

Preparing individuals for the new world of social entrepreneurship: do they actually need different education?

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Table of Content

Abstract	3
1. Introduction.....	4
2. Literature Review.....	7
2.1 Defining the concept of ‘social entrepreneurship’.....	7
2.2 Social Entrepreneurship Education.....	11
2.3 Social Entrepreneurs vs. Commercial Entrepreneurs	14
2.3.1 Similarities	15
2.3.2 Differences	17
3. Data & Methodology	22
3.1 Dataset	22
3.2 Variables.....	23
3.3 Method.....	29
4. Results.....	29
5. Discussion	36
6. Limitations	42
7. Further Research	44
8. Conclusion	45
References	46

Abstract

This paper studies the differences between social and commercial entrepreneurs. Recently some articles discussed the relevance of proper education for social entrepreneurs and the specific aspects that need to be included in social entrepreneurship education. However, the basic assumption that is underlying these arguments is that social entrepreneurs are different from regular entrepreneurs. Several studies have addressed the differences between social and commercial entrepreneurs, and some have found that they do indeed differ from each other. However, there is a lack of quantitative research on this topic and more large-scale empirical analyses is needed to support existing literature on the different characteristics of social and commercial entrepreneurs. This study attempts to contribute to existing literature by comparing both groups of entrepreneurs on several characteristics, by using a large dataset and performing a logistic regression model. Specifically, this study analyzes the following 8 variables: social mission, innovativeness, age, education, confidence in own skills, fear of failure, gender and income. The data used in this analysis comes from the Adult Population Survey (APS) carried out by the Global Entrepreneurship Monitor (GEM) in 2009. This survey includes a special set of questions regarding social entrepreneurship, making it very suitable for the analysis of this paper.

This study finds that social entrepreneurs are indeed different from commercial entrepreneurs when they are compared on the 8 characteristics. Specifically, social entrepreneurs are found to be more driven by a social mission, are more innovative, are on average older and have a higher level of education than commercial entrepreneurs. On the other hand they are found to have lower income than commercial entrepreneurs, have equal levels of confidence in own skills and equal levels of fear of failure towards setting up their own business. Furthermore, it is found that women are equally likely to be social entrepreneurs compared to commercial entrepreneurs than men.

These findings also support the underlying assumption in the social entrepreneurship education literature that social entrepreneurs are different. Therefore it seems to be justified to differentiate education for this group of entrepreneurs in order to educate potential social entrepreneurs in the right skills and characteristics.

1. Introduction

In recent decades the concept of entrepreneurship has been of growing interest in scientific literature, as a result of the changing economic structures into a global and dynamic economy. Where in earlier days the economy mainly consisted of large firms that employed many people that worked for the same company during their complete working life, recently the economy has shifted towards a more flexible and entrepreneurial economy (Audretsch & Thurik, 2001). Small new companies are constantly emerging and are changing the way things were going before. New firms are providing lots of new, but uncertain, jobs (Audretsch & Thurik, 2001) and the economy is changed into a global one in which everyone is somehow connected to each other. Very important in this process of globalization is the role of entrepreneurs and as a consequence researchers increasingly have attempted to study this phenomenon. Many researchers have attempted to define the concept of entrepreneurship and to build a conceptual framework in which the entrepreneurial process can be studied. Even more recently a new phenomenon, social entrepreneurship, has arisen within the field of entrepreneurship that is in many ways very similar to entrepreneurship. However, social entrepreneurs clearly distinct themselves from general entrepreneurs in their aim to not only persuade commercial profit, but also aim for creating social and environmental profit. Literature on this concept is still very limited as it is a very new field of research, although it is getting more attention nowadays.

A very specific topic in social entrepreneurship literature is the focus on the way social entrepreneurs are educated. The question that is central to these studies is whether social entrepreneurs are well educated and which parts of the education process are essential. Underlying these arguments lays the assumption that social entrepreneurs are different from regular entrepreneurs and that they need differentiated education. Therefore it is of great importance that the differences between social and commercial entrepreneurs are clarified and that it gets more attention in current literature. The field of social entrepreneurship is rising as a distinctive field of research and education is differentiated for different kinds of entrepreneurs, but of fundamental importance is to better understand the presumed differences between social and commercial entrepreneurs. Therefore the research question of this current study is: are social entrepreneurs really different from commercial entrepreneurs and if so, on what exact characteristics and aspects do they differ?

By addressing this question this study tries to clarify what characterizes both groups of entrepreneurs and what exactly differentiates them from each other. The focus of this study is

specifically on the characteristics of the type of individuals that are attracted to the social entrepreneurship sector. Following the article of Dacin, Dacin & Martear (2010) it is assumed that social entrepreneurship as a concept is not that different from regular entrepreneurship, as they both face the challenge to create a commercially viable business for example. Therefore the content of the two sectors does not immediately give rise to a different type of education and the focus of this study therefore lies on the personal characteristics of the individuals that become involved in social entrepreneurship compared to the ones involved in the commercial entrepreneurship sector.

From previous literature some specific differences do arise. In a recent study it was argued that social entrepreneurs are for example, more driven by a specific social mission than commercial entrepreneurs (Shaw & Carter, 2007). This finding is supported by other research that finds that social entrepreneurs have different motivations, goals and priorities when setting up their business (Roberts & Woods, 2005; Seelos & Mair, 2005; Shaw & Carter, 2007). Furthermore, some studies find that social entrepreneurs are more characterized by innovativeness than commercial entrepreneurs (Weerawardena & Mort, 2006; Dorado, 2006), while others argue that both groups of entrepreneurs do not differ on this aspect (Roberts & Woods, 2005; Bacq, Hartog & Hoogendoorn, 2013).

Finally, some very specific characteristics that are addressed to social entrepreneurs compared to commercial entrepreneurs are that they are younger, have had higher education and are less self-confident (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011).

Obviously, literature so far clearly has come up with some interesting findings on the characteristics of social entrepreneurs and on the way they differ from their commercial counterparts. However, the problem is that only few studies have come up with a large-scale quantitative analysis (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011; Bacq, Hartog & Hoogendoorn, 2013) of these characteristics of social entrepreneurs and on what differentiates them from commercial entrepreneurs. These studies so far have compared the two groups of entrepreneurs using descriptive statistics and using qualitative methods.

This current study attempts to fill this gap in literature by comparing social and commercial entrepreneurs on some essential characteristics and aspects, by using a large-scale dataset and performing a quantitative analysis on this dataset. More specifically, this study uses regression analyses to assess the significance of presumed relationships between the different characteristics and the probability of being involved in social entrepreneurship. In contrast, previous empirical studies only primarily made use of descriptive statistics in comparing

social and commercial entrepreneurs. In total, the following eight different characteristics and aspects will be analyzed in this study: social mission, innovativeness, age, level of education, confidence in own skills, level of fear of failure, gender and income.

The dataset that is used for analyzing these characteristics is the telephonic Adult Population Survey (APS) from 2009, which is constructed by the Global Entrepreneurship Monitor (GEM). The dataset from 2009 is very suitable for this analysis as it contains a set of special question regarding social entrepreneurship.

Before starting the empirical analysis, first the dataset will be properly described. Finally, the characteristics are analyzed using logistic regression models and by interpreting its average marginal effects.

The results from this empirical analysis show a few unexpected results, but also confirm some of the findings by previous literature. In short, social entrepreneurs are found to have a higher social mission, are more innovative, are on average older, have higher education, are equally confident in own skills, have equal levels of fear of failure, are equally likely to be either female or male and have on average lower income compared to commercial entrepreneurs. These results show that social entrepreneurs are indeed different from their commercial counterparts and suggest that a different way of educating them might be justified or even might be required. The implications of these differences for social entrepreneurship education are broadly evaluated in the discussion section of this paper.

Overall this paper contributes to the existing base of literature by confirming and contradicting some previous findings on difference between social and commercial entrepreneurs, using a large-scale dataset to perform a quantitative cross-sectional analysis. Moreover, it contributes by proposing some important implications for the way social entrepreneurs are to be educated based on the findings of the regression analysis on the different characteristics. Thereby the underlying assumptions in the discussion concerning social entrepreneurship education are verified.

The paper is structured as follows. In Section 2, the existing base of literature regarding social entrepreneurship education and the differences between social and commercial entrepreneurship are discussed. Also hypotheses are formulated based on the literature which will be tested in the empirical analysis. Section 3 will introduce the used dataset, explain the construction of certain variables and present the methodology that is used for the empirical analysis. In Section 4 the results coming out of the empirical analysis are presented and the formed hypotheses are tested. These results will be further discussed in Section 5. In Section 6

the limitations of this research are considered and in Section 7 some opportunities for further research are proposed. Finally, in Section 8 the main conclusions of this paper are presented.

2. Literature Review

2.1 Defining the concept of ‘social entrepreneurship’

Important in comparing social and commercial entrepreneurs is the definition of ‘entrepreneur’. Very broadly spoken, it could have two explanations that are important to acknowledge: the entrepreneur as an individual or the entrepreneur as a business entity. The former explanation is concerned with the individuals that are attracted and involved in the social entrepreneurship sector, and therefore concerns specific personal characteristics. The latter explanation is more concerned with the broader concept of social entrepreneurship as a sector and on what characterizes a social business entity. Both are used in literature comparing the social and commercial entrepreneur, therefore it is important to be cautious in drawing conclusions. Later on in this literature review (section 2.3) the former explanation is discussed and that explanation also forms the main focus of this paper. But first, the latter explanation is discussed, as this next section is about the definition of the concept of social entrepreneurship.

Over more than a decade several studies have attempted to frame social entrepreneurship and to come up with an overall accepted definition of social entrepreneurship. Nevertheless, the phenomenon of social entrepreneurship is still not very clearly summarized in one overarching definition (Mair & Marti, 2006). Although the concept of social entrepreneurship obviously is still not in existence for a very long period (Roberts & Woods, 2005), it might be about time to establish a fundamental definition to structure further research on this field of research. According to Tan, Williams & Tan (2005), this lack of conceptualization might be explained by the fact that the same problem arises in the field of entrepreneurship, as the concept of entrepreneurship is still not described by one clear definition.

