; UNICEF, 2008; World Bank, 2006, 2010) have embraced the discourse on early childhood care and education as a promising means of establishing equal educational opportunities for children from different social backgrounds. The European Union also promotes early childhood care and education as a key social investment and advocates recentering welfare policies towards early years education, care, and health (European Commission, 2011, 2013). Likewise, the UNESCO-led "Education for All" global movement identifies the expansion of early childhood care and education as the best strategy for equalizing opportunities for marginalized children (UNESCO, 2007; Morabito, Vandenbroeck, & Roose, 2013).

This stance is reinforced by findings from a number of studies undertaken in the United States (Barnett, 2011; Barnett & Masse, 2007; Cunha & Heckman, 2006; Heckman, 2000, 2008, 2009; Heckman & Masterov, 2007; Heckman et al., 2009; Reynolds et al., 2012). The studies show positive effects of child care and preschool on the educational attainment of children "at risk," who face adverse circumstances in terms of their ethnicity, household income, and parents' occupational status and educational level (UNESCO, 2009,

2010; World Bank, 2006). Three U.S. studies started in the 1960s and 1970s are often cited in regard to the longitudinal effects of early childhood care and education: the Perry Preschool Program (PPP) and the Abecedarian Program (ABC), two experimental assessments, with small-scale preschool interventions, involving respectively 123 and 111 children; and the Chicago Child-Parent Centre (CPC) program, a non-experimental preschool program targeting around 1,500 children (Magnuson & Shager, 2010; Reynolds et al., 2002). According to these studies, preschool interventions were designed to provide high quality services to children at risk. Quality was achieved through structural aspects (i.e. pupil-educator ratio or staff training) as well as program content, including day-to-day experience in classrooms (Heckman et al., 2009; Magnuson & Shager, 2010). In PPP and ABC, the pupil-educator ratio ranged from 3:1 to 6:1 and in CPC it was 17:2 (Magnuson & Shager, 2010; Reynolds et al., 2002). Educators received extensive training and had academic qualifications. The pedagogy focused on the intellectual and social development of the child, stimulating cognition, language, and adaptive behavioral skills (Magnuson & Shager, 2010). In addition, free transportation, feeding, health care, family nurse, and pediatrician were provided (Cunha & Heckman, 2006). The program also included parental education, through home visits and counseling. Home services, by enhancing the educational climate in the household, are emphasized by the literature as a key feature of child school readiness and performance (Azzi-Lessing, 2011).

Children participating in these studies have been assessed on a number of early developmental outcomes, cognitive and non-cognitive, and measurements of educational performance, such as language comprehension, literacy, and numeracy, along with access to and completion of higher education (Barnett, 2011; Burger, 2010; Magnuson & Shager, 2010; Kautz et al., 2014). The findings underline that children in disadvantaged conditions who were involved in well-designed preschool programs enriched their skills acquisition compared to children not benefiting from the intervention; and that this resulted in

improved academic performance, as measured by test scores in reading and math, and in a reduction of remedial education needs and grade repetition, along with an increased likelihood of graduating from high school (Cunha & Heckman, 2006).

The design, consisting of treatment and control groups of children at risk, results in homogeneous groups in terms of socio-economic conditions and ethnicity. This allows the effects of early childhood care and education for these homogeneous groups to be examined, but does not allow it to be ascertained whether universal early childhood care and education also equalizes educational outcomes. Doing so would require a comparison of children from parents with higher and lower socio-economic levels (Burger, 2010; Ferreira & Gignoux, 2011; Paes de Barros et al., 2009; Van de Gaer, Vandenbossche, & Figueroa, 2014). Evidence from large-scale studies suggests that children from both low and high socio-economic backgrounds benefit from going to preschool (Sammons et al., 2012) but, as the evidence is quasi-experimental, the effects cannot unequivocally be attributed to preschools (Burger, 2010).

The aim of this chapter is to provide additional evidence on early childhood care and education as an equalizer in developing countries. The chapter explores this topic in a unique longitudinal perspective by analyzing the effect of a high quality preschool program that took place in Mauritius between 1972 and 1974. Our study looked at test scores obtained in the Certificate of Primary Education (CPE) exam. This exam, taken at the end of primary school when the child was 11 years old, represented a filter for access to secondary education (MES, 1991; Parsuramen, 2006). The highest grades led either to entry into one of the few existing governmental secondary schools, or to a further exam that allocated scholarships provided by the government to enroll in private establishments. About 50 percent of the children failed the exam in 1980-81 (Ministry of Education of Mauritius, 1983). Failure in the CPE exam led to precarious employment conditions, with a risk of falling into

poverty and social exclusion (HRDC, 2009). A longitudinal perspective is rather scarce, but is especially relevant in the context of developing countries where access to quality education remains limited (Alderman, 2011; Grantham-McGregor, 2007). The data are taken from the longitudinal cohort of the Joint Child Health Project of Mauritius (JCHP), a study spanning 40 years that aimed to identify early risk factors of later psychopathologies (Raine et al., 2010, p. 1441).

Mauritius is a small African island in the Indian Ocean, which gained its independence from the United Kingdom in 1968. It is a multi-ethnic nation, characterized by a stable democracy and rapid socio-economic development based upon market openness and generous public welfare provision (Dommen & Dommen, 1997). During the 1970s, Mauritius achieved universal and free primary education for both boys and girls (Parsuramen, 2006), and primary health care for all (Dommen & Dommen, 1997). At the time of the JCHP study's inception, there were only private preschools, the so-called "*petites écoles*," run by untrained personnel (Raine et al., 2010).

Based on the data available from the JCHP, we test three hypotheses:

- The *inequality* hypothesis: in the absence of any intervention, poorer school performance is associated with a number of "risk factors" in relation to conditions determined at birth, such as the socio-economic status of the family, sex, ethnicity, and housing characteristics;
- The *benefit* hypothesis: better educational outcomes are observed for children enrolled in well-designed (and small-scale) preschool interventions, irrespective of the risk factors mentioned above;
- The *equalizing* hypothesis: high quality preschool interventions benefit more those who are worse off in terms of the risk factors that negatively impact on their later school performance.

5.2. Method

5.2.1. The Joint Child Health Project

The Mauritius Joint Child Health Project is an experimental longitudinal study, comprising 1,795 children from a 1969 birth cohort. The cohort has been followed at regular intervals from age three into adulthood. From the original JCHP cohort, 100 children were randomly selected and on a one-to-one basis paired with another child from the cohort on the basis of sex, ethnicity, and electrodermal activity at age three. The latter was introduced in accordance with the original aim of the study to investigate early predictors of later psychopathologies. Random number tables were used to assign one member of each pair to a nursery school (the treatment group) and the other to one of the petites écoles (the control group) (Raine et al., 2001). Accordingly, 100 children aged three-four years were placed in two experimental nursery schools for two full academic years until they entered primary schooling. The JCHP intervention included several components which are considered to be beneficial for the educational development of the child (Burchinal et al., 2010; Magnuson & Shager, 2010; OECD, 2012; Raine et al., 2001), such as a lower pupil-educator ratio, preservice and in-service training for educators on pedagogical content, nutrition, and health, and remedial programs for slow learners.

The experimental program consisted of preschool education, nutrition education and nutritious meals, physical exercise, health screening and referral, remediation of behavioral and learning problems, and home visits to the family (Raine et al., 2001, p. 256). The program ran daily from nine am to four pm during weekdays and included outdoor activities (e.g. field trips involving parents). The pupil-educator ratio ranged from 1:5 to 1:10, depending on the activities undertaken during the day (Raine et al., 2001, 2003). The program also invested in parental involvement: a parent-educator association was created to introduce the

philosophy and goals of the nursery schools to parents, provide question and answer sessions on practical matters, discuss problems arising in school activities, and organize social events (Raine et al., 2001). Parents were required to make regular visits to the nursery schools in order to acknowledge children's daily activities, while school personnel were regularly engaged in home visits and counseling services aimed at stimulating parental involvement in the child's educational program.

The nursery schools were established and supervised by two experienced Danish kindergarten educators. Each school engaged seven Mauritian educators (five women and two men) from diverse ethnic backgrounds. The school also had two assistant educators, one cook, one administrative assistant, and one driver (Raine et al., 2001). The educators received preservice training in basic kindergarten knowledge, psychology, physical health, social welfare, and practical kindergarten activities. Additional in-service training sessions were organized throughout the period of the intervention. Training sessions were delivered by lecturers from the University of Mauritius, British Council teachers from the United Kingdom, and JCHP staff. In addition, educators were regularly examined by the Mauritius Institute of Education to ensure a high level of proficiency (Raine et al., 2001).

The control group of 100 children experienced traditional Mauritian *petites écoles*, community preschools "of poor educational quality, providing traditional and very rudimentary education" (Raine et al., 2001, p. 258). These kindergartens, privately owned, were staffed by child-minders with little training, had a median pupil-educator ratio of 1:30, and ran school days of five hours, including one hour of play (Raine et al., 2001, 2003, 2010). The curriculum was delineated as writing, counting, and drawing. Lunch and/or milk were not provided, with children usually going home at lunch time or bringing packed food, typically rice or bread. Children in the *petites écoles* were observed to be frequently tired and lacking sleep. Physical punishment was practiced. A

Ministry of Education of Mauritius report described the poor conditions of community preschool buildings, most of which were not designed for educational purposes, lacked proper toilet facilities, and had no access to water (Ministry of Education of Mauritius, 1979). Owing to the poor quality of these settings, in 1977 (after the intervention) a major training program was launched for the staff of the community preschools (Raine et al., 2001).

5.2.2. Variables

The education system of Mauritius was conceived as six years of primary schooling leading to a Certificate of Primary Education (CPE), followed by five years of secondary education leading to the Cambridge School Certificate (SC). The JCHP collected data on children's scores in the CPE exam. This exam comprised four subjects: English, French, mathematics, and environmental studies (EVS). For each subject, students received a score out of five. The total CPE examination score is calculated as the weighted sum of those subjects' scores: score for English*three + score for French*two + score for math*three + score for EVS*two (MES, 1991). This results in a total CPE score between zero and 50. Half of the score is determined by the child's language abilities, which thereby play a crucial role in the total score. The total score in the CPE examination at age 11 is the outcome variable in our analysis.

In 1972, when children in the cohort were three years old, data were collected on key factors believed to be associated with children's developmental outcomes. In our analysis, we consider those factors which are determined at birth and are not altered during the first three years of life (World Bank, 2006): socio-economic status, housing conditions, gender, ethnicity, and birth order.

There is a vast literature on the relations between the socio-economic status of the father and mother and children's cognitive development and academic achievement (Aslan & Kingdon, 2012; Berger, Paxon, &

Waldfogel, 2005; Feinstein, 2003; Foster et al., 2005; Macours, K., Schady, N., & Vakis, R., 2008; Mistry et al., 2010; Seknan et al., 2010). More particularly, language development is an essential aspect to consider in our case, as half of the total CPE score is determined by competencies in the English and French language. Mother's education is generally considered to be a prominent predictor of early language development, influencing later school performance (Coddington, Mistry, & Bailey, 2014; Hoff & Tian, 2010; Kontos, 1991). Relatively poor vocabulary and verbal interaction are frequently found with less well educated mothers, and negatively affect children's communication and language development, especially their reading comprehension (Coddington, Mistry, & Bailey, 2014). Other studies conclude that father's education is also significantly associated with child development (Pancsofara & Vernon-Feagans, 2010). Although the literature underscores the prominence of parents' education, the employment status of parents, as a proxy for the availability and stability of family income, may also play a role in children's educational achievement (David-Kean, 2004; Pancsofara & Vernon-Feagans, 2010; Paxson & Schady, 2007). The relation between the employment status of parents and child development is not merely an issue of material support.

The JCHP dataset has data on the number of years of schooling and the work status of parents. We use both the number of years of schooling of the parents and a discrete version of it. The latter distinguishes three levels of education: no education (the reference category), a dummy variable "Mother (Father) has one-six years of schooling," and a dummy variable "Mother (Father) has seven or more years of schooling." Since most mothers in the sample were housewives, while fathers worked, the working status variable has been recoded into two dummy variables "Father works" and "Mother works."

As argued by Vernon-Feagans et al. (2012), chaotic family situations, and crowded houses in particular, provide children with poorer

environments for language development. The limited space in the house reduces the quality of interactions between parents and children, an essential stimulant for language development, and may also be harmful to the child's health and physical development (Coddington, Mistry, & Bailey, 2014). The JCHP has data on the number of people per room in the house, which is considered a proxy for the degree to which houses are crowded. This variable has also been recoded as a dummy variable, "Crowdedness," which takes the value of one when there are four or more people per room.

The gender disparity in education has been documented by international organizations, which emphasize the existence of discriminatory practices in many developing countries that prevent girls from accessing schooling (UNESCO, 2015). Gender gaps may also pervade a wide range of life outcomes, including educational achievement (Tas, Reimão, & Orlando, 2014). We have defined the child's gender variable as a dummy variable, "Male," taking the value of one for boys and zero for girls.