So a well-defined definition of the concept of regular entrepreneurship might be a helpful first step, as Dees (1998) also argues that social entrepreneurship should be viewed within the overarching field of entrepreneurship and that knowledge from this broader field should be applied when studying the field of social entrepreneurship. A study by Dacin, Dacin & Martear (2010) poses that social entrepreneurship is not a special type of entrepreneurship on

its own and that findings of conventional, cultural and institutional entrepreneurship should be applied to the field of social entrepreneurship. Nonetheless, some research also poses that social entrepreneurship has to be viewed as a separated concept in research (Mair & Marti, 2006) and that social entrepreneurs are “a rare breed” (Dees, 1998).

Moreover, before starting with any definition at all, the different concept of social entrepreneurship opposed to social entrepreneurs and social enterprises should be kept in mind when conceptualizing social entrepreneurship (Mair & Marti, 2006).

Although the concept of social entrepreneurship clearly is not very easily defined, several efforts to come up with a comprehensive definition have been made. The first attempt to form a definition for social entrepreneurship comes from Dees (1998), which formulated the following definition of social entrepreneurship:

“Social entrepreneurs play the role of change agents in the social sector, by: adopting a mission to create and sustain social value (not just private value), recognizing and relentlessly pursuing new opportunities to serve that mission, engaging in a process of continuous innovation, adaptation, and learning, acting boldly without being limited by resources currently in hand, and exhibiting a heightened sense of accountability to the constituencies served and for the outcomes created“ (p. 4)

Having a social mission is the important factor that characterizes social entrepreneurs (Dees, 1998) and thereby aiming at bringing social issues in discussion (Austin, Stevenson & Weis-killern, 2006).

From the above definition by Dees (1998) that started the process of conceptualization of social entrepreneurship, four important characteristics are distinguished which are also supported by other literature. An important notion to be made is that these characteristics are not specifically tied to the concept of social entrepreneurship as they are also very essential to the concept of commercial entrepreneurship. Clearly, these two concepts are very similar to each other regarding the essential factors that play a key role in these two sectors.

First, there is the characteristic of seeing positive *opportunities for improving social aspects* (Dees, 1998). Other research adds to this that social entrepreneurs are differentiated by their identification (Roberts & Woods, 2005; Peredo & McLean, 2006; Zahra et al., 2009) and their pursuit of opportunities in order to induce social change (Roberts & Woods, 2005; Mair & Marti, 2006; Peredo & McLean, 2006; Zahra et al., 2009).

Secondly, social entrepreneurs possess an unstoppable *drive to innovate*, in combination with an adaptive and learning attitude (Dees, 1998). Later studies confirm this innovative nature of social entrepreneurs (Tan, Williams & Tan, 2005; Austin, Stevenson & Wei-Skillern, 2006; Mair & Marti, 2006; Peredo & McLean, 2006; Zahra et al., 2009) which can range from inventing completely new products or processes to adapting an already existing idea into their own (Peredo & McLean, 2006; Zahra et al., 2009).

The third characteristic attributed to social entrepreneurs is that they are *not restrained by the limitation of existing resources* (Dees, 1998). They use and combine different resources in an innovative way, thereby contributing to their process of addressing social issues (Mair & Marti, 2006) and are not very quickly discouraged by the limitation of resources (Peredo & McLean, 2006).

The final part of the definition concerns the accountability of social entrepreneurs regarding *the value they create for social purposes* (Dees, 1998). The creation of (social) value for society is also found to be an important characteristic of social entrepreneurs in most research (Roberts & Woods, 2005; Tan, Williams & Tan, 2005; Austin, Stevenson & Wei-Skillern, 2006; Mair & Marti, 2006; Peredo & McLean, 2006; Zahra et al., 2009) and they create this value by inducing social change (Roberts & Woods, 2005; Mair & Marti, 2006).

Furthermore, few studies also concluded that social entrepreneurs act and create social value by accepting higher *exposure to risk* (Tan, Williams & Tan, 2005; Peredo & McLean, 2006), being involved in *processes* (Mair & Marti, 2006; Zahra et al., 2009) and are led by *different, more socially orientated, motivations* compared to commercial entrepreneurs (Zahra et al., 2009).

Some research defines social entrepreneurship in terms of individuals or groups (Peredo & McLean, 2006), which are described with passion, vision and dedication (Roberts & Woods, 2005). Besides, social entrepreneurship is not bound to one specific sector, but can be present in several private or public sectors (Austin, Stevenson & Wei-Skillern, 2006).

Finally, the 'social' aspect of social entrepreneurship is expressed in the extent to which goals are directed by altruistic intentions and to the extent to which the part of the society that benefits from the social entrepreneurial behavior is actually involved (Tan, Williams & Tan, 2005).

Based on these discussed findings upon the definition of social entrepreneurship it can be concluded that social entrepreneurship does not strongly differ from the concept of entrepreneurship in general. Several aspects that characterize social entrepreneurship are also

found to characterize entrepreneurship in general. As Dacin, Dacin & Martear (2010) already proposed, social entrepreneurship should maybe not be treated as a completely distinctive concept from general entrepreneurship. It thus seems that both groups do not differ very much on the business entity explanation discussed in the introduction of this section. Based on the relatively similar contents of both the social entrepreneurship sector and the general entrepreneurship sector, there seems to be not much need for specialized social entrepreneurship education.

Recently, a study by Zahra et al. (2009) analyzed 20 previous attempts to conceptualize the phenomenon of social entrepreneurship. The basic conclusion drawn from this analysis is that a definition on social entrepreneurship should at least include the economic and social aspect. Based on the literature discussed in this section, the following definition of social entrepreneurship is used in this paper:

Social entrepreneurs are entrepreneurial active individuals that strive for creating social value above the creation of economic value, by identifying and exploiting opportunities for social impact and finding innovative solutions for social problems by using existing resources.

As a result of the increasing importance of entrepreneurship in the global economy over the past few decades (Audretsch & Thurik, 2001), academic research in this field has also increased rapidly. Researchers have focused on different aspects of the entrepreneurship phenomenon. Studies have been devoted to conceptualizing entrepreneurship and many researchers have tried to come up with a comprehensive definition of entrepreneurship in order to frame this new field of research. Although there is clearly still not one general accepted definition that presents a fixed framework in which research on entrepreneurship can be included, a lot of research has focused on more specific areas of interest within the field of entrepreneurship. Attention has spread between driving factors of entrepreneurship (Koellinger, Minniti & Schade, 2005; Freytag & Thurik, 2007), characteristics of entrepreneurs (Begley & Boyd, 1987; Meuller & Thomas, 2001), determinants of success (Begley & Boyd, 1987; Van Praag, 2003) and many other aspects that could separate entrepreneurs from the overall population.

The field of social entrepreneurship is even more in its infancy, as social entrepreneurship has only recently been defined and suggested as a distinctive field within entrepreneurship (Dees,

1998). Similar to the field of entrepreneurship, research on the concept of social entrepreneurship struggles with framing social entrepreneurship and defining what is meant by *social entrepreneurship*. Several definitions have been proposed, ranging from broader definitions to more specific ones. At this moment in time, still no agreement has been found on the exact definition of social entrepreneurship.

Nevertheless, researchers interested in social entrepreneurship also have been attracted to more specific areas of interest. Recently, more research is devoted to specific characteristics of social entrepreneurs (Barendsen & Gardner, 2004), to motivations and goals for becoming a social entrepreneur (Zahra et al., 2009), and to factors that influence performance of social entrepreneurs (Sharir & Lerner, 2006). Furthermore, recently some studies started discussing the way social entrepreneurs are educated. The next section will discuss these studies on the topic of social entrepreneurship education so far.

2.2 Social Entrepreneurship Education

Several studies have focused at the way in which social entrepreneurship has been educated so far and at what aspects might be of high importance in educating individuals about social entrepreneurship. Although this direction of research has only very recently come to the front, it constitutes a potentially very important field of research. If social entrepreneurship is becoming more important in solving social issues and if policies will try to stimulate this specific sector within the economy, education of these individuals might play a crucial role. Extending the base of research on the way social entrepreneurs are educated and on assessing how this type of education should be shaped to prepare potential social entrepreneurs in the best way, is therefore of high importance. The findings of the studies concerning this topic of social entrepreneurship education and suggestions proposed by these studies are discussed in the section below.

Although there has only been a small amount of research on the topic of education in the field of social entrepreneurship (Howorth, Smith & Parkinson, 2012), still some interesting suggestions and conclusions have been drawn in previous studies.

First of all, it is found that a higher demand for social entrepreneurship education has altered the number of courses given on this topic (Miller, Wesley & Williams, 2012). Although, at the same time it is still not very clear to what extent the current education prepares students in

an effective way for the real world of social entrepreneurship and teaches them the competencies needed of being a social entrepreneur. Moreover, the specific competencies that are required for being a social entrepreneur are quite unknown so far (Miller, Wesley & Williams, 2012). As with most studies in the field of social entrepreneurship so far, there is a lack of empirical evidence.

On the other hand, some research does find that current social entrepreneurship education prepares students in the right way, as Brock & Steiner (2009) pose that education quite well fits reality. In this study, good education is measured by the number of students that actually become involved in the field of social entrepreneurship eventually.

According to some research, an important challenge for educators on the field of social entrepreneurship is the balance between the social aspect and the commercial aspect of this specific sector (Tracy & Phillips, 2007; Pache & Chowdhury, 2012). Tracy & Phillips (2007) pose that educators have to deal with this challenge by using previous literature and entrepreneurial experiences of successful individuals in educating students.

Moreover, social entrepreneurs are participating in different institutional worlds according to Pache & Chowdhury (2012), as they are involved in the social, commercial and public sector. They argue that social entrepreneurs have to bridge these different institutional worlds in order for being successful. These social entrepreneurs should have a connection with all three worlds and should therefore not only be educated *about* social entrepreneurship, but should be educated *for* social entrepreneurship. In line with this reasoning a model is proposed that educates students in three different logics: commercial, social welfare and public sector logics (Pache & Chowdhury, 2012).

Within the same line of reasoning Howorth, Smith & Parkinson (2007) argue that social entrepreneurs are concerned about staying true to their identity and are sometimes reluctant to learn the business side of the story. Therefore this social mission should always be kept in mind when educating them about the business logics in social entrepreneurship. Bringing social and commercial entrepreneurs together in the same educative program might help connecting these two aspects in the minds of the students.

Also contributing to this literature, proposing a challenge between commercial and social aspect of social entrepreneurship, is the study of Smith, Besharov, Wessels & Chertok (2012). They suggest that there exists a paradox on the seemingly contradicting commercial and social aspects for social entrepreneurs, which leads to two specific challenges. The first challenge lies in the possibility of drifting away to one of the two aspects, for example being

only commercially orientated at some point in time. The second challenge concerns the different demands of stakeholders from both the commercial and social perspective. Managing the demands and needs of both groups of stakeholders could turn out to be a huge challenge for some social entrepreneurs.

To overcome these challenges social entrepreneurs must learn to handle different demands that might propose a conflict (Smith, Besharov, Wessels & Chertok, 2012). In their paper three capabilities are proposed that are needed to overcome these challenges.

The first one is *acceptance*, meaning that the social entrepreneur is able to see possible conflicting demands of stakeholders as a signal to act and not as a problem that is preventing them from going on. This requires two skills: thinking positive, thereby seeing opportunities and seeing the abundance of opportunities, and being able to see the possibility of both perspectives at the same time.

The second one is *differentiation*, meaning that the social entrepreneur recognizes the importance of both the commercial and the social aspect of their business and keeps that in mind while running their business.

The third and last one is the *integration* of both the commercial and social aspect in the product in such a way that these two aspects together create value. In order to create this extra value above the value of the two aspects itself, having interpersonal skills and being able to create synergies is very important for social entrepreneurs.

Finally, previous literature on social entrepreneurship education also suggests some specific suggestions about the form and content of this type of education. First of all, introducing the topic by giving lectures and let individuals go through course readings seems to be a helpful start (Smith and Woodworth, 2012). Smith and Woodworth (2012) furthermore pose that educators can play an important role in helping individuals with identifying themselves with social entrepreneurs. By introducing them to the field of social entrepreneurship, teaching them about existing social entrepreneurs and showing them the characteristics of those social entrepreneurs, individuals might feel more of an identification with this specific group of entrepreneurs. Also stimulating active participation in the social entrepreneurship sector will help individuals to identify themselves easier with them. They also argue that it is important that individuals have both the believe that they could be a social entrepreneur, as the desire to become involved in the social entrepreneurship sector (Smith and Woodworth, 2012). In influencing this believe and thereby increasing the probability of involvement in the social entrepreneurship sector, both formal education at universities and being exposed to social

entrepreneurial role models can play an important role (Smith and Woodworth, 2012). Thompson, Alvy & Lees (2000) contribute to this by stating that education should be focused on individuals' confidence and leadership-skills and that existing entrepreneurs with experience can be important teachers by sharing their in-the-field experience. Not only role models are important persons in the education of social entrepreneurs though, also a learning community in which individuals trust each other is important (Howorth, Smith & Parkinson, 2012) and working in groups on assignments stimulates active engagement in social entrepreneurship, thereby providing new experiences (Howorth, Smith & Parkinson, 2012). Howorth, Smith & Parkinson (2012) also pose that reflective thinking is an important skill for social entrepreneurs.

Although the existing base of literature on social entrepreneurship education is not very extensive so far, these findings shape a first idea about the relationship between differentiated education and social entrepreneurship. Besides, education on social entrepreneurship can still learn from the experience of education aimed at entrepreneurship in general. For example, the extent in which education on entrepreneurship is related to actual performance of entrepreneurs is not very clear, which might also be true in the field of social entrepreneurship (Pache & Chowdhury, 2012)

2.3 Social Entrepreneurs vs. Commercial Entrepreneurs

Although the literature on social entrepreneurship education is still not very broad, it is quite rectilinear and clear in some way. Studies concerning social entrepreneurship education discussed in the previous section all argue about the role of this specialized education for social entrepreneurs. Suggestions are made about the importance of educating specific capabilities to social entrepreneurs, conclusions are drawn upon the content of the education program and it all points in the direction of a differentiated education program for social entrepreneurs compared to regular entrepreneurs. In short, it is all about the need for a different type of education for the separated group of new social entrepreneurs.

The basic reasoning behind these suggestions and conclusions seems to be that social entrepreneurs are significantly different from regular entrepreneurs. That a new breed of entrepreneurs has come into existence, that has clear distinctive characteristics and needs that ought to be incorporated in existing education structures. However, is this line of reasoning supported by scientific literature and empirical evidence? Or are there some strong and fragile

assumptions at the heart of these discussions?

The current section will discuss the existing literature on the differences between social and commercial entrepreneurs, aiming to clarify the similarities and distinctions that are present between those two groups of entrepreneurs. As was already mentioned in the beginning of this literature review, this section concerns the individual explanation of social entrepreneurship and will provide the basis for the rest of this paper.

Hence, an overview of previous findings on differences and similarities between both groups of entrepreneurs might help to determine whether social entrepreneurs indeed need differentiated education. Thereby, it may already shed some first light on validation of the underlying assumptions made in the social entrepreneurship education literature.

2.3.1 Similarities

Opposing the underlying assumptions made in literature on social entrepreneurship education, some previous literature on social entrepreneurs finds that those entrepreneurs are actually not that different from commercial entrepreneurs (Roberts & Woods, 2005; Seelos & Mair, 2005; Shaw & Carter, 2007). In the study by Roberts & Woods (2005), it is argued that the entrepreneurial behavior of social and regular entrepreneurs is quite similar and that also the so called ‘language’ they speak as well as the specific tools they use are more or less similar to each other.

From previous literature on similarities between social and commercial entrepreneurs, three main similarities can be proposed.

First, a common mentioned similarity between social and regular entrepreneurs is that they both *identify opportunities and act upon those opportunities* (Seelos & Mair, 2005; Dorado, 2006; Shaw & Carter, 2007). Thereby these entrepreneurs are creating positive developments for existing systems, inventing new approaches and creating solutions for problems (Seelos & Mair, 2005).

Shaw and Carter (2007) also state that both social and commercial entrepreneurs start new ventures in the specific field in which they have a certain kind of experience or in which they are at least a bit familiar with. Similarly, the experience and the different background are what determine the extent to which opportunities can be identified and whether they can be successfully exploited (Zahra et al., 2009).

The second important similarity is the *network capabilities*. The study by Shaw and Carter

(2007), on differences and similarities between both groups of entrepreneurs, uses data on 80 respondents from the UK. This data is collected through in-depth interviews and analyzes 5 different areas of interest: entrepreneurial process, network and embeddedness, nature of the financial risk and profit, role of individual entrepreneurs in managing and structuring & creativity and innovation. Besides the first aspect, the entrepreneurial process which concerns entrepreneurial opportunities, also the embeddedness in networks is an aspect that both types of entrepreneurs share. It is argued that both groups should possess networking capabilities and both should be able to connect with local individuals, have knowledge of the local area & need some credibility under the local people to be successful (Shaw & Carter, 2007). The importance of putting effort in building networks for both groups also arises in the study of Roberts & Woods (2005).

The third main similarity is that both groups of entrepreneurs are found to express an *innovative* nature (Roberts & Woods, 2005; Bacq, Hartog & Hoogendoorn, 2013).

Interestingly, a study by Bacq, Hartog & Hoogendoorn (2013) specifies that both social and commercial entrepreneurs show higher innovativeness in earlier stage of a venture's life.

Furthermore, social entrepreneurs as well as commercial entrepreneurs are characterized by risk-taking, pro-activeness & independence (Zahra et al., 2009); show highly energetic behavior, possess strong tenacity, resilience, have vision & have the needed passion to pursue their vision and finally both groups act in an opportunistic way instead of keeping themselves to fixed plans (Roberts & Woods, 2005).

Finally, a few studies even set question marks at the word 'social' in social entrepreneurship (Seelos & Mair, 2005; Mair & Marti, 2006). They argue that entrepreneurship in itself is intrinsically social and therefore there does not really exist non-social entrepreneurship. Mair & Marti (2006) explain in their article that entrepreneurship adds social value by creating new jobs for example.

Moreover, the fact that social entrepreneurs often are seen as a distinctive group of individuals may in itself already cause these individuals to behave differently and separate them from regular entrepreneurs (Light, 2005). This way, the study of Light (2005) argues, it might work like a so-called 'self-fulfilling prophecy'.

2.3.2 Differences

While the literature shows some very clear similarities between social and commercial entrepreneurs, several studies have nonetheless shown that indeed there are some structural differences between both groups of individuals. The most obvious distinction between both kinds of entrepreneurs already seems to be present in the term itself: the ‘social’ aspect.

Indeed, several studies have found this ‘social’ aspect to be the main differentiating factor in separating social entrepreneurs from the regular ones. In the previously mentioned study of Seelos & Mair (2005), where they state that there does not exist something like non-social entrepreneurship, they do argue that the social mission of the social entrepreneur forms the greatest distinction between both entrepreneurial groups. The importance of this mission of entrepreneurs is also confirmed by other research (Shaw & Carter, 2007).