A number of studies illustrate the influence of ethnic background on cognitive development and academic achievement (De Feyter & Winsler, 2009; Seknan et al., 2010; Tas, Reimão, & Orlando, 2014; UNESCO, 2015). The 200 children in the JCHP sample are from Creole, Muslim, Hindu, and Tamoul backgrounds. Hindus, Muslims, and Tamils in Mauritius are descendants of the indentured laborers brought to Mauritius under British colonial rule in the 19thcentury, while the Creole are mostly descendants of slaves brought to the island during the 18th and 19th centuries under French colonial rule (Addison & Hazareesingh, 1984; Dommen & Dommen, 1997; Gregoire, Hookoomsing, & Lemoine, 2011; Raine et al., 2010). Previous research conducted in Mauritius emphasizes that the lowest education performance – in the CPE examination – is typically observed among children from a Creole background (Chinapah, 1983; MES, 1991; Palmyre, 2007). For this

reason, we coded the ethnicity variable as a dummy variable "Creole," taking the value of one where the parents were from a Creole background and zero otherwise.

The birth order of a child may have an impact on cognitive and especially language development. Studies reveal that first-born children are advantaged in terms of language development, a result of the higher quantity and quality of interactions with parents during the early years (Bornstein, Leach, & Haynes, 2004; Hoff-Ginsberg, 1998). We include the dummy variable "Eldest sibling," which takes a value of one for a first-born child and zero otherwise.

5.2.3. Sample description

Owing to a cyclone in 1979, over 7,000 homes were destroyed in Mauritius and some of the children in our sample could not be located at the time of data collection at age 11 (Raine et al., 2001; Raine et al., 2010). As a result, the final sample contains 84 children in the treated and 91 in the control group.

The JCHP sample also contains information about other important early risk factors affecting educational achievement that have not been used in our analysis since they can be molded during the first three years of life. However, as the treatment only started at age three, differences in composition between the treatment and control groups in terms of these risk factors could interfere with the identification of the treatment's effects. We have information on the following risk factors, measured just before the children entered preschool:

– Protein energy malnutrition, indicated by the variable "Child malnourished," which is the z-standardized score of observed height as a percentage of expected height for children at age three in Mauritius (Liu et al., 2003; Raine et al., 2002);

- Anemia, indicated by the variable "Concentration of hemoglobin in the blood," which is a similarly standardized z-score of the concentration of hemoglobin in the blood, measured via laboratory blood tests (Liu et al., 2003);
- Cognitive skills, derived from six sub-tests of the Boehm Test of Basic Concepts - Preschool Version ("BTBC child"). The test, which assesses verbal and visual-spatial abilities, was modified to take account of Mauritian cultural norms and administered in the Creole language, which is in common use amongst the Mauritian population. Test scores were normalized and standardized at mean 100 and SD 15 (Liu et al., 2003; Raine et al., 2002);
- Mother's health as judged by the interviewer, indicated by a dummy variable "Health status of mothers below average";
- Serious illness of the child, indicated by a dummy variable "Serious illness of child", which takes a value of one where the child suffered a serious illness before the age of three;
- Child intellectual and physical development as judged by the mother (Raine et al., 2010), measured by two dummy variables, "Child's intellectual development below average" and "Child's physical development below average," respectively;
- Complications during the delivery of the child were assessed through information from birth records collected from hospitals, and whether the mother suffered from the 1969 Hong Kong influenza epidemic during pregnancy was assessed retrospectively (Raine et al., 2010). The corresponding variables are dummies: "Delivery without problems" and "Pregnancy without illness episodes";
- Additional training received by the father or mother. The dummy variables "Father had additional training" and "Mother had additional training" take the value of one where the parent in question had additional training.
- Caregiver, measured by the dummy variable "Mother is caregiver," taking the value of one if the mother was the child's principal caregiver at home and zero otherwise.

Table A.5 in the Appendix gives the descriptive statistics of both the treatment and control samples. Observations for some of the independent variables were missing. For each of these we created a dummy variable indicating that this variable was missing. Over 95 % of fathers worked, while mothers worked in only about 17 % of the households. In 95 % of the households the mother was the principal caregiver and thus was expected to have a central role in the education of the child.
We conducted balance tests to assess whether the sample of 175 children used in our analysis was matched on all the exogenous early risk factors described, as well as on the other potential risk factors that are shaped during the first three years of life, as listed above. The results can be found in the final column of Table A.5. The null hypothesis that the treatment and control sample are similar in terms of composition in the dimensions considered cannot be rejected at conventional levels of significance. Hence, eventual differences in educational results cannot be explained by differences in composition in these dimensions between the experimental and control groups.

5.2.4. Analysis

We model the CPE score of child i, CPE_i, as a linear function of the value of *K* different risk factors at age 3, X_i^k ($k = 1, \ldots, K$), and a dummy variable T_i that indicates whether the child participated in the treatment ($T_i = 1$) or not ($T_i = 0$). In our specification, we include interaction terms between the risk factors and the treatment, and a general idiosyncratic error term ε_i. This results in the following specification:

$$CPE_i = \beta_0 + \gamma_0 T_i + \sum_{k=1}^{K} \beta_k X_i^k + \sum_{k=1}^{K} \gamma_k X_i^k T_i + \varepsilon_i. \qquad \text{(a)}$$

The intercept for children that are not treated is β_0, and for children that are treated $\beta_0 + \gamma_0$. Hence γ_0 measures the uniform increase in CPE score for all treated children, irrespective of their risk factors. When the null hypothesis $\gamma_0 = 0$ is rejected in favor of the alternative $\gamma_0 > 0$, the evidence supports the benefit hypothesis. The effect of risk factor X_i^k is β_k for children that are not treated. Therefore, when there is at least one β_k for which the null hypothesis $\beta_k = 0$ is rejected in favor of the alternative $\beta_k \neq 0$, the evidence supports the inequality hypothesis. The effect of the risk factor X_i^k is $\beta_k + \gamma_k$ for children that are treated. Hence, when β_k and γ_k are both significantly different from zero and have opposite signs (and their sum is smaller than β_k), the evidence suggested that the treatment diminishes the effect of risk factor *k* on the CPE score. However, if β_k and γ_k are both significantly different from zero and have the same sign, then the treatment reinforces the effect of risk factor *k*. Hence, if we find one or more risk factors whose effects are reinforced by the treatment, the equalizing hypothesis has to be rejected. Equation (a) is estimated with linear least squares.

5.3. Results

Since the null hypothesis that the treatment and control samples are similar in terms of composition before the treatment started cannot be rejected, we begin the empirical section by comparing the mean and standard deviation of the Certificate of Primary Education scores between the treatment and control samples. The results are listed in Table 5.1

Table 5.1.
Comparison of CPI scores in the treatment and control samples

	Nursery school (Treatment)	*Pétit école* (Control)	Diff	P-value
Mean	27.30	26.27	1.02	.70
Standard deviation	17.49	17.84	-0.36	.57

Note: The P-value that tests for equality of the means is based on Welch's t-test. The P-value for equal variances is based on a standard F-test.

The first row in the Table 5.1. shows that the mean CPE score in the treatment sample is slightly higher than in the control sample but, as the first entry in the last column shows, the difference is far from statistically significant. This is a first piece of evidence indicating that the benefit hypothesis does not hold true. Observe that the difference in standard deviation between the treatment and control samples is not statistically significant either.

We now turn to a more detailed analysis of the differences between the treatment and control samples. Table 5.2. contains the results for different specifications of Equation (a). Specification (1) gives the results when all risk factors described and their interaction with the treatment dummy are included while parental education is measured by the years of schooling of the mother and father. Specification (2) is similar to specification (1), but now parental education is measured at three levels: none (the reference category), low (between one and six years of schooling), and high (more than six years of schooling). Specification (3) is similar to Specification (1), but without the insignificant variables Creole, sex, father's and mother's work status, and birth order, and without their interaction with the treatment. Specification (4) is similar to Specification (2), dropping the same insignificant variables. In Specification (5), in addition, the insignificant interaction between treatment and crowdedness is dropped.

All these specifications tell the same story. With regard to the *inequality* hypothesis, Specification (1) shows that, in the absence of treatment, children who grow up in a crowded house have a significantly lower CPE score than children who are not in a crowded house, while children whose fathers have more years of education have a significantly higher CPE score compared to children of parents with fewer years of education. However, the effect of mother's years of education is not statistically significant. Ethnicity, sex, father's and mother's work status, and birth order do not significantly predict educational attainment. For Specification (2), the results are analogous to those for Specification (1). Having a better educated father has a positive effect on CPE results, while living in a crowded house has negative effects. Focusing on Specifications (3) and (4), we see that without treatment, growing up in a crowded house reduces CPE scores by about eight points, which is equivalent to 0.46 standard deviations. Specification (3) shows that for each year of mother's schooling CPE scores increase by 0.93 points, and by 1.67 points for each year of father's schooling. Specification (4) shows that this result is to a large extent due to parents that have seven or more years of schooling. Having a mother with seven or more years of schooling increases the CPE score by 10 points (0.57 standard deviations) and having a father with seven or more years of schooling increases the score by 21 points (1.2 standard deviations). Hence the effects of these risk factors are not only statistically significant, they are also sizeable. As we found three risk factors that significantly correlate with CPE scores, the data provide clear support for the inequality hypothesis.

Turning to the *benefit* hypothesis, a first observation, valid for all specifications, can be found in the first row of Table 5.2.: the effect of being treated (γ_0) is never significantly different from zero. This confirms the somewhat surprising conclusion from a simple comparison of mean CPE scores in the treatment and control samples in Table 5.1.: the data provide no evidence for the benefit hypothesis.

Looking at the *equalizing* hypothesis, enrollment in high quality preschool seems to compensate for the fact that children with poorly educated fathers typically have lower CPE results. Specification (3) shows that without treatment, each additional year of father's schooling increases test scores by 1.67 points, but that treatment reduces the effect to 0.14 points. Similarly, Specification (4) shows that having a father with seven or more years of schooling increases test scores by 21 points, but treatment reduces the effect to 7.5 points. Hence treatment manages to compensate for the effect of father's schooling. However, treatment seems to widen the gap between children of mothers with fewer and more years of education. Each additional year of mother's schooling increases CPE scores by 0.93 points in the absence of treatment, while treatment increases the effect to 2.54 points (Specification (3)). Alternatively, having a mother with seven or more years of schooling increases CPE scores by 10 points and treatment increases the effect to 23.5 points. Hence treatment reinforces the effect of mother's schooling on CPE scores. As a result, the equalizing hypothesis has to be rejected.

Table 5.2. Nursery school effect on CPE

	Specification (1)		Specification (2)		Specification (3)		Specification (4)		Specification (5)	
Nursery school (JCHP program)	-2.64	14.63	-5.54	15.48	-1.79	5.24	-5.31	6.82	-4.45	6.51
Mother's years of schooling	.81	.54			0.92*	.49				
Father's years of schooling	1.85***	.51			1.67***	.45				
Mother has 1-6 years of schooling[1]			5.40	4.15			5.88	3.75	5.74	3.72
Mother has 7 or more years of schooling[1]			9.28	5.92			10.06*	5.42	10.22*	5.40
Father has 1-6 years of schooling[1]			6.79	4.72			4.71	4.25	4.77	4.24
Father has 7 or more years of schooling[1]			24.22***	6.41			20.84***	5.58	20.96***	5.56
Crowdedness (+3people per room)	-7.76**	3.46	-8.00 **	3.60	-8.00**	3.21	-8.22**	3.26	-7.23***	2.35
Mother works	.09	4.77	.92	4.88						
Father works	3.93	8.21	4.14	8.288						
Male	-1.74	3.37	-1.06	3.41						
Creole	1.05	3.90	.47	3.93						
Eldest sibling	-2.66	4.35	-4.29	4.43						
Mother's years of schooling * Nursery school	1.92**	.79			1.62**	.72				
Father's years of schooling * Nursery school	-1.93***	.73			-1.53**	.64				
Mother 1-6 ysc * Nursery school			2.64	6.31			.51	5.85	0.73	5.81
Mother +7 ysc * Nursery school			15.51*	8.41			13.48*	7.83	13.34*	7.80
Father 1-6 ysc *Nursery school			7.71	6.82			7.94	6.078	8.26	6.02
Father +7 ysc * Nursery school			-17.46**	8.48			-13.32*	7.45	-13.28*	7.44
Crowdedness * Nursery school	3.99	4.92	.47	5.14	4.22	4.59	2.067	4.72		
Mother works * Nursery school	1.98	7.45	4.29	7.69						
Father works * Nursery school	2.05	14.20	.05	14.08						
Male * Nursery school	4.14	4.85	2.63	4.86						
Creole * Nursery school	-5.94	5.68	-4.64	5.64						
Eldest sibling * Nursery school	2.88	6.12	6.58	6.11						
Crowdedness missing	18.56	15.83	23.08	15.89						
Mother works missing	6.24	6.69	4.39	6.76						
Father works missing	15.40	12.07	17.23	12.20						
Mother works missing * Nursery school	-13.96	9.44	-14.40	9.620						
Father works missing * Nursery school	-22.78	20.53	-15.14	20.42						
Constant	12.87	8.29	12.94	9.42	17.13***	3.66	18.31***	4.63	17.76***	4.44
		R^2=.344 N=175		R^2=.373 N=175		R^2=.310 N=175		R^2=.333 N=175		R^2=.332 N=175

*p<0.1, **p<.0.05, ***p<0.01

5.4. Discussion

The analysis of the effects of quality early childhood care and education in Mauritius's JCHP cohort offers contradictory results. Inequalities in educational opportunities, measured through differences in the CPE examination scores conducted at age 11, are statistically significantly associated with the educational level of the father and mother, and with housing conditions before children entered primary schooling. Moreover, the effects of these risk factors on CPE scores are large: growing up in a crowded house reduces CPE scores by 0.46 standard deviations, having a mother with seven or more years of schooling increases the score by 0.57 standard deviations, and having a father with seven or more years of schooling increases the score by 1.2 standard deviations. These findings are in line with the mainstream international literature to the effect that early childhood is the foundation for future learning, and that disadvantage accumulated in the period before schooling and due to "inherited" features, in particular family background, begets inequalities in educational attainment later in life (Alderman (ed.), 2011; Eming-Young (ed.), 2002, 2014; Filmer & Naudeau, 2010; Macours, Schady, & Vakis, 2008; Paxson & Schady, 2007). In addition, other studies conducted in Mauritius have underscored the relation between parents' socio-economic status and CPE performance (Chinapah, 1983, 1987; MES, 1991).

High quality interventions in the early years, focused on children at risk, are presented in the literature as potential equalizers. The emphasis on early childhood care and education policy is based on evidence from longitudinal studies, some of which lack diversity in socio-economic status, making it difficult to test the equalizing hypothesis. However, they confirm the benefit hypothesis as they show educational gains for children at risk who benefit from high quality preschool, compared with their peers that are not treated.

The preschool experiment in Mauritius was of a different nature, in that the participants were not selected as children at risk. The social backgrounds of the participating children were diverse, such that the JCHP longitudinal cohort potentially provides evidence on the equalizing strengths of non-discriminatory participation in high quality preschool compared with participation in low quality preschool.

Our findings do not support the benefit hypothesis, as they show no significant positive overall effect of participating in the JCHP experiment on school success at age 11. This result seems to contradict research conducted in both developed and developing countries, which identifies overall benefits from enrolling in quality early childhood care and education. It has to be pointed out that the experiment analyzed in this chapter does not involve a comparison between early childhood education and children at home, but between high and low quality provision. Nevertheless, the null result is challenging.

Quality is highlighted as a key component for early childhood care and education policies to succeed in equalizing children's opportunities. The JCHP nursery school setting aligns with indicators usually employed to assess the quality of preschool programs (Burchinal et al., 2010; Magnuson & Shager, 2010; OECD, 2012). As a result, divergences in findings between the JCHP and similar longitudinal studies conducted in the U.S. cannot be reduced to differences in quality. Several interpretations can be developed. It is possible that the *petites écoles*, considered as being of low quality according to international structural quality aspects, still have beneficial effects on CPE results through their focus on traditional reading, writing, and math skills, and in so doing, reduce the difference between the experimental and control groups. It is also possible that gaps in the quality of the experimental group have remained undocumented or that what was defined as quality, according to standards from the developed countries, was culturally ill adapted to the context of Mauritius. It might also be the case that the beneficial

effect of early childhood care and education on school performance was molded by other factors, such as practices in schools that prevented specific children from developing to their full potential (e.g. through the expectation of teachers). If this was the case, the beneficial effects of investing in the early years need to be questioned when the surrounding context is unequal or discriminatory.

This interpretation needs to be taken with some caution, as comparing the effects of early childhood programs is always a difficult venture in view of dissimilarities in the design of studies. An aspect to take into account is the particular design of the JCHP experiment, in which high and low quality preschool regimes are compared, while other studies compare children in preschool to children not enrolled in any program. In addition, the JHCP study did not target children at risk and included children from diverse backgrounds. While this unique feature enables us to analyze the equalizing hypothesis, it makes it rather complex to compare effects with those outlined by other studies.
Regarding the *equalizing* hypothesis, we found that participation in the JCHP nursery schools at age three to five substantially increased educational test scores for children with less educated fathers.. Yet, the intervention also benefited children with more highly educated mothers. The effects were therefore working in opposite directions: compensating (and hence equalizing) for father's education level, and reinforcing (and hence dis-equalizing) for mother's education level. These findings are actually in line with research based on non-experimental evidence from less intensive and large-scale programs, which have revealed the moderate effects of high quality preschooling on the educational attainment of children from diverse socio-economic and ethnic backgrounds (Burger, 2010).

It is not possible to disentangle the contribution of each component of the JCHP preschool intervention to later educational outcomes. However, one could argue that the divergent effects in relation to

father's and mother's education might relate to the different nature of these variables. This is particularly interesting, as the literature pertaining to early childhood policy tends to consider the effects of mother's and father's socio-economic status as complementary (or better, mutually reinforcing). In relation to father's education, since in the context of Mauritius most fathers are employed, education might be considered to be related to household income. Our results might therefore indicate that in the case of Mauritius, high quality preschooling compensates in part for the effect of income inequality on school results. However, the question then remains why children with more highly educated mothers benefit more from the program than those with poorly educated mothers. One possible explanation may be related to the home visits. Since in Mauritius it is exceptional for mothers to be at work, independently of their educational level, the home visits may have particularly enhanced interactions between mothers and children when mothers had higher educational levels, the latter being particularly salient for language development, a key component of the CPE examination. This would mean that mothers with lower educational levels benefited less from the home visits and/or that the home visits were poorly adapted to their more precarious situations. This also implies that school results are molded by the educational climate at home and that early childhood care and education can only marginally compensate for this factor (Azzi-Lessing, 2011). On the contrary, parent support programs for all may widen the gap. When home visiting programs stress parental involvement without necessarily adapting this to differing living conditions, they risk favoring more highly educated over poorly educated mothers.

5.5. Conclusion

The experiment that took place within the JCHP longitudinal study is unique as it allows a comparison of comprehensive high quality preschool with universal low quality preschool in a diverse population. We could not find an overall effect of the program on test scores at age 11. However, high quality preschool diminishes the negative impact of father's education level and increases the positive effect of mother's education level on test scores at age 11. This has several important implications.

The preschool project, as it was set up in Mauritius, enabled compensation for a low level of father's education, which can be seen as a proxy for household income, but did not work well for children with poorly educated mothers. This is perhaps not a surprise, as parental involvement in the high quality preschool program was much encouraged. In Mauritius, where the mother is the primary caregiver for the child (and most mothers did not work), this may have enhanced the effect of the educational level of the mother on the test scores. Even if poorly educated mothers' aspirations and motivation to support their children increase as much as for highly educated mothers, they may lack the capacity to actually support their children, compared to more highly educated mothers. This may be taken into account in the design of such a program, as children with poorly educated mothers at home may deserve additional attention. At this stage, we can only speculate what form this additional attention should ideally take.

5.6. References

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Appendix

Table A.5. Pre-treatment characteristics of children in the sample

	Nursery school (Treatment)	Pétit école (Control)	Diff	t/Z
Mother's years of schooling	5.214	4.681	0.533	0.986
Mother has no education	0.179	0.275	-0.096	-1.510
Mother has 1-6 years of schooling	0.595	0.539	0.057	0.750
Mother has 7 or more years of schooling	0.226	0.187	0.039	0.640
Father's years of schooling	5.476	5.516	-0.040	-0.067
Father has no education	0.214	0.176	0.039	0.640
Father has 1-6 years of schooling	0.512	0.604	-0.093	-1.230
Father has 7 or more years of schooling	0.274	0.220	0.054	0.830
Mother works	0.154	0.188	-0.034	-0.582
Mother works missing	0.071	0.066	0.005	0.144
Father works	0.976	0.954	0.022	0.758
Father works missing	0.024	0.044	-0.020	-0.732
Crowdedness	0.548	0.556	-0.008	-0.105
Male	0.500	0.516	-0.016	-0.218
Creole	0.250	0.319	-0.069	-1.002
Eldest sibling	0.238	0.275	-0.037	0.554
Child malnourished	-0.027	-0.078	0.051	0.336
Child malnourished missing	0.071	0.066	0.005	0.144
Concentration of hemoglobin in blood	0.016	-0.045	0.062	0.281
Concentration of hemoglobin in blood missing	0.071	0.143	-0.071	-1.519
BTBC child	103.300	101.967	1.334	0.534
BTBC child missing	0.262	0.187	0.075	1.193
Health status of mother below average	0.063	0.038	0.026	0.741
Serious illness of child	0.738	0.813	-0.075	1.193
Child's intellectual development below average	0.048	0.055	-0.007	-0.218
Child's physical development below average	0.048	0.055	-0.007	0.218
Delivery without problems	0.976	0.912	0.064	1.825
Pregnancy without illness episodes	0.869	0.857	0.012	0.229
Mother had additional training	0.779	0.729	0.050	0.734
Mother additional training missing	0.083	0.066	0.017	0.439
Father had additional training	0.899	0.910	-0.011	-0.251

Father additional training missing	0.060	0.022	0.038	1.266
Mother is caregiver	0.940	0.967	-0.027	-0.840

Note: Except for mother's and father's years of schooling, concentration of hemoglobin in blood (Anemia), child malnourished, and BTBC, all variables indicate proportions.

Chapter 6

What parents say about children's inequality of opportunities: a study in Mauritius

Abstract[6]

There is an increased interest in inequalities which is concomitant with a focus on early childhood. Whilst parents are the targets of intervention to reduce inequalities, the voice of parents is often absent from the scholarly debate. The aim of this chapter is to investigate the perspectives of parents on children's inequalities of opportunities and on the role of education and early childhood care in equalizing life chances. The study specifically explores the views of 26 parents in the sub-Saharan African country of Mauritius through focus group discussions. Focus group participants have been stratified in relation to key factors of inequality in Mauritius: socio-economic status, gender and ethnicity. Findings of the study suggest that parents tend to adhere to the discourse of parental responsibility as a key factor in children's inequalities. Yet they also show that parents have potential to criticize and deconstruct this narrative, as they experience structural circumstances, such as poverty or discrimination, shaping their life opportunities and those of their children.

[6] This chapter was submitted to the journal *Child and Family Social Work*, in the form of an academic article.

6.1. Introduction

Whilst the international definition of social work (International Federation of Social Workers 2014) refers to principles of social justice, human rights, collective responsibility and respect for diversity as central, contemporary discussions on inequality tend to increasingly look at individual responsibilities. The debate on inequality has been inspired by the work of egalitarian scholars (Dworkin 1981; Roemer 1998; Rawls 2001; Sen 2009). They share the idea that equity should not just be a matter of equal outcomes but also account for individual responsibility, and they contributed to shifting the focus of the 'equalisandum' from 'outcomes' to 'opportunities', meaning those goods, services, resources and their functioning that every individual has to have in order to freely choose and pursue his or her life plans. Equalizing opportunities then means neutralizing the influence of inheritance so that differences in life ends or outcomes would be solely ascribed to differences in choice or, as outlined by Sen (2009), substantial freedom[7]. Yet divergent views emerge on how to operationalize equality of opportunity through policies. The tension between individual responsibility and circumstances is particularly reflected in the ways in which (early) childhood policies are constructed as equalizing policies (Morabito & Vandenbroeck 2014). Public investments in preschool education are in that view considered as greatest equalizers and preferred over income redistribution among adults, the latter seen as potentially unfair and less effective (e.g. Field 2010; Allen 2011). These policies have been criticized for how they consider poor parenting as a cause, rather than a result, of poverty (Connolly & Harms 2012; Furedi 2014). The emphasis on individualizing problems and policy responses is contested by scholars who underline the importance of structural or systemic

[7] This definition of equality of opportunity is close to Amartya Sen's conceptualization. We privileged Sen's definition as it has deeply influenced the work of International Organizations. Other interpretations of equality of opportunity are further explored in Chapter 2 and 3.

circumstances which affect opportunities throughout life and also influence individual responsibility (Burchardt 2004; Rigg & Sefton 2006; Bunting *et al*. 2015). Recent studies also nuanced the strengths of redistribution focusing only on education in early childhood (Burger 2010).

Despite the focus on parental responsibilities in matters of inequality, there are few studies in which the voice of parents is present, particularly in developing countries. Researchers in the postcolonial era have increasingly pointed to the absence of these voices as seriously impeding the fairness of academia (Mutua & Swadener 2004). Parents are reduced to objects of policy, just as they are reduced to objects of research, rather than participants or subjects. In so doing, research reduces parents to being the spectators of their alleged problems, although they are targeted to solve the problem (Vandenbroeck *et al.* 2010). We explored the perspective of Mauritian parents who have experienced different life trajectories and who thus belong to diverse socio-economic and ethnical groups. In particular, we analysed the perspectives of Mauritian parents on (1) children's inequalities in Mauritius and factors contributing to differences in life achievements; (2) the role of (preschool) education in equalizing children's opportunities; (3) fairness and the tension between individual responsibility and structural circumstances in shaping equal opportunities.

6.2. The context of Mauritius

Mauritius is an African country located in the Indian Ocean. According to the 2012 census, its population is 1.3 million (Government of Mauritius & UNDP 2013). It gained independence from the United Kingdom in 1968. Mauritius offers an interesting context to explore these issues, as it has a long history of inequality, where social class runs along ethnic lines (Mauritius Examination Syndicate 1991; Mehta & Mehta 2010; Salverda 2010). The country presents a complex social

organization, shaped by French and English colonialism and immigration from Asian countries (Carosin 2013). The Creole ethnic group, descendants of slaves brought from mainland Africa and Madagascar during French and British colonial rule (in the 18th and 19th centuries) compose around one-third of the population and is the most marginalized group (Asgarally 1997; Carosin 2013). They suffer from negative stereotypes that have been transmitted from one generation to another since slavery (Palmyre 2007; Romaine & Ng Tat Chung 2010). These stereotypes have remained prominent after independence, under the new government dominated by the Indo-Mauritian majority, and are also present in the school system (Asgarally 1997; Palmyre 2007).