In accordance with the different missions of social and commercial entrepreneurs, social entrepreneurs are also found to have different motivations, purpose and goals when starting a new venture (Roberts & Woods, 2005; Seelos & Mair, 2005; Shaw & Carter, 2007). Roberts & Woods (2005) find that social entrepreneurs are more concerned with helping others instead of focusing on earning more money and that delivering social justice is more of a driving factor in their efforts than being commercially successful. Adding to this, social entrepreneurs are found to be more motivated by achieving social aims, compared to commercial entrepreneurs who are found to be more motivated by having a certain level of autonomy and by aiming on achievement (Shaw & Carter, 2007). Corresponding to these distinctions, social entrepreneurs are also found to place different importance to different goals. Primary goals for social entrepreneurs are found to be concerned with producing value in social terms, while adding economic value is rated as less important and as a secondary goal. For commercial entrepreneurs these goals are exactly in opposite order, as they attach more value to producing economic value and less (but still some) to adding social value. The importance of priorities is thus an important distinctive factor in separating the rare group of social entrepreneurs from the regular form of entrepreneurship (Seelos & Mair, 2005). Also a study by Bacq, Hartog & Hoogendoorn, (2014, forthcoming) finds that social entrepreneurs are more concerned with reaching social and environmental goals instead of economic goals. They do state that especially social goals are more important for social entrepreneurs and that the difference in environmental goals is relatively small.

These findings are supported by even more literature, as the prioritization of creating social wealth above economic value creation is found to be the main difference between social and

commercial entrepreneurs (Mair & Marti, 2006) and social entrepreneurs are found to be different in assessing what they value as important (Roberts & Woods, 2005). At the same time, social entrepreneurs are also found to be less capable of capturing created surplus, as their costumers most of the time are not very wealthy (Mair & Marti, 2006).

An important note on these characteristic differences is, according to Roberts & Woods (2005), that these characteristics are not exclusively bound to one of the two types of entrepreneurship. Rather, it can be seen as a different kind of mindset that could be present in both types of entrepreneurs.

Finalizing the list of differences that explain the specific ‘social’ distinction between social and commercial entrepreneurs, higher ethical values are found to be present among social entrepreneurs (Shaw & Carter, 2007) and the businesses of social entrepreneurs feel more ‘clean’ (Roberts & Woods, 2005).

These findings on the social mission of social entrepreneurs seem to be in line with the assumption made in the social entrepreneurship education literature: social entrepreneurs are different compared to commercial entrepreneurs. If these individuals are indeed more concerned with creating social value, have different motivations and therefore pursue different goals than commercial entrepreneurs, it might be very reasonable to educate these individual in identifying opportunities for creating social value and in learning the specific skills needed for successfully exploit these opportunities. Besides, as was mentioned by Pache & Chowdhury (2012), this focus on the social aspect is only one side of the story, as social entrepreneurs need to bridge the gap between the commercial and social world. So both the commercial and the social aspect are important and should be focused on. Education might adjust the focus of social entrepreneurs somewhat in the right direction to optimize the balance between the social and commercial aspect. For now, these findings from previous literature lead to the following hypothesis regarding the social mission of social and commercial entrepreneurs:

Hypothesis 1: The social mission is more prominent for social entrepreneurs than for commercial entrepreneurs.

Besides the obvious ‘social’ distinction between social and regular entrepreneurs, previous literature also discovered several other aspects in which those entrepreneurs differ. These distinctions are more concentrated on the specific personal characteristics of social entrepreneurs, demographics and on the behavioral differences separating them from

commercial entrepreneurs.

In the previous section concerning the similarities between social and commercial entrepreneurs, it was argued by few studies that social and commercial entrepreneurs were similar in their level of innovativeness. However, other literature has proposed some contradicting findings regarding this specific characteristic. Clearly, literature is not very unambiguous regarding innovativeness. The studies which found that social entrepreneurs are different in their level of innovativeness are discussed below.

For example, opposing the findings presented in the previous section which concluded that social and regular entrepreneurs are quite similar in their innovativeness (Roberts & Woods, 2005; Bacq, Hartog & Hoogendoorn, 2013), other studies find that actually social entrepreneurs are more characterized with higher levels of innovativeness (Weerawardena & Mort, 2006; Dorado, 2006). Specifically, Weerardena & Mort (2006) conducted a quantitative exploratory study using data on 9 Not-for-Profit organizations from Australia. By using a multi-dimensional model for analyzing social entrepreneurship factors, they find that social entrepreneurship is characterized by managing risks, acting proactively and innovativeness. In a more qualitative study in the United Kingdom, Shaw & Carter (2007) support this finding by stating that, using the existing resources in a creative manner, social entrepreneurs are indeed innovative individuals that induce change.

Contributing to these findings, the commitment to break existing patterns with ideas that come up with solutions to social issues is another aspect that characterizes social entrepreneurs, as well as the intention to create impact at scale and with a long-term effect (Light, 2005).

An interesting contribution to these findings is presented by the study of Dorado (2006), in which she comes up with a differentiated need for both types of entrepreneurs when setting up a business. It is argued that setting up a cross-sector social entrepreneurial business (engaging in the non-profit, profit and/or public sector) often involves highly radical innovative individuals, while setting up a regular entrepreneurial business does not necessarily require high levels of innovative behavior. So this would lead to the expectation that higher innovativeness is present among social entrepreneurs.

In short, the findings on innovativeness are obviously not clearly pointing in one direction so far. As we have seen earlier in this paper, some studies find that social and commercial entrepreneurs are similar in their innovativeness, while the studies discussed in this section propose that social entrepreneurs exert more innovative behavior than commercial entrepreneurs. These findings therefore do not give any preliminary direction for the social

entrepreneurship education discussion already. Clarification of the relationship between social entrepreneurs and innovativeness might be very crucial for social entrepreneurship education however. If it turns out that social entrepreneurs are less innovative for example, social entrepreneurship education could focus more on developing this specific characteristic as it seems to be essential for social entrepreneurs.

Based on these contradicting findings regarding the level of innovativeness of social and commercial entrepreneurs the following hypothesis is formulated:

Hypothesis 2: Social entrepreneurs do not have a different level of innovativeness compared to commercial entrepreneurs.

Furthermore, in a study using data from the Global Entrepreneurship Monitor in 2009 by Bacq, Hartog, Hoogendoorn & Lepoutre (2011), using only data from Belgium and the Netherlands, some very interesting characteristics of social entrepreneurs are found. Based on the descriptive statistics it is argued that social entrepreneurs are on average younger, have higher education, have less self-confidence, have a different view on the status of entrepreneurs, often have more jobs at the same time and are less likely to be fulltime self-employed and have less ambition concerning job-growth with regards to their social ventures (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011). Similarly, another study confirms that social entrepreneurs are relatively higher educated and proposes that they are less likely to be middle-aged individuals than commercial entrepreneurs (Hoogendoorn, Van der Zwan & Thurik, 2011). More specifically, social entrepreneurs are found to be more likely of having tertiary education compared to commercial entrepreneurs (Estrin, Mickiewicz & Stephan, 2013). Another study adds to these findings by stating that social entrepreneurs are less convinced of their own skills for setting up a business and are equal in the extent to which fear of failure prevents them from starting a new venture (Bacq, Hartog & Hoogendoorn, 2014 forthcoming). Somewhat related to these characteristics is the finding by Hoogendoorn, Van der Zwan & Thurik (2011) that social entrepreneurs are more risk-tolerant individuals compared to commercial ones. This same study, as well as the study by Bacq, Hartog & Hoogendoorn (2014, forthcoming) also finds that females are more often found to be social entrepreneur than commercial entrepreneur, compared to males (Hoogendoorn, Van der Zwan & Thurik, 2011). Estrin, Mickiewicz & Stephan (2013) on the other hand find that females are less likely to be either social or commercial entrepreneur than males. Although, they do find that female are more likely to become social entrepreneur than commercial entrepreneur.

Some of the above mentioned characteristics are not changeable through education, like gender or age. These characteristics are therefore not immediately relevant in assessing the need for specialized education for social entrepreneurs. However, a characteristic that could be modified by education and role modelling is the self-confidence of individuals (Thompson, Alvy & Lees, 2000). Through learning the required skills, knowledge and developing one's own personality it seems very reasonable that the level of self-confidence could be altered. If social entrepreneurs have indeed lower self-confidence compared to commercial entrepreneurs, it might be helpful to focus on this characteristic when developing an education program for social entrepreneurs. Findings on this characteristic so far are nonetheless clearly very few and in order to propose implications for educators more empirical analysis is needed. Following from these limited findings the following hypotheses regarding the level of self-confidence can be formulated:

Hypothesis 3: Social entrepreneurs have a lower self-confidence compared to commercial entrepreneurs.

Whether part of the discussed characteristics (social mission, innovativeness and self-confidence) is already present at the time these individuals become social entrepreneurs or that they come with involvement in social entrepreneurship is not clear. It might be that the characteristics individuals already have might lead them to becoming one of the two kinds of entrepreneurs (Zahra et al., 2009).

In short, literature on the differences and similarities between social and commercial entrepreneurs is not straightforward. Certainly, several studies have shown that both groups of entrepreneurs have quite some characteristics and aspects in common. On the other hand, plenty of studies show some very clear differences between both groups suggesting a clear distinction between social entrepreneurs and commercial entrepreneurs. Still, it cannot easily be concluded that one of both directions is the right direction or that both directions are contradicting each other. It might very well be true that social and commercial entrepreneurs have some basic characteristics in common, while at the same time differing in a few other aspects that are specific to one type of entrepreneur.

Returning to the purpose of studying the differences between social and commercial entrepreneurs, previous literature carefully supports the assumption that social entrepreneurs are a distinctive kind of individuals that may need differentiated education. Hence, the individual explanation of social entrepreneurship, mentioned at the beginning of this literature

review, does suggest that differentiated social entrepreneurship education might be relevant. However, empirical evidence is not very abundant so far and more empirical research is needed.

3. Data & Methodology

In the following section, the dataset is introduced and the specific methods that are used to analyze the data are proposed.

3.1 Dataset

Very few data is available on the topic of social entrepreneurship so far and therefore very few available data is suitable for comparing social entrepreneurs with their commercial counterparts. In this study the largest data source that is currently available on social entrepreneurship is used (Lepoutre et al, 2013): the Adult Population Survey (APS) of the Global Entrepreneurship Monitor (GEM).