Two-thirds of the population consists of descendants of the indentured labourers, originally from India, who were brought to Mauritius under British colonial rule in the 19th century, and includes people belonging to the Hindu, Muslim and 'Tamoul' religions (Addison & Hazareesingh 1984). The Indo-Mauritians benefited from the economic and social development during the 1970s and 1980s, most of them moving from poverty to middle-class status (Salverda 2010). A minority consisting of descendants of European colonists and Chinese immigrants is also present. The descendants of European colonial rulers represent around 1% of the Mauritian population, yet constitute an economic élite, concentrating wealth as a result of land derived from the colonial rule (Salverda 2010).

Since independence, stable and democratically elected governments have characterized Mauritius, extending the welfare state and establishing free and universal basic health care and education (Dommen & Dommen 1997). Mauritius is one of the few countries in the African region that has placed early childhood education and care (ECEC) at the centre of its national agenda since the mid-1980s, including preschools for 3- to 5-year-olds, professionalization of educators, immunization and nutrition policies, (Parsuramen 2006). This has resulted in the expansion

of pre-school coverage to 98% in 2012, albeit with a private, market-oriented provision, enrolling 80% of children with monthly vouchers provided by the government (Ministry of Education 2009). Mainstream policy in Mauritius identifies education as a 'social lift' and as a result favours investments in education, parenting programmes, lifelong learning for employability, the provision of food and clothing, transportation, and pedagogical materials for children over income redistribution (Government of Mauritius 2015).

The Mauritian educational system is highly competitive and tends to polarize learning outcomes. The distribution of scores of the primary school examination is 'U-shaped' instead of the expected normal 'bell-shaped' distribution (MOEHR 2009). In 2006, 32% of pupils did not pass the primary school examination, whilst only 28% of those passing finished secondary education (MOEHR 2009). Inequalities in school achievements are strongly related to socio-economic and ethnic status of families (Chinnapah 1983; Mauritius Examination Syndicate 1991).

6.3. Methodology

Focus groups have been largely used in qualitative research in the areas of poverty, inequality and social exclusion (Morgan 1996; Madriz 1998). This method has also gained momentum in research on the relations of family and children (Rodriguez *et al.* 2011). Focus groups are particularly relevant for studies exploring tacit, uncodified and experiential knowledge, as well as opinions and meanings of the participants (Hopkins 2007). Interactions are especially important whilst we not only investigate parents' views, but also the reasons beyond their thinking (Kitzinger 1995; Morgan 1996). Furthermore, focus groups enhance participation from parents who might usually be reluctant to discuss something (Kitzinger 1995), given the Mauritian context in which communication '*blocage*' can be frequent in multicultural groups (Carpooran 2011).

The selection of participants was based on previous studies conducted in Mauritius regarding factors that determine inequalities of opportunities (Authors own, forthcoming). These factors include ethnicity, parents' educational levels and socio-economic status. Diversity in gender was added to have opinions from both fathers and mothers. In total, four focus groups were constituted, each with five to eight participants—all parents with children between 1 and 11 years old. A total of 26 parents participated (see Appendix, Table A.6.). *Focus group 1* consisted of two fathers and four mothers from higher socio-economic status (SES): one Sino-Mauritian (a mother) and five Franco-Mauritian (three mothers and two fathers); *Focus group 2* consisted of five Creole fathers with low SES; *Focus group 3* consisted of eight Indo-Mauritian mothers with low SES: one Muslim, one Tamoul, and six Hindus; *Focus group 4* consisted of seven Creole mothers with low SES. Higher socio-economic status was defined by a parent having earned a secondary or tertiary education certificate (Degree or Master), or a monthly disposable family income of at least 100,000 Mauritian rupees (around 2,500 euros) after taxation and social transfers. All parents with high SES (except one Sino-Mauritian mother in Focus Group 1) are 'Franco-Mauritian', thus descendants of European colonialists. Lower socio-economic status was defined by a parent having only a primary education certificate (CPE), or a monthly disposable family income of 10,000–15,000 Mauritian rupees (around 250–400 euros) after taxation and excluding social transfers. We separated Creoles and Indo-Mauritian parents into different groups, based on the historical trajectories of social mobility that have characterized the two ethnic groups. The Indo-Mauritian mothers selected for the study may be situated in a lower SES category, but they tend to have higher educational levels than Creole parents, better housing conditions (number of bedrooms vs. number of children in the household).

The recruitment of the participants was made through the involvement of the association Terrain for Interactive Pedagogy through Arts (TIPA). The focus groups with Creole participants took place at a community centre in Abercrombie and Cité La Cure: two suburban areas of the capital Port Louis where a majority of Creole inhabitants are from low socio-economic status. For the Indo-Mauritian parents, a community centre was used in Terre Rouge: a suburban area of Port Louis characterized by a high concentration of Indo-Mauritian from low socio-economic background and diverse religious backgrounds (Hindus, Tamouls and Muslims). The focus group with high socio-economic status took place in the office of TIPA. All focus groups except the last were conducted in Creole, the Mauritian native language. The first and second authors were present at all focus groups, assisted by a third facilitator, a local person matching the ethnicity of the participants. All local facilitators were experienced group discussion leaders, through previous training with the TIPA organization, and received additional training by the third author in conducting focus groups.

The focus group discussions started with explaining the aims of the focus group, as well as issues of confidentiality and ethics, followed by the signing of informed consent forms. The first question was an open question to parents about their aspirations for their children's future lives. Subsequently, parents were asked to reflect on barriers potentially preventing children from reaching aspired goals, as major sources of inequalities. Parents were also prompted to provide their views about fairness. Then participants were brought to discuss the role of education, in particular during early childhood. In doing so, parents were asked to specify conditions by which education may effectively equalize opportunities in Mauritius, taking stock of the findings of previous studies conducted in the country. In particular, parents were asked to give their opinion about previous findings that Sino-Mauritian children have better results on the primary education examination compared to Creole children, whilst no differences in cognitive levels have been

found (Authors' own, forthcoming). In addition, information was also shared about a previous study in Mauritius showing higher primary school examination results (CPE) for children having lower educated fathers and higher educated mothers (Authors' own).

The focus groups were audio-taped with the consent of the parents. Audio recordings were transcribed in full and the Creole and French narratives then translated into English. Subsequently, the transcripts were coded for an axial, thematic analysis (Breen 2006; Stewart & Shamdasani 2014). The thematic analysis, conducted by the first author, was subsequently discussed with the two other authors to come to a more phenomenological analysis (Smith 2008; Massey 2011). The framing of themes of a higher order was theory-driven and based on the discussion about individual responsibility versus structural inequalities in contemporary egalitarian literature. Both sides of the coin were analysed in terms of general living conditions (and concepts of the good life), as well as in the role of education. This resulted in the following meta-themes: parental aspirations for children's life outcomes; inequality of opportunity versus structural discrimination; the role of education in equalizing opportunities; and judgements about fairness. Permission was obtained from the Ethical Commission of the Authors' faculty.

6.4. Results

6.4.1. Parental aspirations

Parental aspirations for their children referred to the tension between responsibility and socially determined conditions. Parents used their language of choice when discussing these aspirations, somewhat assuming the absence of structural barriers to this choice. The language of choice is intrinsically related to that of responsibility and meritocracy.

High SES Franco-Mauritian Father 1:
'Discover himself, and strengthen his potential, being ready, mature, emotionally, to stand up and say this is what I want in my life, how is the life I want'.

Low SES Creole Father 1:
'He can stand on his feet'.

High SES Franco-Mauritian Mother 1:
'We know that the world is tougher, and less safe, there are risks, but there are also so many more opportunities for everyone to realize himself, according to his individual specificities and without having to do something just because there is no choice'.

Freedom to choose was, however, also affected by other individuals' behaviour, referring to personal safety and protection from violence.

Low SES Indo-Mauritian Mother 1:
'We always wish there were no more violence. Even more now with all the things that are happening, because every day we hear the same thing (referring to rape cases reported in the news)'.

Parents who experienced fewer opportunities in their life pointed at 'material' aspirations for their children, such as employment, earnings and basic needs like a proper house.

Low SES Creole Father 2:
'If they (children) ought to have a house, a job, a family and everything is ok (...). Let's say, they should go forward, not go backwards (implying staying in the same status as their parents or worse)'.

6.4.2. Inequality of opportunities, responsibility and structural circumstances

The discourse of individualizing disadvantage was well present among the participants, who named negative parental attitudes and lack of responsibility as a potential source of children's inequality of opportunities. Conversely, parental support and care as well as parents being 'role models' were named as factors that overcome structural discrimination and inequality.

> High SES Franco-Mauritian Mother 2:
> *'When people are in poverty, it is not just lack of financial means, it is to live in the same place and you have no 'role models' (…) I think that in Mauritius, somebody that comes from a disadvantaged milieu, can have chances to succeed, with much will'.*

> Low SES Creole Mother 2:
> *'Some children do not get any follow-up at home, some do not know anything (in school) and in addition when they go home there are no parents to sit with them, and follow their progress Well, these children, they are left behind, because they do not get any support (parental)'.*

Parents also identified structural circumstances shaping inequalities: income and ethnicity. Parents in low socio-economic status tended to focus more on income as a prominent feature. Without sufficient money, parents testified, they could not afford to enrol their children in higher education.

> Low SES Creole Father 1:
> *'Time will come that we will not be able to "push" forward, you understand, now we are pushing (our children) but in the future*

we will need financial means to help them jump, for example, if they want to study, we won't be able to ensure that, because we don't have a regular job'.

Low SES Indo-Mauritian Mother 2:
'But like I'm saying, if the family is wealthy, they let their child succeed, because they are financing everything. They have the financial means. Since they have means, they can pay for everything, open doors everywhere. But if a family is not wealthy, even if their child is intelligent, they will not get this "luck". Well then, the child feels discouraged'.

In addition, parents across the focus groups acknowledged the existence of discrimination, based on ethnicity, which is widespread in Mauritian society and in the educational system. Some participants testified that teachers undermined aspirations of Creole children.

High SES Franco-Mauritian Mother 1:
'Inequality is at the level of the colour of the skin'.

High SES Franco-Mauritian Father 1:
'Creoles are highly discriminated'.

Low SES Creole Mother 3:
'In Mauritius, there is a lot of racism, especially if you have "tiny" hair (afro-textured hair) like me'.

Low SES Creole Father 2:
'It (discrimination) is everywhere, at work, at school, at the police station, everywhere'.

Low SES Creole Father 1:
'Now if he (a Chinese child) has a Chinese teacher in school, he will teach the Chinese (pupil) better than the other one (…) He will make him sit at the front to teach him (better)'.

A 'culturalization' of structural differences could also be noted. As an example, the Creole was described as irresponsible, having a negative attitude toward life compared to other ethnicities, and this was labelled as 'innate' in his culture. Remarkably, the stereotype seemed to be co-constructed by Creole parents.

High SES Franco-Mauritian Mother 2:
'I think that there is a cultural aspect as well. I think that there is a culture of poverty among Mauritians with African background (Creoles), that results from their history'.

High SES Franco-Mauritian Father 1:
'There is very profound ambition among the Chinese population that we can't find among Creoles. The Creole is "very short listed" (thinks in the short-term). He knows that he needs 300 rupees per day. If he gains 600 rupees one day, the day after he will not go to work'.

Low SES Creole Mother 2:
'Some Creoles do not want to make sacrifices, Hindu and Muslims they all make sacrifices'.

Low SES Creole Mother 1:
'Now they (Creoles) are changing. Some use their intelligence. Little by little they start to realize they are taking the wrong path'.

6.4.3. Education as a social lift

Participants, in particular Franco-Mauritians from high SES and Creole from low SES, trust education as a social lift, despite studies showing that structural disadvantage influences school results in Mauritius.

> High SES Franco-Mauritian Mother 2:
> *'I would like to cite the case of a son of a messenger at the Mauritius Commercial Bank who became a manager (...) the son has been upgraded in the institution, whilst the father continues to be a messenger. It might be an exception but I think that our system still offers the possibility for people who have the will to achieve something (...) The father was someone who had a lot of love for his job and he transmitted that to his son (...) Parental means, school means, those (disadvantaged children) who found good teachers, people who pushed them, they have succeeded in obtaining scholarships and being laureates, I think that sometimes, we see that there are opportunities'.*

> Low SES Creole Father 1:
> *'For example, our former prime minister was a labourer himself, and his dad was also a labourer. There are a lot of politicians that have succeeded although they came from very poor families. Our president as well has told the same story about his life. I hope it always happens this way, that if you learn, you succeed'.*

> Low SES Creole Mother 4:
> *'We will tell our children: Learn and you'll succeed as well (...) even if we are poor. We will find ways to make him succeed. Although we did not succeed, you can become a doctor one day. Because many poor people are increasingly arising, nowadays they are getting better (status)'.*

6.4.4. Education and individual responsibilities

Participants also reproduced the same thinking patterns observed in relation to discussions on inequality of opportunity and pointed at individual deficits of the families when children did not achieve the desired educational outcomes. They stated that the school should complement the parental role in preparing children for a competitive and hard meritocratic society, by raising their moral and emotional stability, care and self-confidence.

> High SES Franco-Mauritian Father 1:
> *'Education has to raise our children, to make them be self-responsible, make them happy, that they receive an academic background but also social values, really people stand up (empowered), leaders, hard workers who have no fears'.*

> Low SES Creole Father 1:
> *'The (wealthy) parents will be serious with him (their child), he will get this good education, put his child in the same path. This also plays a role, what he has learnt he share it (with his children)'.*

> Low SES Indo-Mauritian Mother 3:
> '*I'm not so smart, but my kid is perfect, he always brings back A's and B's (grades). For me it was hard, I had C's, D's, E's. Yesterday he showed me his results, it was like I won a battle when I saw how my kid succeeded, and I struggle, I sit and look after him until 11 p.m. I sit with him. My second kid as well. But we have a vision, where we couldn't succeed, we would like our children to'.*

In addition, the individualization of inequality is also expressed when the participants were confronted with results of a previous study showing differences in primary school results between Creole and Chinese children, favouring the latter. In spite of data suggesting potential discrimination in school, parents outlined their own responsibility.

> High SES Franco-Mauritian Father 2:
> *'Children are all equal. They (parents) imagine that there are advantages (...) but it is not the case, everyone is (treated) on equal basis. Inequality is a perception (...) I observe cases in school of parents thinking that a teacher who is from a specific community treats more favourably people of his community. Nothing to do. I don't agree (...) Parents think that because maybe their children are a bit trouble-makers'.*

> Low SES Creole Father 1:
> *'This (differences in school results between Creole and Chinese pupils) depends on the seriousness of the child, it favours the one who is more serious. Because the Creole is distracted (...) well he has his distractions whilst the Chinese, when he is back home, his family is probably more strict (...) Now if we find both of them have the same intelligence, then we have to be more responsible, both of them can be equal, we are not allowed to do that (discrimination). As from childhood we should raise them as equal'.*

Individual responsibility was also suggested when confronted with study results showing that early childhood education reduced the gap associated with educational levels of fathers, yet increased the gap associated with educational levels of the mothers.

High SES Franco-Mauritian Mother 2:
'The mother says to her child do as I do, whilst father says don't do as I did, be better than me. And in addition, the fact of being in a quality preschool pushes aspirations. There is an emulation effect and an empowerment effect'.

Low SES Creole Mother 2:
'Maybe the parent (low educated father) encourages him. He who did not succeed encouraged his child "you must succeed", then the kid puts his mind to it'.

6.4.5. Education and structural circumstances

Although parents pointed at individualized factors as main contributors to the potential equalizing effects of ECCE, they also indicated the unequal quality of educational provision as a structural barrier. Parents associated inequity in the quality of education provision with the dichotomy of public vs. private education beginning in early childhood. They claimed that children enrolled in private settings are privileged, as paying for a private service was perceived as a 'warranty' of quality of teaching and learning materials.

High SES Franco-Mauritian Father 1:
'I don't see today someone who can send his child to a private school and who sends him instead to a public school. Because everyone is aware that in private education you pay and you know you will get a quality teacher'.

Low SES Creole Father 3:
'Yes it (quality) is not the same. Let's say you don't pay, the teacher won't take care sometimes. I don't say she won't take care at 100% but she won't take care like if you had paid'.

Low SES Creole Father 3:
'Yes (government should provide) technology, because our children are poor. We are daily paid workers, we have ZEP children (children in educational priority areas) (…) in underprivileged areas they should get better education. Like, they should get some help'.

Parents were convinced that public kindergarten and pre-schools in Mauritius focus too much on play, whilst when they were children, the pre-school prepared pupils for primary school through teaching of maths, reading and writing. As a result, the common perception was that children who frequent private settings are privileged, because they do actually learn rather than play. Several parents expressed their criticisms of child-centred, play-based pedagogies.

Low SES Indo-Mauritian Mother 3:
'Before we recited the alphabet, now it is not like this'.

Low SES Indo-Mauritian Mother 5:
'Concerning kindergarten, it was better before, we were writing, we knew how to write, they would teach us how to write our name, teach us A to Z in order, nowadays no. Nowadays children do not know how to properly write'.

6.4.6. Fairness and the inevitability of inequalities

Parents did point at unfairness of inequalities, when determined by structural factors unrelated to individual responsibility, such as historical discrimination or stereotypes. Yet they also called such inequalities natural and unchangeable.

Low SES Creole Father 1:
'It's like this because we are a multiracial society. There is always a group having the power and another one at the bottom. Because it's like this, it is normal that the majority is ahead, and the minority comes after. Education, everything follows the same rule (...) I think it's the same all around the world, the majority is ahead and the minority behind.'

High SES Franco-Mauritian Father 2:
'I don't think that this (discrimination) is made on purpose. I think that this is so complex; it is an entire social system that needs to be supported in order to have everyone equal, it is almost impossible in my view. There is no country in the world where there are not private schools, every child goes to school, all children are in school, and they can do their homework, and their parents can take care of them'.

High SES Franco-Mauritian Mother 2:
'It is not fair, but we need it to preserve a status quo (...) The status quo is convenient for many people. We have found social peace, economic independence, which is fine, nobody wants to change'.

It should be noted that not all parents adhered to the narrative of individualized solutions within a meritocratic system, and the narrative of education as a 'natural social lift'. This was illustrated by Indo-Mauritian mothers, who had recently been facing social mobility and were remarkably critical about unfairness.

Low SES Indo-Mauritian Mother 3:
'Why does the government tell you to get an education, education is important, get a diploma, to do what? Our children aren't getting any jobs'.

Low SES Creole Mother 5:
'Some people don't get a job even though they went to school'.

The adherence to the discourse of individualized responsibilities did not prevent the participants, in particular those from low socio-economic status, to advocate for income redistribution. Adequate income was considered a means to ensure good nutrition and housing and thus a proper environment for children to grow up and learn in. It was also labelled as necessary to buy the required learning materials (i.e. tablets) and, more importantly, to pay for private tuitions to compensate the lack of quality in the public education system.

Low SES Creole Father 3:
'Because education does not stop at the beginning. It's like building a house, from the ground to the top, when you reach the top, you have to be able to finish it, it all depends (on income)'.

Low SES Creole Mother 2:
'Take for example my daughter (...) She told me, "Mum you know I'm weak in English and maths." So I have to give her two private tuitions. But now I have to work a bit hard to get that money to pay for the private tuitions'.

Several parents in the focus groups, notably Indo-Mauritian mothers, denounced the current Mauritian socio-economic system as lacking solidarity, and they advocated for solidarity.

Low SES Indo-Mauritian Mother 3 (talking to a Muslim mother):
'Really you (Muslims) are perfect. I admire you because you help your community (people), you know how to support each other'.

Low SES Indo-Mauritian Mother 3:
'Those who have financial means, why don't they participate (share)? Help them a little. He (the high income status) doesn't have to give (to the poor) all his money 100,000 rupees, but if he gives just 5,000 rupees every month'.

6.5. Discussion

Social work tends to focus on societal characteristics of inequality and the concept of collective responsibilities is at the core of its definition (International Federation of Social Workers 2014). However, scholars have described how individualizing concepts of responsibilities and fairness tend to prevail in the neoliberal era and how this leads to tensions in social work (e.g. Kunneman 2005). This is particularly salient in the emphasis on child and family social work (i.e. childhood education and parent support) as a means of poverty reduction and greater equality (Schiettecat *et al.* forthcoming). Despite the focus on parents and parenting, the voice of parents is all too often absent from research and, as a result, parents are reduced to being spectators of their alleged problems. This is particularly problematic when research is conducted in postcolonial contexts, whilst studies that give voice to parents in developing countries are all too scarce. Through focus groups, we looked at parental opinions on these matters in the context of Mauritius, a particularly salient context, considering the historical division in socio-economic groups that runs along ethnic lines. Parents across the focus groups had nuanced and multi-layered opinions about equal opportunities, about individual versus collective responsibilities and about fairness. Therefore, some caution is needed when drawing conclusions.

Many participants adhered to the meritocratic narrative of free choice, of education as a key driver for equal opportunities, as well as of the predominant role of parental responsibility as role models and educators.

The trust in education as a social lift is nourished by mythical examples of persons who have indeed successfully climbed the social ladder. The quality of the education system that can enable this social mobility is both deemed important and criticized, especially when it comes to public education. Participants from low socio-economic backgrounds in particular questioned the pedagogical practices in public pre-schools as being too child-centred and play-based. They assumed that more teacher-centred approaches, with a more classical ABC learning style, focusing on early reading, writing and counting, would benefit their child better. Similar findings have been reported in studies conducted in developed countries among immigrant parents (Adair *et al.* 2012; Tobin *et al.* 2013) and pose a very difficult dilemma. Whilst scholars that position themselves as progressive are generally in favour of experiential and holistic ways of learning through play (Bennett 2005; Samuelsson *et al.* 2006), they are also in favour of democratic and participative curricula that take into account parents' voices. In some cases this may lead to strong disagreements (Vandenbroeck 2009) or the question of whether experiential learning is favouring the already favoured (Tobin 1995).

The *culturalization* or *ethnicization* of inequalities is another feature of the narrative of individualized inequalities and is used by some parents to explain structural or systemic circumstances such as the discrimination of Creole children. Remarkably, Creole parents also shared this narrative and, in general, parents from low socio-economic backgrounds did not often challenge discourses that explain inequality through biased stereotypes attributed to specific ethnic groups. As Freire (1970) explained, marginalized groups tend to 'internalize oppression' or adhere to the dominant discourse of marginalization. The system of values along with the language that present structural circumstances as individualized issues has been perpetrated since colonial times in developing countries. As a result, the cultural and political alienation of the 'oppressed' has brought them to assimilate the dominant discourse

(Freire 1970). Parents are in a status that can be understood, according to Freire (1970), as naïve consciousness: although they recognize the existence of discrimination, they are unable to overcome the status quo, which is presented as natural and immutable. Similarly, in Mauritius, Creoles may have integrated this depreciated image of themselves and therefore are unable to project themselves as potential partners in equity (Palmyre 2007).

The adherence to the individualizing discourse is only one aspect of the parents' multi-layered narratives. Several participants, in particular those in low socio-economic status, were also aware and critical of the influence of structural causes for the unequal distribution of opportunities. This was most salient when they discussed education and pointed to the structural differences in terms of the distribution of quality, and the role of teachers who were believed to undermine the aspirations of disadvantaged children. Although parents concurred on the importance of individual parental responsibility, they also advocated for more public support, in the form of income (re)distribution. Income remains a sine qua non condition for education to effectively equalize children's opportunities. The parents in the focus groups were very aware that the privatization of education comes at an important societal cost and the unequal distribution of educational quality should, according to them, therefore be compensated by more equal incomes in order to ensure social justice or to be considered as fair.

In sum, the parents in our study cannot be labelled as simply adhering to the dominant discourse, nor as criticizing it, as they do both in various ways. It is clear that there are significant aspects present of what Freire (1970) has labelled the culture of silence, that instils a negative, silenced and suppressed image into the oppressed. It can be argued that privatized forms of education (in contrast with the conception of education as a public good) in essence lack that capacity to emancipate (Moss 2009) or to conscienticize (Freire 1970) and our study can be considered as

illustrating this in the case of Mauritius. Our study can also be seen as adding to the argument that education can only fulfil its emancipatory role and its mission of social lift in contexts of sufficient equality and thus when accompanied by fair and redistributive policies. In that sense, the shift from redistributing income to equality of opportunities by investing in child and family social work may be too simple a conception of fairness. This may be illustrated by the critical position of Indo-Mauritian mothers who can be considered the 'winners' of the independence, as they have had increased opportunities since the 1970s and 1980s. They now interact more frequently with relatives and friends who are teachers, civil servants and graduates of secondary schools. Being in the 'social lift' makes them more aware of the limits of the dominant narrative as espoused by economic and political leaderships.

6.6. References

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Appendix

Table A.6. Profiles of Focus Groups' participants

	FG 1	FG2	FG3	FG4
N of participants	**6**	**5**	**8**	**7**
Sex				
Male	2	5		
Female	4		8	7
Religion				
Catholic	5	2		3
No Religion	1	1		3
Other Christians		2		1
Hindu			6	
Muslim			1	
Tamoul			1	
Marital Status				
Married	6	3	8	6
Single		2		
Separated				1
N Bedrooms at Home				
1		5		4
2			6	3
3	3		2	
4	3			
N of Children				
1	1	2	2	
2	3		3	1
3	2	2	3	3
4				2
5		1		1
Age of Children				
Below or = 3	3	4	2	3
5	2	1	2	3
6	3	1	1	1
7	1	1		1
8	1	1	3	3
9	2	1	1	1
10	1		4	5
11		2	1	3
Above 11		2	3	4
Children in ECCE*				
Public	1	5	6	6
Catholic				
Private	5		2	1

Children Primary School				
Public		5**	8***	7***
Catholic				
Private	6			
Participants Education				
CPE not passed		3	2	2
CPE passed		1		3
Secondary not passed		1	5	2
Secondary passed			1	
University Degree	2			
University Master	4			
Participants ECCE				
Public	1	4	8	3
Catholic	1	1		3
Private	4			
Participants Primary School		3	8	7
Public	5	2		
Catholic	1			
Private				
Participants Secondary School		1	6	2
Public	4			
Catholic	2			
Private				
Employment Status				
Yes irregularly		5	2	3
Yes regularly employed	3			
Yes regularly independent	2			
Housewives	1		6	4
Current Job				
Manager	5			
Construction worker		4		
House keeper			2	3

* ECCE intended as kindergarten and/or pre-school

** Children from lower SES frequent same Primary school as their parents – all of them are in ZEP Schools which are special schools for under-achievers.