Starting in 1999, the GEM conducts a telephonic survey every year aiming to collect data on entrepreneurial activity from countries all over the world. Thereby, this dataset enables comparisons on entrepreneurial activity across countries and facilitates cross-sectional analyses. The APS is conducted to at least 2000 individuals from each participating countries and includes a large range of different questions concerning entrepreneurial activity. As the GEM has grown over the past decade, currently more than 80 countries are participating in the survey (Lepoutre et al, 2013).

Although the GEM APS normally only includes data on general entrepreneurial activity, in 2009 a special topic was added to the survey concerning social entrepreneurship. As the field of social entrepreneurship currently lacks empirical research, this dataset provides interesting opportunities to fill this gap in the social entrepreneurship literature (Lepoutre et al, 2013). Therefore this current study uses this GEM APS dataset from 2009 to compare social and commercial entrepreneurs on several characteristics.

The original APS 2009 dataset includes a total of 185.093 observations. However, as will be further elaborated below, several changes are made to this dataset to make the data suitable for the proposed statistical analyses. After making these changes, the dataset still consists of 25.323 observations.

In the Adult Population Survey from 2009 respondents are asked the following question, in order to measure social entrepreneurship among them: ‘Are you, alone or with others, currently trying to start or currently owning and managing any kind of activity, organization or initiative that has a particularly social, environmental or community objective? This might include providing services or training to socially deprived or disabled persons, using profits for socially-oriented purposes, organizing self-help groups for community action, etc.’. This question leaves some space for different interpretations, as this question does not specifically cover social entrepreneurship, but addresses ‘any activity, organization or initiative’ with a social aspect (Bacq, Hartog & Hoogendoorn, 2013).

The GEM developed a measure that is most often used for comparison between different countries: Total Early-Stage Entrepreneurial Activity¹ (TEA) (Lepoutre et al, 2013). This measure includes nascent entrepreneurs and young business owners with firms not older than 3,5 years. The APS 2009 also developed, besides this measure of pure commercial TEA, a measure of pure Social TEA and a third measure concerning an overlap category. This third category consists of individuals that are both involved in commercial TEA as in social TEA, and which stated that these different activities resembles the same organization (Lepoutre et al, 2013).

3.2 Variables

In Table 1 below, the variable overview is presented including the relevant details of the discussed variables. Furthermore, in Table 2 the specific questions and possible values for each variable are shown.

Dependent variable. In order to compare social and commercial entrepreneurs on the discussed characteristics a binary variable is created that measures whether the respondent is a social or a commercial entrepreneur. First, all individuals that are not involved with any early-stage entrepreneurial activity are dropped from the dataset, as these individuals will not be included in the analysis and therefore are not of interest for this study. Similarly all individuals that are at the same time involved in Early-Stage Entrepreneurial Activity and Social Early-Stage Entrepreneurial Activity, and which state that these activities do not correspond to the same organization, are excluded from the dataset. These individuals are not

¹ Definition of TEA by Lepoutre et al (2013): “TEA captures the percentage of the adult (aged 18–64) population that is actively involved in entrepreneurial start-up activity. As such, TEA includes nascent entrepreneurs and young business owners.” (p. 5/697).

Definition by General Entrepreneurship Monitor: “Percentage of female 18-64 population who are either a nascent entrepreneur or owner-manager of a new business”. www.gemconsortium.org

very suitable for comparing both groups as they belong to both groups at the same time. Secondly, the binary variable is created ('SEA') that takes value 1 if the respondent is involved in Social Early-Stage Entrepreneurial Activity including the overlap category, and takes value 0 if the respondent is a commercial entrepreneur. The overlap category is included in the Social Early-Stage Entrepreneurial Activity category, because these respondents actually state that their enterprise and their social activities resemble the same organization. Hence, as they themselves assess their business as social, they are also included in the Social Early-Stage Entrepreneurial Activity category in this analysis.

Both Early-Stage Entrepreneurial Activity and Social Early-Stage Entrepreneurial Activity consist of *nascent entrepreneurs* ("individuals who have, during the last past 12 months, taken tangible action to start a new business, would personally own all or part of the new firm, would actively participate in the day-to-day management of the new firm, and have not yet paid salaries for anyone for more than 3 months" (Lepoutre et al, 2013, p. 5/697)) and *young business owners* ("individuals who are currently actively managing a new firm, personally own all or part of the new firm, and the firms in question is not more than 42 months old" (Lepoutre et al, 2013, p. 5/697)).

This variable 'SEA' will be included as the binary dependent variable in the upcoming regression analysis.

Main independent variables. Also for the independent variables some recoding is necessary for including them in the regression analysis. For the two variables 'social mission' and 'innovativeness' no common variable is present for every respondent in the dataset, although all respondents did answer to questions that were completely similar or at least concerned the same topic.

Social mission. Every respondent in the remaining dataset had to answer a same question regarding the social mission of his start-up/business. Respondents were asked to allocate a total of 100 points between three different goals: economic value, social value and environmental value. All entrepreneurial active individuals (i.e. commercial start-up, commercial young business owner, social start-up and social young business owner) received the same question, but these answers are recorded in different variables in the dataset by the GEM itself. Hence, there are four different variables, one for each type of entrepreneurial role (i.e. commercial start-up, commercial young business owner, social start-up and social young business owner). Therefore a new common variable has to be created that has a valid value for

each entrepreneurial active individual.

So some of the respondents in the current dataset fall under more than one type of entrepreneurial role and therefore have more than one valid value per category (i.e. economic, social and environmental value). For example, an individual could be a commercial and a social young business owner at the same time, thereby having given two valid values for economic value. To obtain the number of valid values per individual a count variable is created for every category, that counts for every respondent the number of valid values for that specific category (for example *economic value*) that are present across the four different entrepreneurial roles (i.e. commercial start-up, commercial young business owner, social start-up and social young business owner). So the values of this count variable range between 0 and 4, as the respondent might not have given any scores at all (resulting in a missing value) or might have given scores for all four entrepreneurial roles (i.e. commercial start-up, commercial young business owner, social start-up and social young business owner) in which he/she is involved. Hence a count variable is created for economic, social and environmental value, which can be used to measure the average scores for each category.

After finishing these important preparations, three new common variables are created which measure the total economic, social and environmental value given by each respondent across any of the four different entrepreneurial roles. Because some respondents indeed have more than one entrepreneurial role, average variables are created by dividing the total score per category by the number of counted values for this category. For example, the average economic value per individual is calculated by dividing the total economic score the individual has given across all four entrepreneurial roles, divided by the number of entrepreneurial roles in which he/she gave points.

Quite remarkably, of the 25.323 observations that are left in the current dataset, 9.584 observations had none but missing values for all the scoring variables. Therefore these observations cannot be used in the regression analysis and the total number of observations will be substantially reduced. Nevertheless, there are still a sufficient number of observations left for running the regression model.

Finally, from the constructed average variables a 'social mission'-variable is created that can be included in the regression analysis. This variable is measured by adding the average social value and the average environmental value of each respondent and therefore measures the combined value of social and environmental value.

Innovativeness. In the same dataset every respondent had to answer a few questions that were related to the level of innovativeness of their business. Importantly, the questions differed between commercial (3 questions) and social entrepreneurs (6 questions). From all these questions, only one question is considered similar and comparable across all groups of respondents. This specific question concerns the innovation of a new product by the entrepreneur. For the respondents involved in a commercial start-up/young business, the exact question is: ‘Will/Do all, some or none of your potential customers consider this product or service new and unfamiliar?’. The five possible answers to this question were: 1=All, 2=Some, 3=None, 4=Don’t Know and 5= Refused. This variable is recoded as a dummy variable by including the answers ‘All’ and ‘Some’ into the value 1 and by recoding the answer ‘None’ into value 0. Furthermore, the answers ‘Don’t know’ and ‘Refused’ are set to missing (after verifying² that this would not bias the data to a large extent).

For respondents that are involved in a social start-up/young business the exact question is: ‘Is your activity, organization or initiative offering a new type of product or service?’. For this question there were four possible answers: 1=Yes, 2=No, 3=‘Don’t Know’ and 4= Refused. Similar as before, the answers ‘Don’t Know’ and ‘Refused’ are set to missing after checking² for possible threats for biasing the data. The dummy variable is created by recoding the answer ‘No’ into value 0 and leaving the answer ‘Yes’ at value 1.

To be able to include a measure of innovativeness in the analysis, a new variable has been created. This variable is a dummy variable, which has value 1 if any of the four above created dummies takes on value 1 and is 0 otherwise. Hence, if the respondent has given a positive answer to any of the questions regarding the innovation of products, the respondent is considered being innovative.

Skills. This variable measures whether a respondent thinks he/she ‘has the knowledge, skill and experience required to start a new business’. This variable is transformed into a dummy variable, with value 1 if the answer is positive and value 0 if the answer is negative.

Importantly, this variable contains a high number (21.9%) of missing values and including this variable to the empirical analysis will therefore also reduce the number of observations included in the regression. Nonetheless, it is an important variable that cannot simply be dropped from the analysis.

² Frequency tables are used to verify that the number of observations set to missing is not too high, in order to prevent the dataset from being biased. From these tables it is obtained that the number of observations falling within the answers ‘Don’t Know’ and ‘Refused’ ranged between 2-6% of the total number of observations.

Fear of Failure. This variable measures whether a respondent states that ‘fear of failure would prevent him/her from starting a business’. Also this variable is transformed into a dummy variable, where the value 1 represents a positive answer to this statement and value 0 represents a negative answer to this statement.

This variable faces the same problem as the skills-variable, as the number of missing values for this variable is comparable to number of missing values in for the skills-variable. But also this variable is of importance to our analysis and cannot be left out easily from the regression model though.

The variables *Skills* and *Fear of Failure* are used for testing the hypothesis regarding the level of self-confidence an individual has. Hence, these two variables are used as proxies for self-confidence in the analysis.