Chapter 7

Conclusions

7.1. General discussion

We explored relationship between equality of life chances and early childhood care and education (ECCE), by using a mixed method research, including a theoretical analysis through a critical literature review, quantitative analyses of a longitudinal database, and qualitative focus groups with parents in Mauritius. In particular, we questioned the dominant discourse presenting ECCE as the 'greatest' (and consensual) of equalisers. This claim is contingent with a rethinking of the concept of equality, as the *equalisandum* that has moved from 'outcomes' to 'opportunities', inspired by the work of contemporary philosophy. Opportunities are goods, services, resources and their functioning needed by individual to freely choose and pursue their own life plans, which are unequally distributed among individuals as a result of 'circumstances' beyond the individuals' responsibility.

7.1.1. The theoretical analysis

In Chapter 2 we critically reviewed the evidence exposed by international organisations in support of the claim of ECCE as the greatest equaliser and the generator of consensual social policies. In part, our criticism conveyed methodological concerns. Indeed, the evidence that founded the equalising claim appears to be based primarily on a number of longitudinal and cross-sectional studies that compared effects of early interventions among worse-off children while children in more diverse circumstances (and from diverse socio-economic backgrounds) were often missing in these studies. As a result, the claim that ECCE yields beneficial effects can be made, but the claim of equalising effects is more dubious (Burger, 2010; Van de Gaer, Vandenbossche and Figueroa, 2014). When taking into account the few existing studies that included children from both lower and higher socio-economic statuses, equalising effects seem to be more nuanced (Burger, 2010; OECD, 2006). In addition, we have estimated that this approach tends to over-

simplify inequality dynamics, by avoiding considering the impact of cultural, social or systemic circumstances, both formal and non-formal, such as racism (Burchardt, 2004, ; Rigg and Sefton, 2006). These circumstances, which are socially constructed as representations and stereotypes, are difficult to measure, yet they may strongly influence fairness in the distribution of opportunities as well as the process from opportunities to outcomes, beyond childhood (Nozick, 1974). Furthermore, we have raised ethical concerns vis-à-vis the association of opportunities and human capital (and the emphasis on the 'return of investments'), which 'narrows' the child as a mere future productive adult. We believed that this angle, by neglecting the child 'here and now,' would ultimately denaturise the very meaning of early childhood itself (Moss, 2009). Finally, we revisited the claim, notably exposed by the World Bank, that a refocusing of redistributive policies towards education and early childhood, would enable one to avoid political dissent by meeting the concern of the 'political left' for social justice and fairness, as well as that of the 'political right' for individual responsibility and economic returns of public spending (Paes de Barros *et al*., 2009). We questioned this assumption, as it is based, in our view, on a particular interpretation of equality of opportunity, which artificially separates opportunities (in childhood) from outcomes (in adulthood). The alleged consensus might actually mask the complexity of the intergenerational transmission of disadvantage (Kanbur, 2009) and ultimately preclude alternative social welfare policies, including income redistribution (Moss, 2013).

In Chapter 3, we further investigated how the dominant discourse on fairness – and the claim of ECCE as equaliser – is normatively constructed, by also highlighting the possibility – and plausibility – of an alternative social welfare perspective. Equalising opportunities basically means neutralising the influence of circumstances so that differences in life outcomes are solely determined by responsible choices. The core principle of equality of opportunity is straightforward, yet divergent

views might emerge on how to concretely operationalise fairness into policies, depending on the role given to circumstances versus responsibility (Roemer, 1998). We have argued that these diverging views might be represented as a continuum, ranging from what we have defined as a Responsibility-oriented Equality of Opportunity (*REOp*) to a Circumstances-oriented Equality of Opportunity (*CEOp*). We focused our attention on the *REOp* interpretation of equality of opportunity, which has gained momentum in the last decades among international organisations (Solga, 2014). The *REOp* assumes that it is reasonable to divide the life of individuals between a moment where opportunities are defined by circumstances (and consequently inequalities are unfair), and a period after this momentum, when life outcomes are the result of effort or choice and thus a matter of individual responsibility. Inequalities at this latter stage are to be considered fair. Childhood is identified as the salient period in the lives of individuals, where outcomes are defined only by circumstances, and thus are entirely within the field of opportunities. As a result, public investments in education and in particular in early childhood, are preferable over income redistribution among adults; the latter considered to be less effective and potentially 'unfair' (Field, 2010). It is therefore assumed that the free market system is a 'fair playing field', thus guaranteeing that positions are 'open to all' (Rawls, 2001) or assigned entirely on a meritocratic basis. In addition, in searching for enhancing individual responsibility, this approach also tends to emphasise the role of parents' responsibility in children's inequalities and free choice in social policies, in concomitance with increasing marked-based ECCE solutions (Vandenbroeck *et al.*, 2010); we have severely criticised these assumptions. In particular, evidence in favour of the equalising strengths of ECCE is limited, as is also outlined in Chapter 2. Moreover, the market does not necessarily preclude discrimination, and non-meritocratic practices (Van Parijs, 1995; Stiglitz, 2012) and studies highlight that the marketisation of ECCE does not contribute to increasing quality enhancement for less privileged children (Moss, 2009). Conversely, we claimed that the *CEOp*

perspective is more realistic than *REOp* in framing the child as well as his or her parents in inequality dynamics. In a free market system, *CEOp* circumstances continuously influence opportunities as well as effort and choices throughout individuals' life paths. Therefore, excessive inequalities of income among adults should always be considered unjust. In addition, since one generation's outcomes are the foundation – circumstances – of the next generation's opportunities, income redistributive policies, through wage solidarity and post taxation transfers, can be considered as equalising opportunities for children as well. We have finally underlined the fact that the *CEOp* would re-conduct social welfare policies to their original mission of ensuring the well-being of children (and parents) 'here and now'.

7.1.2. The quantitative analysis

In Chapters 4 and 5, we examined which early circumstances, thus before children enter the primary school, influence later educational outcomes in Mauritius. We also examined both the beneficial effects of high quality ECCE interventions on the educational opportunities of children 'at risk' and their equalising effects vis-à-vis more privileged children.

Findings illustrated in Chapter 4 strengthen the evidence that inequalities already arise in early years, since we found a strong association between circumstances in early childhood (at age 3), early cognitive skills at the same age, and cognitive and school performances (at age 11). In particular, inequalities in cognitive development are significantly associated with sex, socio-economic status of parents, housing conditions, and malnutrition. Furthermore, we observed that inequalities in cognitive skills tend to grow during primary school. We also found that Creole children have poorer school performances compared to other ethnic groups, although no differences were detected with reference to cognitive abilities (measured through cognitive tests at ages 3 and 11).

Although this result might be ascribed to the specificity of the Mauritian educational and socio-cultural context, it also puzzled the dominant discourse, by describing dynamics of inequalities, which are less deterministic than what is usually presented in mainstream literature. Living conditions of children before entering the school system influence the acquisition of cognitive skills as foundations for future learning; the school environment may also reinforce patterns of accumulation of disadvantage and/or modify underlining factors – i.e., circumstances – of inequalities (Bourdieu, 1990). As a result, investing in early care and education remains a crucial intervention for reducing disadvantage by providing opportunities for learning in the very early stages, but ultimately it may not suffice. The appearance of diverse systemic factors of inequality throughout childhood and during the school years might necessitate other measures.

The results outlined in Chapter 5 have actually reinforced this hypothesis. Analyses of the effects of high quality pre-school intervention in the Joint Child Health Project (JCHP), on one hand, have confirmed the influence of early years circumstances (measured at age 3) in later inequalities (school performance at age 11). On the other hand, these analyses nuanced the equalising potential of ECCE. The JHCP intervention in Mauritius occurred when children where 4 to 5 years of age and it worked in opposite directions: school results for the children in the experimental group at age 11 and in the pre-school intervention were higher for those with low-educated fathers, but also lower for those with low-educated mothers. Hence pre-school compensated (and thus equalised) for the father's education level, but reinforced (and dis-equalised) for the mother's education level. As most of fathers in the study were actually employed, these results might indicate that, in the case of Mauritius, high quality pre-school interventions could have eventually compensated for the effects of income. At the same time, since most of the mothers were not working, we hypothesised that home visits could have played an important role in enhancing educational

interactions between mothers and children, in particular for those mothers with higher educational levels. This finding also highlights the relevance of the educational climate at home in shaping educational inequalities, and conversely the limited impact of pre-school interventions, including parental involvement (Azzi-Lessing, 2011). In addition, no beneficial effects of the enrolment in high quality pre-school have been found; this is in contradiction to similar longitudinal studies conducted mainly in the US. It has to be underlined that the Mauritius experiment was of a different nature, as children selected for the intervention where characterised by heterogeneous demographic and socio-economic backgrounds. In addition, children in the ECCE intervention were compared with children enrolled in lower quality local settings (rather than not enrolled in any). We have also argued that local ECCE, considered to be of 'lower' quality by international standards, might have actually served the purpose of preparing Mauritian children for later primary schooling. Other option is that the effects of the quality pre-school intervention might have been moulded by other circumstances within the primary school system (e.g., teachers' attitudes and expectations). These findings, although they must be considered with caution as they reflect specificities of the study and the context, have nevertheless confirmed the complexity of the nature of the relations between inequalities and early childhood, and ultimately suggested that ECCE could play an important role in redistribution, however it is certainly not the 'magic bullet' (Waldfogel, 2004).

7.1.3. The qualitative analysis

In the final part of our research we investigated the point of view of parents in Mauritius, vis-à-vis children's inequalities and the role of education, and in particular early childhood care, through focus groups. As part of the dominant discourse regarding fairness and early childhood, parental responsibility is increasingly seen as a cause of children's inequalities of opportunities. Accordingly, parents are

considered to be part of the problem of inequality and thus are expected to also be part of the solution. However, few academic studies have actually invited parents to reflect on their conditions and the personal and public responsibilities in children's inequalities. We explained the findings of this study in Chapter 6. Multifaceted opinions have emerged from the focus group discussions with Mauritian parents, which actually shade the dichotomy of individual responsibility versus societal responsibility. Parents from diverse socio-economic and ethnical backgrounds have adhered to the dominant discourse valuing education and early childhood as an equaliser and emphasising parental responsibility. The 'individualised' nature of the inequality was also advocated when expressing views regarding historical discriminations vis-à-vis the Creole population; this was also expressed directly by Creole parents. We have interpreted these findings as a process of alienation or internalised oppression (Freire, 1970) that has brought marginalised groups to assimilate or interiorise the dominant narrative of marginalisation. Yet, parents have also pointed at structural or systemic circumstances that undermine opportunities, in particular socio-economic status. In so doing, they advocate for collective responses, such as increasing the quality of the educational system for all, notably the public provision, and also for income redistribution measures. We argue that Mauritius, being an example of an applied *REOp* model (the focus on education as equaliser, and the avoidance of income redistribution), also represents a manifestation of its contradictions. In particular, aspirations of parents in lower SES, constructed upon the narrative or the 'myth' of education since early years function as a 'social lift', which is largely dominant among the Mauritian population, faces the reality of actual opportunities which are not equal. In this respect, the qualitative study reinforced our claim that ECCE can only be an equaliser if accompanied by a change in the structure of the school system and the social welfare (also through more equal income), which at present is unable to accommodate children from poor families or other circumstances, such as, in our case study, ethnic discrimination.

7.1.4. Limitations of the research

Analysing the relationship between equality of life chances and early childhood care and education is certainly a difficult venture. The present research has therefore some methodological limitations, most notably with regards to the case study.

Mauritius is an interesting ground to explore the research topic. The socio-economic development strategy followed by policy makers, who have governed the country since independence, appears to be closely associated with the dominant discourse on fairness and early childhood that we labelled as *Responsibility-Oriented Equality of Opportunity*. Accordingly, international organisations constantly showcase Mauritius as an example, in the Sub-Saharan Africa region, of a successful development pattern founded on investing in human capital through education, and in particular ECCE (ADEA, 2015; World Bank, 2015). In addition, the Joint Child Health Project longitudinal dataset of Mauritius offers unique opportunities to study the dynamics of inequality across ages (and generations).

Nevertheless, extending findings, which are specific to the context of observation, globally, is always problematic. Although Mauritius is presented, by international organisations, as a model for developing countries, its performances are the result of a distinctive historical and socio-economic path. This might have also influenced outcomes of quantitative analyses of the JCHP dataset. As a result, the comparison of effects of early childhood interventions in our research, vis-à-vis mainstream literature, should be addressed with caution, as divergences might be due to the design and context of studies.

In addition, the JCHP longitudinal dataset was originally designed to study psychopathologies not educational patterns. Accordingly, we do not have detailed information on the characteristics of the primary

schools frequented by the children; in particular, qualitative aspects pertaining to pedagogical practice that might have moulded inequality dynamics are absent. Other relevant information is missing as well, for instance pertaining to the eventual impact of income redistributive policies or other social welfare interventions targeting parents, as well as measurements of non-cognitive skills development and parents' aspirations. In addition, it is not possible to separately assess the contribution of each component of the ECCE, e.g., the pedagogy, nutrition scheme, and home visits, to later educational performances.

Finally, focus group discussions with actual participants of the JCHP, i.e., beneficiaries, educators, partners, would have been more suitable to disentangling underlying factors of inequalities of children opportunities and effects of the pre-school intervention. Yet, restrictions in the JCHP governance pertaining the disclosure of personal information, and also difficulties in tracking beneficiaries after almost four decades since the end of the intervention, have precluded a study of such type.

Despite these limitations important conclusions can be drawn.

7.2. General conclusions

The claim of ECCE as a 'magic bullet' to solve inequalities cannot be sustained, and doing so risks undermining the very meaning of early childhood and social welfare policies. It has to be clear that our research did not want to question the relevance of early years in the development of the child. In our opinion, early childhood care and education policies are an important part of any egalitarian prospect. What we actually criticised is the dominant discourse on the relationship between equality and early childhood as too deterministic, and consequently the tendency towards overestimating the equalising powers of individualised solutions through education from the early years.

Our findings suggest that life's patterns of inequalities of opportunities are actually less linear. Children pass throughout different 'structures' of relations with parents and the environment. These structures are certainly interdependent, and this contributes to 'accumulate' the disadvantage from early years to adulthood. Yet, the same structures also have some degree of autonomy, which might modify the nature of circumstances shaping inequalities. The tension between structural interdependence and autonomy challenges the effectiveness of redistributive policies that are excessively valuing individual responsibility (of parents, and, in perspective, children). As a result, the dominant discourse, by neglecting this tension, is substantially ineffective. In Mauritius, for instance, social welfare policies designed to 'individualise' solutions for inequalities, through education and early childhood, have been unsuccessful (Government of Mauritius and UNDP, 2013). At a global level, socio-economic inequalities have seen an unprecedented increase in the last decades, in concomitance with the shift in policy making that has repositioned the *equalisandum* from outcomes (income and wealth redistribution) to opportunities (investments in education and early childhood, along with an increased commodification of social policies) (OECD, 2015; Piketty, 2014, Stiglitz, 2012). Inequalities of opportunities have grown according to studies conducted in advanced economies, showing negative trends in social mobility (Corak, 2013).

It is legitimate then to raise a question: why has the social investment and human capital approach been largely dominant in policy making in spite of its poor performances? We have tried to disentangle this query by investigating the normative interpretation of equality of opportunity, what we have labelled as *Responsibility-Oriented Equality of Opportunity*, at the basis of the dominant discourse about fairness. We argued that the *REOp* approach is ideologically biased rather than 'evidence-based'. In the 1990s we saw the surfacing of a new doctrine towards fairness and equality, aiming at overcoming the ideological

cleavage between 'left' and 'right', in order to respond to the emergence of a new global economic system characterised by highly competitive markets, technological innovations and knowledge-based economy, radically mutating the implementing ground of fairness. This doctrine assumed that consensus could be reached by separating inequality of outcomes (not necessarily unfair) from inequality of opportunities, which are deemed unjust. This political doctrine has, however, never been neutral, as it was essentially anchored on neo-liberal theories, which dominated the academic and political ground since the 1980s. Essentially, this alleged 'egalitarian consensus', by denying the possibility of alternative social welfare policies, has reinforced the inequality's *status quo*. This theory, by individualising the inequality problem (and solutions), has also challenged the fundamental principles of social work, which refer to social justice, human rights, and more importantly, collective responsibility. Social workers have been confronted by a tension between policy making, valuing responsibility (of parents and children) and the very nature of their mission, which is to emancipate people from structural inequalities. As a result, social workers have been asked to radically mutate the spirit of their work, from 'agents of social change', to 'neutral' managers, and by doing so, also legitimise a social contract, which is basically anti-egalitarian and discriminatory.

Our research supports the claim that alternative, and more progressive, social welfare policies could and should exist and that embracing '*dissensus*', rather than consensus, might be one way for social work to regain its essence as an agent of change. Progressive views are actually gaining momentum since the financial crisis of 2008 and the subsequent economic crisis. In recent years, we have seen an increasing interest in inequalities (in all forms) within the academic milieu and also among policy makers. In a recent publication, the OECD outlined the fact that income inequalities, by harming opportunities for individuals to develop their potential, are detrimental not only for social justice, but also for

economic growth; denying, *de facto*, key arguments advocated by the dominant discourse, to clearly distinguish equality of opportunities from equality of outcomes (OECD, 2015). In the same vein, international organisations such as the United Nations and the World Bank have identified the reduction of inequality of both income and opportunities, along with the strengthening of public social policies, as key objectives of post-2015 global Sustainable Development Goals (UN, 2013).

Although the dominant discourse toward fairness and early childhood has shown its empirical and ethical weaknesses and is facing the resurfacing of progressive alternatives, it remains particularly central in Europe, also reinvigorated (and radicalised) by austerity measures. The challenge for progressive social welfare policies is to consolidate their stand as a compelling alternative. This means an alternative that enables them to address structural causes of inequalities without neglecting individual responsibility. Social work as an academic discipline should contribute to this venture. In particular, by focusing further research on detecting complex mechanisms that perpetuate the accumulation of disadvantage in specific groups, and assessing the equalising effects of diverse interventions during early years and throughout childhood, including income redistribution.

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Nederlandstalige samenvatting

Analyse van de relaties tussen "Equality of Life Chances" en "Early Childhood Care and Education", als basis voor sociale rechtvaardigheid en ontwikkeling: een case studie van Mauritius

We onderzochten de relaties tussen de conceptualisering van "gelijke kansen" en de rol van voorschoolse voorzieningen (verder naar internationale analogie ECCE[8] genoemd). Gedurende de laatste decennia is de ongelijkheid binnen landen wereldwijd toegenomen. Tegelijk nemen we een toenemende consensus waar onder beleidsmakers en onderzoekers om onderwijs en meer bepaald ECCE als een instrument van gelijke kansen te zien. In ons onderzoek maakten we een kritische analyse van de claim dat ECCE gelijkheidsbevorderend zou zijn aan de hand van verschillende methodieken. Dit houdt in: een theoretische analyse via een literatuuronderzoek, een kwantitatieve analyse op basis van een longitudinale database in Mauritius en een kwalitatieve analyse aan de hand van focusgroepen met Mauritiaanse ouders.

Internationale organisaties (waaronder UNESCO, UNICEF en de Wereldbank) benoemen ECCE als de belangrijkste gelijkheidsbevorderende voorziening en stellen dat hierover een unanieme consensus bestaat. Deze claim houdt een verschuiving in van een beleid dat inzet op gelijkheid van uitkomsten naar het inzetten op gelijke kansen, geïnspireerd door het werk van hedendaagse filosofen die over gelijkheid en rechtvaardigheid publiceerden (bijvoorbeeld John Rawls, Amartya Sen, Ronald Dworkin of John Roemer). Die filosofen argumenteren dat het concept "gelijkheid" ook rekening dient te houden met individuele verantwoordelijkheid. Anders gezegd: kansen (in de

[8] Early Childhood Care and Education: het is de verzamelnaam voor voorschoolse voorzieningen (bijvoorbeeld kinderopvang en kleuterschool), maar wordt internationaal ook vaak breder gebruikt als benaming voor alle educatieve en zorgvoorzieningen voor ouders met kinderen in de voorschoolse leeftijd. Omdat er geen echt passende Nederlandstalige vertaling voor bestaat, gebruiken we verder de Engelstalige afkorting.

vorm van goederen, diensten, hulpbronnen) die nodig zijn om individuele aspiraties waar te maken, horen gelijk verdeeld te zijn. Gelijke kansen betekent dan dat de invloed van levensomstandigheden die niet tot de individuele keuzemogelijkheden behoren (en dus niet de individuele verantwoordelijkheid zijn) gelijk gemaakt moeten worden. Wanneer dat het geval is, dan zijn verschillen in uitkomsten louter het gevolg van individuele keuzes en inspanningen en dus fair of rechtvaardig. Die gelijke kansen worden door internationale organisaties vertaald in 'menselijke kapitaal' (cognitieve en andere vaardigheden) die in de eerste levensjaren vorm krijgen. Herverdelingsmechanismen horen in die redenering dus de nadruk te leggen op de eerste levensjaren. Bovendien genereert een gelijke-kansen-beleid makkelijker een consensus tussen politiek links en politiek rechts dan een herverdeling van uitkomsten, zo stelt onder meer de Wereldbank. Een dergelijk gelijke-kansen-beleid heeft aan belang gewonnen door longitudinale studies in de V.S. en Europa over de positieve invloed van ECCE op de latere ontwikkeling (Barnett, 2007; Heckman, 2008; Heckman & Masterov, 2007). Samen met cross-sectionele studies in ontwikkelingslanden (Engle *et al*. 2011; Gormley, 2011) tonen ze immers positieve effecten van kwalitatieve ECCE op congitieve en sociale vaardigheden, zowel als op latere schoolresultaten en dit in het bijzonder voor kinderen uit kansengroepen.

Hoofdstuk 2 argumenteert echter dat de meeste van deze studies kinderen uit kansengroepen die naar kwalitatieve ECCE gaan vergelijken met andere kinderen uit de zelfde kansengroepen die dat niet doen. Die studies kunnen dus wel iets zeggen over de positieve effecten van ECCE, maar niet over de vraag of die ook gelijkheidsbevorderend zijn. Daardoor geven ze slechts een beperkt beeld van de dynamieken van ongelijkheid. Er zijn inderdaad amper studies waar kinderen van zowel hogere als lagere socio-economische status aan participeren en daar waar dit wel het geval is, zijn de resultaten alles behalve eenduidig (Burger, 2010). We moeten ook opmerken dat een dergelijke

deterministische visie op de relatie tussen ongelijkheid en ECCE te weinig rekening houdt met andere, systemische, omgevingsfactoren zoals culturele discriminatie. Dat is moeilijk meetbaar, maar daarom niet minder reëel en beïnvloedt wellicht de ontwikkelingskansen van kinderen, maar ook de kansen voorbij de kindertijd (Burchardt, 2004; Rigg & Sefton, 2006). Hoofdstuk 2 geeft daarnaast ook kritiek op de associatie tussen gelijke kansen en menselijk kapitaal en dan vooral op hoe het terugverdieneffect (return on investment) van ECCE benadrukt wordt in het dominante verhaal, aangezien dit het kind reduceert tot een toekomstige productieve en autonome volwassene. Daardoor wordt immers de betekenis van ECCE zelf uitgehold (Moss, 2009). Tot slot stellen we vragen bij de bewering dat over investeringen in gelijke kansen zo'n consensus zou bestaan. Immers het inkomen (uitkomsten) van de ene generatie bepaalt de kansen van de volgende en dus zullen reële maatregelen inzake gelijke kansen voor kinderen ook steeds herverdelings- en/of beschermingsmaatregelen ten aanzien van volwassenen inhouden en zijn die dus ook niet vrij van discussie.

Voortbouwend op deze vaststellingen, argumenten we in hoofdstuk 3 dat de claim als zou ECCE een ideale gelijkheidsbevorderende voorziening zijn, eerder ideologisch dan empirisch gefundeerd is. We werken daarbij twee ideaaltypische opvattingen uit over hoe sociale rechtvaardigheid in het sociaal beleid geoperationaliseerd kan worden en wat dit voor ECCE betekent in relatie tot de invulling van individuele verantwoordelijkheid versus levensomstandigheden. Aan het ene (ideaaltypische) uiterste bevindt zich de REOp (*Responsibility Oriented Equality of Opportunities*) met nadruk op individuele verantwoordelijkheid en dus het inzetten op gelijke kansen, maar zo weinig mogelijk op redistributie. Inkomen wordt in dit model immers gezien als de rechtvaardige verdeling van verdienste (meritocratie) en herverdeling is daarom steeds (minstens gedeeltelijk) onrechtvaardig en bovendien ook economisch inefficiënt omdat het de incentive voor prestaties zou ondermijnen. Aan de andere kant is er CEOp (*Circumstances Oriented Equality of*

Opportunities), dat vooral benadrukt hoezeer mensen onvermijdelijk beïnvloed zijn door ongelijke levenskansen en dus inzet op herverdeling. De indruk ontstaat dat het discours over de laatste jaren eerder richting REOp is verschoven. In die visie is de prille kindertijd de ideale periode om in te grijpen, omdat er geen twijfel over kan bestaan dat de kansen dan zuiver door de omstandigheden en niet door de verantwoordelijkheid van het kind zijn bepaald. Daarom zijn investering in die periode meer verantwoord dan in de volwassenheid waar de situatie van mensen meer het resultaat geacht wordt van de individuele keuzes en dus de eigen verantwoordelijkheid. Herverdelende maatregelen worden dan minder efficiënt en minder fair bevonden (bijvoorbeeld Field, 2010).

REOp veronderstelt uiteraard dat de vrije markt een fair speelveld is dat garandeert dat de posities die men inneemt uitsluitend op meritocratische basis bepaald zijn. Door de nadruk op de individuele verantwoordelijkheid zal ook meer aandacht gaan naar de ouderlijke verantwoordelijkheid voor gelijke kansen van kinderen. Individuele verantwoordelijkheid spoort ook goed met de ideologie van de vrije keuze die een vermarkting van de ECCE legitimeert (Vandenbroeck *et al.,* 2010). De analyse van hoofdstuk 2 biedt echter gronden om een dergelijke visie op de korrel te nemen. Een REOp visie mist immers een empirische basis voor haar claims en doet ethische vragen rijzen. We pleiten voor een aanpak die meer oog heeft voor omstandigheden, ook omdat men er van uit kan gaan dat in een vrije marktsysteem die omstandigheden steeds de kansen (maar ook de individuele inspanningen) beïnvloeden en er dus nooit een periode ontstaat vanaf wanneer men kan aantonen dat het eigen lot enkel het resultaat is van de eigen verantwoordelijkheid. Grote ongelijkheden in inkomen zijn daarom steeds deels onrechtvaardig. Bovendien, gezien de uitkomsten van de ene generatie de kansen van de volgende zijn, kunnen herverdelingsmechanismes (zoals belastingen en andere) steeds ook gezien worden als middelen om de kansen van kinderen gelijker te maken. Dat betekent ook dat we voorzichtig moeten zijn met al te veel

verantwoordelijkheid aan ouder toe te schrijven of met al te residuele modellen van de welvaartsstaat (Biesta, 2007; Moss, 2013; Vandenbroeck, Roets & Roose, 2012).