Control variables. Besides the main independent variables that are used to test the formulated hypotheses, also some control variables are included in the analysis. These variables control for some demographic factors that could be of influence in being involved in social entrepreneurship.

Gender. A new dummy variable is created called ‘male’. This variable has the value 1 if the respondent is male and has value 0 if the respondent is female.

Income. This variable measures the household income of each respondent. The variable is a categorical variable, with three different categories ranging from the lowest 33%-tile to the highest 33%-tile of the income distribution. Besides, a fourth category is present which contains the respondents that did not answer this income-question for some reason and therefore could not be coded. This category is quite high, with 4.851 (19.5%) observations and therefore forms a separated category for this variable. Possibly, this group of respondents did not feel comfortable in sharing information regarding their income and forms a special type of individuals. Because the results for this category are hard to interpret these observations are recoded into missing values. Hence, this will reduce the total number of observations quite strongly.

Age. This variable measures the number of years an individual has lived so far. This variable can be included in a regression analysis as a continuous variable.

Education. This categorical variable measures the level of education an individual received. It contains five different categories that are ranked from no education to higher education.

Importantly, for all variables apart from *Gender* and *Income* the respondent could also answer with ‘Don’t Know’ or ‘Refused’. For being able to include these variables in the regression analysis, these two answer categories are treated as missing values. However, for every variable it was first assessed whether this recoding would not bias the data too much before recoding these values into missing. Therefore, for each variable a table with all the possible answers and their frequencies was produced to obtain the number of respondents that answered ‘Don’t know’ or ‘Refused’. The tables showed that the percentages were not very high (<3%) and therefore treating them as missing values would not bias the data to a large extent.

Variable name	Observations	Missing values	Mean	Min. Value	Max. Value
<i>SEA*</i>	25323	0	0,094	0	1
<i>Social Mission</i>	15739	9584	39,428	0	100
<i>Innovativeness</i>	25323	0	0,287	0	1
<i>Age</i>	24482	841	37,971	8	88
<i>Education</i>	24661	662	2,066	0	4
<i>Skills</i>	19210	6113	0,731	0	1
<i>Fear of failure</i>	19245	6078	0,304	0	1
<i>Male</i>	24856	467	0,547	0	1
<i>Income</i>	20018	53085	2,273	1	3

Datasource: Adult Population Survey (APS) 2009 from the Global Entrepreneurship Monitor (GEM)

** SEA: Social Early-Stage Entrepreneurial Activity*

Variable name	Description/Original survey question	Values	Type
<i>SEA*</i>	<i>Part of SEA* that does not overlap with TEA** and TEA-SEA overlap</i>	1=Part of group 0=Not part of group	Binary
<i>Social mission</i>	<i>How many points for social and environmental value combined?</i>	Ranged between 0-100	Continuous
<i>Innovativeness</i>	<i>Is your activity, organization or initiative offering a new type of product or service?</i>	1=Innovative; 0=Not innovativeness	Categorical
<i>Skills</i>	<i>Do you have the knowledge, skill and experience to start a new business?</i>	1=Yes; 2=No; 8=Don't know; 9=Refused	Categorical
<i>Fear of failure</i>	<i>Would fear of failure prevent you from starting a business?</i>	1=Yes; 2=No; 8=Don't know; 9=Refused	Categorical
<i>Age</i>	<i>What is your current age in years?</i>	Numeric value; 998=Don't Know; 999=Refused	Continuous
<i>Education</i>	<i>What is the highest level of education you have completed?</i>	0=None; 1=Some Secondary 3=Secondary Degree; 4=Post-Secondary 5=Graduate Experience	Categorical
<i>Male</i>	<i>What is your gender?</i>	1=Male; 0=Female	Categorical
<i>Income</i>	<i>Income is recoded by the GEM in 33%-tiles</i>	1=Lowest 33%-tile; 2=Middle 33%-tile; 3=Highest 33%-tile; 99999=Cannot Code	Categorical

Datasource: Adult Population Survey (APS) 2009 from the Global Entrepreneurship Monitor (GEM)

** SEA: Social Total Early-Stage Entrepreneurial Activity*

*** TEA: Total Early-Stage Entrepreneurial Activity*

3.3 Method

For analyzing the differences between social and commercial entrepreneurs a quantitative analysis will be performed. Specifically, the independent variables ‘*social mission*’, ‘*innovativeness*’, ‘*age*’, ‘*education*’, ‘*skills*’, ‘*fear of failure*’, ‘*male*’ and ‘*income*’ are regressed on the binary dependent variable ‘*SEA*’.

The statistical technique that will be used is the logistic regression model. This model will measure the relationship between the different independent variables included in the analysis and the probability of being social entrepreneur compared to being commercial entrepreneur. The significance of each independent variable will show whether that specific characteristic is significantly different for both kinds of entrepreneurs.

In total, five different models (Models A-E) will be performed in order to analyze the independent variables step by step. Model A will contain only control variables. Model B will include control variables and the ‘social mission’ variable. Model C includes control variables and the ‘Innovativeness’ variable. Model D will include the control variables and the two self-confidence proxies: the ‘skills’-variable and the ‘fear of failure’-variable. Finally, model E is the full model and contains all control and main independent variables.

In order to assess the sign and magnitude of the independent variables, the average marginal effects will be calculated. From these, it can be obtained whether the characteristic has a significant relationship with being social entrepreneur and what the magnitude of this relationship is. These outcomes will be discussed in the results-section and then also the formed hypotheses will be tested.

4. Results

Based on the discussed variables and the methodology described in the previous section the logistic regression models are performed. The resulting average marginal effects for all models are presented in Table 3 below. Though the number of observations differs, sometimes quite strongly, still every model has a sufficient number of observations left.

Table 3 Binary logistic regression models (A-E), with Social Early-Stage Entrepreneurial Activity as dependent variable (0 = Commercial Early-Stage Entrepreneurial Activity; 1 = Social Early-Stage Entrepreneurial Activity). The average marginal effects are presented.

Models	Model A		Model B		Model C		Model D		Model E	
	Number of Observations squared	R-	Number of Observations squared	R-	Number of Observations squared	R-	Number of Observations squared	R-	Number of Observations squared	
	19633	0,0208	12749	0,1295	19633	0,0484	15497	0,0244	11754	0,1129
Social Mission	Predicted Probability	0,09155	Predicted Probability	0,108851	Predicted Probability	0,085373	Predicted Probability	0,094261	Predicted Probability	0,09842
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Innovativeness			0,003***	32,31	0,087***	17,07	0,003***	26,78	0,003***	26,78
Skills							0,035***	6,86	0,018***	3,03
Fear of failure							-0,009*	-1,70	-0,011	-1,29
									-0,004	-0,55
Age	0,001***	8,39	0,001***	4,14	0,001***	8,56	0,001***	6,33	0,001***	3,44
Education										
Reference Category: No education										
Some secondary education	0,017**	2,29	0,003	0,23	0,016**	2,14	0,017**	2,18	0,004	0,38
Secondary degree	0,025***	4,14	0,019*	1,90	0,024***	3,92	0,028***	4,04	0,014	1,39
Post-secondary education	0,069***	10,31	0,066***	6,07	0,067***	9,92	0,072***	9,57	0,057***	5,38
Graduate experience	0,060***	5,29	0,058***	3,48	0,060***	5,28	0,091***	6,11	0,065***	3,70
Male	-0,004	-0,89	-0,012*	-1,93	-0,007*	-1,72	-0,009*	-1,88	-0,008	-1,32
Income										
Reference Category: Lowest 33%-tile										
Middle 33%-tile	-0,015**	-2,57	-0,039***	-4,18	-0,018***	-2,98	-0,025***	-3,36	-0,038***	-4,00
Highest 33%-tile	0,011*	1,78	-0,017*	-1,92	0,002	0,41	-0,006	-0,79	-0,018*	-1,95

Datasource: Adult Population Survey (APS) 2009 from the Global Entrepreneurship Monitor (GEM)

* Significant at the 10%-significance level

** Significant at the 5%-significance level

*** Significant at the 1%-significance level

In the section below these results will be analyzed for each included variable separately. Also the corresponding hypothesis will be tested using the outcomes from the regression analysis.

Social mission

In both model B and model E, the variable concerning the social mission of the respondents is found to be significant at the 1%-significance level. Also the magnitude of the variable is 0.003 in both models and the sign is positive. Hence, the inclusion of the other main independent variables does not affect the magnitude and sign of the relationship between 'social mission' and 'SEA'. This result means that a one-point increase on the social and environmental goals will increase the probability of being involved in Social Early-stage Entrepreneurial Activity, compared to being involved in Regular Early-stage Entrepreneurial Activity, with 0.3 percentage-points. Although at first sight this relationship does not seem to be very substantial, taking into account the predicted probability of the dependent variable SEA of 0.098 (in model E) puts this result in a different perspective. When 9,8% of the total sample would be involved in Social Early-Stage Entrepreneurial Activity, an increase of 0,3 percentage-points is actually quite substantial in the end.

From the literature it was hypothesized that the importance of a social mission would be higher for social entrepreneurs compared to commercial entrepreneurs. The results from this regression analysis clearly support this hypothesis, therefore:

Hypothesis 1 is not rejected.

Social entrepreneurs are indeed found to have a higher social mission than their commercial counterparts.

Innovativeness

The variable that measures whether respondents are innovative is found to be significant at the 1%-significance level in both model C as in model E. Furthermore, the magnitude of the coefficient is 0,087 in the restricted model and 0,018 in the full model. In both models the sign is positive. Clearly, the inclusion of the other main independent variables does not change the significance of the 'innovativeness'-variable, but it does alter the magnitude. The result of the full model means that being an innovative individual increases the probability of being involved in Social Early-stage Entrepreneurial Activity rather than

Regular Early-stage Entrepreneurial Activity by 1.8 percentage-points compared to not being innovative, all other things held equal.

Based on the discussed literature the hypothesis that was formulated upon innovativeness stated that social and commercial entrepreneurs do not differ in their level of innovativeness. Clearly, the results of this study contradict this hypothesis and therefore it can be stated that:

Hypothesis 2 is rejected.

Social entrepreneurs do possess higher innovative behavior compared to commercial entrepreneurs, according to these results.

Confidence in own skills

The variable concerning the confidence in one's own skills to set-up a new business is not found to be consistent in model D and model E. The restricted model D shows that the variable is significant at the 1% significance-level and that the magnitude is 0.035. The sign is positive. The full model E shows that the variable is not even significant at the 10%-significance level. By including the variables 'Social mission' and 'Innovativeness' the variable thus substantially changes. This suggests that the effect of 'skills' in model D incorporates some of the effect of either 'Social mission' or 'Innovativeness', as they are not included in that model. When these two variables are included in the model (Model E) the effect of 'skills' is more pure as it does not contain the effect of one of the related other main independent variables. Based on the result of the full model D, it could be stated that being confident in one's own skills compared to not being confident, increases the probability of being involved in Social Early-stage Entrepreneurial Activity rather than being involved in Regular Early-stage Entrepreneurial Activity by 3.5 percentage-points, ceteris paribus. Nevertheless, the variable is not found to be significant in the full model E and therefore the coefficient cannot be interpreted.

From previous literature it was found that social entrepreneurs are less self-confident than commercial entrepreneurs. These current results show that social entrepreneurs are not significantly less self-confident than their commercial counterparts in their level of self-confidence and contradicts the formulated hypothesis. Based on this result:

Hypothesis 3 is rejected.

Social entrepreneurs are not found to be less self-confident than commercial entrepreneurs.

Fear of Failure

The variable regarding fear of failure is not found to be significant at the 10%-significance level in model E. The coefficient is therefore not relevant as the results cannot be interpreted. However, in the restricted model D the variable 'Fear of Failure' is found to be significant at the 10%-significance level. The coefficient is found to be -0.009. This change due to the inclusion of the main independent variables 'Social Mission' and 'Innovativeness' can be explained by the relatedness of 'Fear of Failure' to at least one of those two variables. In model D those were not included and the coefficient of 'Fear of Failure' was influenced by the hidden effect of these other main independent variables that were not included.

Based on the full model, the relationship between 'Fear of Failure' and 'SEA' is not found to be significant. This result therefore contradicts the finding that social entrepreneurs are less self-confident. Hence, they do not have a higher fear of failure compared to commercial entrepreneurs. Therefore, also based on this result:

Hypothesis 3 is rejected.

The two proxies for self-confidence, confidence in own skills and fear of failure obviously are consistent with each other, but they are not consistent across the restricted model and the full model. Based on the results from model E it is concluded that hypothesis 3 is rejected and that social entrepreneurs are not less self-confident. However, the results on both variables in model D seem to contradict this conclusion, although these results are both suggesting another direction of the relationship. Overall, based on the results of the full model E, it is concluded that hypothesis 3 should be rejected. Hence, social entrepreneurs are not found to be significantly less self-confident than commercial entrepreneurs.

Age

The variable measuring the age of the respondent is found to be significant at the 1%-significance level in all analyzed models. The magnitude of the coefficient is 0.001 in every model and the sign is found to be positive. Though the relationship is relatively small, the relationship is clearly found to be significant.

A one year increase in age increases the probability of being involved in Social Early-stage Entrepreneurial Activity compared to being involved in Regular Early-stage Entrepreneurial

Activity with 0.1 percentage-points, *ceteris paribus*. Importantly, the unit of measurement is in years and for every extra year of age the probability of being involved in Social Early-Stage Entrepreneurial Activity increases with 0.1 percentage-points. Although at first sight the relationship seems to be very small this could be somewhat misleading due to the small unit of measurement (in years). Besides, again keeping in mind the predicted probability of the dependent variable of 0.098 in model E, this result is more substantial than it seems to be at first sight.

Although the magnitude of the found relationship is quite small, the analysis suggests that social entrepreneurs are on average older than commercial entrepreneurs.

Education

From the statistical output it can be seen that some levels of education are found to be significant compared to the base outcome of no education, though clearly not all. Having some secondary education compared to having no education, is not found to be significant at the 10%-significance level in the full model E. In some models it is found to be significant, suggesting there is some relationship with the main independent variables that were not included in restricted models.

Having a secondary degree is also not found to be significant at the 10%-significance level compared to no education at all in model E. Across the other models this category is found to be significant though, due to the exclusion of some of the main independent variables. This means the coefficient cannot be interpreted.

Having post-secondary education compared to having no education is found to be significant at the 1%-significance level in every model. The magnitude of this coefficient is 0.057 and the sign is positive. In the restricted models the magnitude is again slightly higher. This result shows that having post-secondary education compared to having no education at all increases the probability of being involved in Social Early-stage Entrepreneurial Activity, compared to being involved in Regular Early-stage Entrepreneurial Activity, by 5.7 percentage-points, all other things held equal.

Finally, having graduate experience rather than having no education at all is found to be significant at the 1%-significance level in every model as well. The sign of the coefficient is positive and the magnitude is 0.065. In the restricted models the magnitude is this time slightly smaller, except for model D in which it is larger, again due to the exclusion of main independent variables. This result means that having graduate experience rather than having

no education at all increases the probability of being involved in Social Early-stage Entrepreneurial Activity, compared to being involved in Regular Early-stage Entrepreneurial Activity, by 6.5 percentage point, *ceteris paribus*.

Gender

The variable concerning gender is not found to be significant at the 10%-significance level in model E. However, in most of the restricted models it is found to be significant, except for model A including only control variables. Nevertheless, based on the full model the coefficient cannot be interpreted.

In literature few was found regarding the relationship between gender and being social entrepreneur. However, one single study proposed that females were more likely to be social entrepreneurs than male (Bacq, Hartog & Hoogendoorn, 2014 forthcoming). This current result suggests that social entrepreneurs are not more likely to be male than female, although the results of most of the restricted models contradict this conclusion.

Household Income

Finally, the variable measuring the total household income of the respondents is a categorical variable and is found to be (partly) significant. Belonging to the middle income 33%-tile compared to belonging to the lowest income 33%-tile is found to be significant at the 1%-significance level. The magnitude is 0,038 and the sign is found to be negative. Across the restricted models, this variable also is found to be highly significant (at 1% or 5%), the magnitude differs a bit across the different models. This result means that belonging to the middle income 33%-tile instead of belonging to the lowest income 33%-tile decreases the probability of being involved in Social Early-stage Entrepreneurial Activity, rather than being involved in Regular Early-stage Entrepreneurial Activity, by 3.8 percentage-point, *ceteris paribus*.

Belonging to the highest income 33%-tile compared to belonging to the lowest 33%-tile is found to be significant at the 10%-significance level in model E. The magnitude is 0.018 and the sign is negative. In the restricted models the sign differed for the different models and some models do not find a significant result. Based on the full model, belonging to the highest income 33%-tile instead of belonging to the lowest income 33%-tile is found to decrease the probability of being involved in Social Early-stage Entrepreneurial Activity compared to

being involved in Regular Early-stage Entrepreneurial Activity with 1,8%, all other things held equal.

Based on these results the following section will draw several conclusions on the differences between social and commercial entrepreneurs. Furthermore, the discussion part will elaborate on these conclusions and will discuss what these results mean for the way social and commercial entrepreneurs are viewed. Furthermore, the discussion part will return to the purpose of this study by making some arguments regarding social entrepreneurship education based on the findings in this paper.

5. Discussion

The starting point of this study was the recent rise of several studies in the social entrepreneurship literature which argued that social entrepreneurs should be educated in a differentiated way. Arguments were made upon the content of education programs and several studies came up with specific educational forms that are crucial for educating social entrepreneurs. This study addressed the assumption underlying these arguments that social entrepreneurs are a different ‘breed’ of entrepreneurs and clearly differ from the regular commercial entrepreneurs. Using the relatively large dataset from the GEM Adult Population Survey from 2009, which includes a special set of questions regarding social entrepreneurship, these differences between both groups of entrepreneurs are studied in an empirical analysis.

From the results of this empirical analysis presented in the previous section, it can be concluded that this study have shown both some expected results as well as some unexpected results. Some hypotheses that were based on previous research on this topic have been rejected and at the same time the results support some other hypotheses. Nonetheless, the findings of this study are not completely in line with literature so far. In the following section the findings will be discussed and compared with findings by previous literature.

Discussion of the findings

First of all, the statistical analysis has clearly supported the findings by previous literature that social entrepreneurs are different in giving high importance to the social mission in their business. Previous literature was very clear on the higher perceived importance of creating social value, having social goals and having social priorities compared to commercial entrepreneurs. Though it was argued that entrepreneurship in itself in fact already has a social

part, because it provides value for society, literature was very clear in addressing a higher social mission to social entrepreneurs. This study has supported these findings by empirically showing that social entrepreneurs attach significant more value to social and environmental goals compared to economic goals in their businesses. This finding is not very surprisingly, as it makes very much sense to assume that individuals with a high social motivation are more likely to start a social business when starting a new venture.

Literature on social entrepreneurship education already pointed at the need for social entrepreneurs to bridge different institutional worlds (Pache & Chowdhury, 2012), i.e. the social, commercial and public world. As the current results show that social entrepreneurs are (highly) focused on the social aspect, social entrepreneurship education should focus more on the commercial and public aspects to make sure that social entrepreneurs are able to connect with each of these worlds in a proper way. Hence, in order for bridging these different aspects they have to be sufficiently familiar with them. At the same time, education should still also focus on the social aspect, so that social entrepreneurs are capable of identifying and exploiting opportunities for social impact.