De hoofdstukken 4 en 5 onderbouwen deze kritische beschouwingen bij het dominante discours met empirisch materiaal. We analyseerden een longitudinale dataset van het *Joint Child Health Project* (JCHP) in Mauritius. Mauritius biedt namelijk een aantal unieke mogelijkheden voor een dergelijke studie. Sinds de onafhankelijkheid heeft het land sterk geïnvesteerd in gelijke kansen door eerder op kinderen (kleuteronderwijs en opvoedingsondersteuning) te focussen dan op herverdeling van inkomsten. Dat leverde een aantal belangrijke verworvenheden op zoals universeel en gratis basisonderwijs sinds de jaren zeventig en een bereik van 98% in het kleuteronderwijs in 2012, uniek voor het Afrikaanse continent. Tegelijk moeten we echter vaststellen dat de ongelijkheid niet afneemt (Mauritius Examination Syndicate 1991).

De databank van JCHP bestaat uit gegevens van 1.795 kinderen van diverse socio-economische en etnische origines over een periode van veertig jaar, startend in 1972 toen de kinderen drie jaar waren. De set bevat data over onder meer cognitieve vaardigheden en schoolresultaten maar ook heel wat gegevens over de prille levensomstandigheden. 200 van deze kinderen werden random geselecteerd (uit alle socio-economische lagen en bevolkingsgroepen): 100 van hen werden toegewezen aan een experiment bestaande uit erg kwalitatieve ECCE en 100 gelijkaardige kinderen vormden een controlegroep die de traditionele lokale kleuterschooltjes van lage kwaliteit bezochten (Raine *et al.*, 2010). Hierdoor konden we nagaan welke omstandigheden op driejarige leeftijd geassocieerd waren met de cognitieve vaardigheden en schoolresultaten op elfjarige leeftijd. Bovendien konden we nagaan of de ECCE van hoge kwaliteit invloed uitoefende op die associatie (en dus de kloof verkleinde).

Hoofdstuk 4 toont dat vroege leefomstandigheden inderdaad latere schoolresultaten en cognitieve ontwikkeling op drie- en elfjarige leeftijd beïnvloeden. Verschillen in cognitieve vaardigheden bleken vooral geassocieerd met geslacht, socio-economische status van de ouders, huisvesting en ondervoeding. We stelden ook vast dat de ongelijkheid in cognitieve vaardigheden toenam gedurende de lagere school. Opmerkelijk was evenwel dat de Creoolse kinderen lagere schoolresultaten hadden dan de andere bevolkingsgroepen, terwijl er geen verschillen in cognitieve vaardigheden zijn vastgesteld, noch op drie- noch op elfjarige leeftijd.

Hoofdstuk 5 nuanceert verder de gelijkheidsbevorderende mogelijkheden van ECCE. Over het algemeen konden we geen significante verschillen vinden tussen de experimentele en de controlegroep. Toch vinden we wel verschillen voor specifieke subgroepen. De interventie in Mauritius vond plaats toen de kinderen 4 à 5 jaar waren en werkte blijkbaar in verschillende richtingen op de factoren die geassocieerd zijn met ongelijke uitkomsten. De kinderen in de interventie met laag opgeleide vaders deden het significant beter, maar voor de kinderen met laag opgeleide moeders was het resultaat omgekeerd. Anders gezegd: de ECCE van hoge kwaliteit verminderde de kloof tussen kinderen met hoog en laag opgeleide vaders. Ze vergrootte echter de kloof tussen kinderen met hoog en laag opgeleide moeders. Deze resultaten stellen vragen bij het dominante discours en nuanceren in elk geval een te deterministisch verhaal dat er van uitgaat dat investeringen in de kindertijd latere herverdeling overbodig zouden maken en dat ECCE hiervoor de beste oplossing biedt (Waldfogel, 2004).

Een belangrijk punt van kritiek op het dominante discours is ook dat ouders vaak uitgesloten worden van het debat over wat hen rechtstreeks aangaat: de kansen die hun kinderen krijgen, ondanks het gegeven dat ze

in dat dominante discours vaak als deel van "het probleem" gezien worden. Hoofdstuk 6 vult daarom de theoretische en empirische studies aan door de visie van ouders van verschillende socio-economische en etnisch-culturele achtergronden te analyseren. We exploreerden hun visie op ongelijkheid, kansen, individuele versus collectieve verantwoordelijkheid, de rol van vroege educatie en rechtvaardigheid aan de hand van focusgroepen. We stellen vast dat ouders van diverse origines het dominante discours vaak overnemen en onderwijs en ECCE als gelijkheidsbevorderend zien en ook belang hechten aan individuele ouderlijke verantwoordelijkheid. Toch pleiten ze ook voor collectieve antwoorden (zoals investeren in de kwaliteit van een officieel en publiek onderwijs) evenals voor inkomensherverdeling. Ze onderbouwen verder de stelling dat ECCE slechts gelijkheidsbevorderend kan zijn, indien het ingebed is in een breder sociaal beleid dat zowel op gelijke kansen als op herverdeling inzet en ook optreedt tegen etnische discriminatie.

We besluiten dat een alternatief en meer progressief sociaal beleid ten aanzien van ECCE mogelijk en wenselijk is. Het exploreren van alternatieven behoort wellicht ook tot de essentie van het sociaal werk als stimulans van verandering, promotor van sociale rechtvaardigheid, collectieve verantwoordelijkheid en het beantwoorden van structurele ongelijkheid in tijden waarin het sociaal beleid eerder neigt naar de nadruk op individuele verantwoordelijkheden (Lorenz, 2005). De uitdaging voor een vooruitstrevend sociaal beleid bestaat er in om zo'n alternatieven als onvermijdelijk te positioneren: onvermijdelijk omdat het toelaat structurele oorzaken van ongelijkheid aan te pakken zonder individuele verantwoordelijkheid te negeren. Sociaal werk als academische discipline zou hiertoe moeten bijdragen, onder meer door de mechanismen bloot te leggen die de accumulatie van ongelijke kansen in specifieke groepen bewerkstelligen en door gelijkheidsbevorderende interventies grondig te analyseren. Daaronder begrijpen we maatschappelijke hulpbronnen zoals ECCE, maar ook herverdelende maatregelen.

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Bijlage

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% Data Storage Fact Sheet

% Name/identifier study: A longitudinal study of early
predictors of inequalities in cognitive abilities in
Mauritius
% Author: Christian Morabito
% Date: 20.10.2015


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2. Information about the datasets to which this sheet
applies
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* Reference of the publication in which the datasets are
reported:
Morabito, C., Rosseel, Y., Vandenbroeck, M. (2015). A
longitudinal study of early predictors of inequalities in
cognitive abilities in Mauritius. Submitted to Child
Development
```

* Which datasets in that publication does this sheet apply to?:

Joint Child Health Project Mauritius

3. Information about the files that have been stored
==========

3a. Raw data
----

* Have the raw data been stored by the main researcher?
[ ] YES / [X] NO
If NO, please justify:
The JCHP data have been collected, and are owned, by a third party. Main researcher had the permission to use data.

* On which platform are the raw data stored?
  - [ ] researcher PC
  - [ ] research group file server
  - [X] other (specify): Joint Child Health Project Mauritius

* Who has direct access to the raw data (i.e., without intervention of another person)?
  - [ ] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [X] other (specify): JCHP Mauritius

3b. Other files
----

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to reported results. Specify: ...
  - [ ] file(s) containing processed data. Specify: ...
  - [ ] file(s) containing analyses. Specify:
  - [ ] files(s) containing information about informed consent
  - [ ] a file specifying legal and ethical provisions

```
  - [ ] file(s) that describe the content of the stored
files and how this content should be interpreted. Specify:
Transcripts of Focus Groups' tapes
  - [ ] other files. Specify: ...


* On which platform are these other files stored?
  - [ ] individual PC
  - [ ] research group file server
  - [ ] other: ...

* Who has direct access to these other files (i.e.,
without intervention of another person)?
  - [ ] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify): ...


4. Reproduction
================================================================
=
* Have the results been reproduced independently?:
[ ] YES / [X] NO

* If yes, by whom (add if multiple):
   - name:
   - address:
   - affiliation:
   - e-mail:


v0.2
```

% Data Storage Fact Sheet

% Name/identifier study: Does preschool education equalize school performance? A longitudinal study of the Joint Child Health Project cohort in Mauritius
% Author: Christian Morabito
% Date: 20.10.2015

1. Contact details
==========

1a. Main researcher

- name: Christian Morabito
- address: 27 Rue des Coquelicots, 1040 Etterbeek
- e-mail: christian.morabito@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Michel Vandenbroeck
- address: 2 Henri Dunantlaan, 9000 Gent
- e-mail: michel.vandenbroeck@ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies
==========

* Reference of the publication in which the datasets are reported:
Morabito, C., Figueroa, J.L., van de Gaer, D., Vandenbroeck, M. (2015). Does preschool education equalize school performance? A longitudinal study of the Joint Child Health Project cohort in Mauritius. Submitted to Early Childhood Research Quarterly.

* Which datasets in that publication does this sheet apply to?:
Joint Child Health Project Mauritius

3. Information about the files that have been stored
==========
=

3a. Raw data

-

* Have the raw data been stored by the main researcher?
[ ] YES / [X] NO
If NO, please justify:
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* On which platform are the raw data stored?
  - [ ] researcher PC
  - [ ] research group file server
  - [X] other (specify): Joint Child Health Project Mauritius

* Who has direct access to the raw data (i.e., without intervention of another person)?
  - [ ] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [X] other (specify): JCHP Mauritius

3b. Other files

-

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to reported results. Specify: ...
  - [ ] file(s) containing processed data. Specify: ...
  - [ ] file(s) containing analyses. Specify:
  - [ ] files(s) containing information about informed consent
  - [ ] a file specifying legal and ethical provisions
  - [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: Transcripts of Focus Groups' tapes
  - [ ] other files. Specify: ...

```
* On which platform are these other files stored?
  - [ ] individual PC
  - [ ] research group file server
  - [ ] other: ...

* Who has direct access to these other files (i.e.,
without intervention of another person)?
  - [ ] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify): ...


4. Reproduction
============================================================
=
* Have the results been reproduced independently?:
[ ] YES / [X] NO

* If yes, by whom (add if multiple):
   - name:
   - address:
   - affiliation:
   - e-mail:


v0.2
```

```
% Data Storage Fact Sheet

% Name/identifier study: What parents say about children's
inequality of opportunities: a study in Mauritius
% Author: Christian Morabito
% Date: 20.10.2015


1. Contact details
================================================================
=

1a. Main researcher
----------------------------------------------------------------
-
- name: Christian Morabito
- address: 27 Rue des Coquelicots, 1040 Etterbeek
- e-mail: christian.morabito@ugent.be

1b. Responsible Staff Member (ZAP)
----------------------------------------------------------------
-
- name: Michel Vandenbroeck
- address: 2 Henri Dunantlaan, 9000 Gent
- e-mail: michel.vandenbroeck@ugent.be

If a response is not received when using the above contact
details, please send an email to data.pp@ugent.be or
contact Data Management, Faculty of Psychology and
Educational Sciences, Henri Dunantlaan 2, 9000 Ghent,
Belgium.


2. Information about the datasets to which this sheet
applies
================================================================
=
* Reference of the publication in which the datasets are
reported:
Morabito, C., Carosin, M., Vandenbroeck, M. (2015). What
parents say about children's inequality of opportunities:
a study in Mauritius. Submitted to Child and Family Social
Work.

* Which datasets in that publication does this sheet apply
to?:
Focus Groups Mauritius
```

```
3. Information about the files that have been stored
============================================================
=

3a. Raw data
------------------------------------------------------------
-

* Have the raw data been stored by the main researcher?
[X] YES / [ ] NO
If NO, please justify:

* On which platform are the raw data stored?
  - [ ] researcher PC
  - [X] research group file server
  - [ ] other (specify): Joint Child Health Project
Mauritius

* Who has direct access to the raw data (i.e., without
intervention of another person)?
  - [X] main researcher
  - [X] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify): ...


3b. Other files
------------------------------------------------------------
-

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to
reported results. Specify: ...
  - [ ] file(s) containing processed data. Specify: ...
  - [ ] file(s) containing analyses. Specify:
  - [X] files(s) containing information about informed
consent
  - [ ] a file specifying legal and ethical provisions
  - [X] file(s) that describe the content of the stored
files and how this content should be interpreted. Specify:
Transcripts of Focus Groups' tapes
  - [ ] other files. Specify: ...

* On which platform are these other files stored?
  - [ ] individual PC
  - [X] research group file server
  - [ ] other: ...
```

```
* Who has direct access to these other files (i.e.,
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  - [X] main researcher
  - [X] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify): ...


4. Reproduction
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* Have the results been reproduced independently?:
[ ] YES / [X] NO

* If yes, by whom (add if multiple):
   - name:
   - address:
   - affiliation:
   - e-mail:


v0.2
```