Regarding the findings on the level of innovativeness social and commercial entrepreneurs possess, the results of this study are slightly more surprising. Based on previous literature it was hypothesized that social and commercial entrepreneurs were not significantly different in their innovativeness. However, this study finds that social entrepreneurs are more innovative than their commercial counterparts. Although this result contradicts the formulated hypothesis on innovativeness, it does not come as a complete surprise. As is discussed in the literature review, some previous studies did find that social entrepreneurs indeed are more innovative compared to commercial entrepreneurs. Nevertheless, to assess where these different conclusions come from, it is interesting to compare the results of the present study with a relatively similar study. The study by Bacq, Hartog & Hoogendoorn (2013) also performs a quantitative analysis using the GEM Adult Population Survey 2009 dataset, but finds that social and commercial entrepreneurs are similar in their innovativeness. However, their study uses only data from Belgium and the Netherlands, thereby strongly reducing their number of analyzed observations. Besides, that particular study only makes use of descriptive statistics where this study uses a regression model to test the presumed relationship between innovativeness and social entrepreneurship. Overall, these differences between the two comparable studies might explain the different results regarding the level of innovativeness of the two types of entrepreneurs.

In short, the previous literature on the level of innovativeness was not very clear so far, but this empirical study suggests that social entrepreneurs are the more innovative specie of the two kinds of entrepreneurs. Regarding social entrepreneurship education this suggests that education does not have to be specifically focused at developing an innovative attitude as it is already present in social entrepreneurs. However, social entrepreneurship education might stimulate the use of this innovative attitude and let students gain experience with using their innovative minds in the real world of social entrepreneurship. Hence it is argued that active participation in social entrepreneurship helps individuals with identifying themselves with this specific sector (Smith & Woodworth, 2012).

The empirical findings also show that, although not very unambiguously, social entrepreneurs are not less-confident compared to commercial entrepreneurs. The level of self-confidence was measured by two different aspects, the confidence in own skills and the fear of failure for starting up a new business. Although the results were not consistent across all analyzed models, the results for these two proxies of self-confidence were consistent with each other in the full model and therefore this study finds that social entrepreneurs are not less self-confident than commercial entrepreneurs. Similar to the results on innovativeness, comparing this present study with a comparable quantitative study that contradicts these results might shed more light on the reasons for the contradiction. Interestingly, the study of Bacq, Hartog, Hoogendoorn & Lepoutre (2011) also used the GEM Adult Population Survey 2009 dataset and concluded that social entrepreneurs have less self-confidence compared with commercial entrepreneurs. Again, the main differences between this study and the present one, is that they only use data on two countries (i.e. Belgium and the Netherlands) and test the relationship between self-confidence and social entrepreneurship using descriptive statistics instead of regression analysis. These differences might very well explain the different conclusions in their study and this current paper. However, it might also be that the proxies for self-confidence, used in this current paper, are not suitable for measuring self-confidence thereby causing the results to be different compared with previous findings. Perhaps for further research it might be helpful to construct one single variable that serves as a proxy for self-confidence instead of including two distinct variables. This could allow for a better interpretation of the results and prevent these kinds of confusing results. However, it might become a slightly more complex variable and therefore it is of high importance to construct this variable very carefully to make sure it really measures self-confidence.

Overall, the finding that social entrepreneurs are not less self-confident might be an important

finding, as the already difficult process of starting a social business might require high self-confidence to persevere. In the study of Thompson, Alvy & Lees (2000), it is also argued that education should aim at increasing the level of individual's confidence. The results of this present study show that social entrepreneurs are at least not less self-confident than commercial entrepreneurs, which suggest that this particular characteristic should not specifically be addressed in social entrepreneurship education. Nevertheless, for both social entrepreneurship education and regular entrepreneurship education it seems to be an important characteristic that should be developed by students.

From the empirical results it is shown that social entrepreneurs are on average older than commercial entrepreneurs. Although literature on the relationship of age and the probability of being social or commercial entrepreneur was limited, some previous studies did find that actually social entrepreneurs are on average younger (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011). Hence, the current study contradicts these previous findings. Nevertheless, the empirical analysis has shown very small differences between both kinds of entrepreneurs (although highly significant) and further research might be needed to draw strong conclusions on these findings. An important distinction between the previous study and this current study is though, as mentioned before, that the study by Bacq, Hartog, Hoogendoorn & Lepoutre (2011) only uses data on two countries and therefore includes substantially less observations in their analysis. Furthermore, it makes use of descriptive statistics instead of the regression analysis used in this current study. Again, these differences might explain the different findings between both studies.

Furthermore, this study found that social entrepreneurs are on average higher educated than commercial entrepreneurs. The same relationship was already proposed by literature so far (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011; Hoogendoorn, Van der Zwan & Thurik, 2011; Estrin, Mickiewicz & Stephan, 2013) and it is thus strongly suggested that social entrepreneurs are a differentiated group of individuals on this specific aspect. However, this difference raises some interesting questions on why these two groups differ in their level of education. Is there a causal relationship between having had a higher level of education and being more concerned with the social aspect of business? Are higher levels of education more focused on the ethical aspects of life and therefore directing students more to social entrepreneurship? Or does it require higher education to start-up a social business because it is more difficult to do so? These questions however, are beyond the scope of this study and might be addressed in later studies.

This present study furthermore finds that social entrepreneurs have on average lower income than commercial entrepreneurs. In previous studies it was already argued that social entrepreneurs were less concerned with higher financial wealth (Roberts & Woods, 2005) and the empirical analysis seems to support this finding. Besides, it seems to be quite reasonable to assume that social entrepreneurs have lower income as the primary objective of the entrepreneur is not solely to earn financial profit. The social entrepreneur therefore probably also earns lower income from his entrepreneurial activities.

As was explained the data section of this paper, besides the three income-percentile categories also a fourth category was included in the dataset. This category included observations that missed or could not be coded and it was excluded from the above presented regression models. However, all regression models were also performed including this category (not shown in Table 3) and this category was found to be highly significant (at the 1%-significance level) in almost every model, including the full model. The relationship with the dependent variable was found to be negative. Obviously, this group of respondents seems to be a differentiated group of individuals with a smaller probability of being involved in Social Early-Stage Entrepreneurial activity compared to being involved in Commercial Early-Stage Entrepreneurial Activity.

Finally, this study shows that being male does not increase the probability of being social entrepreneur compared to commercial entrepreneur. Some previous studies found the opposite relationship (Hoogendoorn, Van der Zwan & Thurik, 2011; Bacq, Hartog & Hoogendoorn, 2014 forthcoming) and this study therefore contradicts to existing literature. However, when including the above mentioned special income-category being male is found to be negatively related to being social entrepreneur compared to being commercial entrepreneur. Clearly, this suggests that there is some relationship between this special group of individuals and being male, although this relationship is hard to define. Furthermore, the different result found in this current paper and the one found in the previous studies might again be explained by the larger number of observations used in this current study and the different statistical technique used.

Overall, social entrepreneurs are found to be different on most of the analyzed characteristics and aspects. Although this study obviously does not contain all relevant variables, it certainly includes several important variables that are also found in previous studies. From this study it therefore can be concluded that indeed, social entrepreneurs are significantly different than commercial entrepreneurs in some essential characteristics and aspects. An important notion

however, is that it is not clear from this study whether social entrepreneurs are a different kind of people by genetics and nurture or that becoming a social entrepreneur changes individuals to a large extent. It is therefore hard to conclude anything on the causal directions of these variables. Nonetheless, to conclude on these findings and to answer the research question of this study: social entrepreneurs are found to be different from commercial entrepreneurs on some important characteristics.

Returning to the purpose of studying these differences between the two kinds of entrepreneurs, these findings are of interest for the discussion concerning social entrepreneurship education. As social entrepreneurs are found to be different than commercial entrepreneurs, differentiating the way potential social entrepreneurs are educated seems to be justified. The analyzed respondents that actually have become a (nascent) social entrepreneur have some clear distinct characteristics, which might sometimes already be very suitable for the field of social entrepreneurship, but at the same time education could help to adjust or develop some important characteristics in preparing individuals for becoming social entrepreneurs. In this study they are found to be more concerned with social and environmental goals. Therefore it might be important to acknowledge this social preference and keep in mind that socially orientated individuals might be somewhat reluctant to learn the business side of social entrepreneurship (Howorth, Smith & Parkinson, (2007). On the other hand, educators should use this social orientation and help individuals in learning to identify and exploit social opportunities to be better able to create social value. Overall, it is important for educators to develop the right balance between social and commercial thinking within their students' minds, as they have to be able to bring these different sides together in the right balance (Pache & Chowdhury, 2012).

Furthermore, educators should aim at using the innovative attitude that is found to be present within (potential) social entrepreneurs for active participation in the social entrepreneurship sector. This will lead to higher identification with this specific sector (Smith & Woodworth, 2012) and this way education could further alter the needed self-confidence for setting up a new social business (Thompson, Alvy & Lees, 2000).

Finally, from the discussed literature in this study it is clear that the concept of social entrepreneurship does not differ that much from the general concept of entrepreneurship (Dacin, Dacin & Martear, 2010). However, the individuals that are attracted to the social entrepreneurship sector are found to be different from the ones attracted to the commercial entrepreneurship sector. Social entrepreneurship education should therefore not specifically

focus on what they teach about the content of the social entrepreneurship sector, but should focus on the different characteristics that are present in individuals that aim to become involved in the social entrepreneurship sector.

6. Limitations

Naturally, this study has some important limitations that have to be considered when drawing conclusions upon the discussed results. Some of them are only minor limitations, while other shortcomings of this study are a larger obstacle.

First of all, the dataset itself has some limitations that should be noticed. The important question in the GEM Adult Population Survey 2009 measuring whether respondents are a social entrepreneur leaves some space for different interpretation by different individuals from different backgrounds (Bacq, Hartog, Hoogendoorn & Lepoutre, 2011; Bacq, Hartog & Hoogendoorn, 2013). The question does not directly ask individuals whether they perceive themselves as being social entrepreneur, but asks them whether they have been involved in any activity that is aimed at creating social value. Hence, the question is presented at a broader scope and different respondents might have different perceptions and feelings about the formulated question. However, the GEM did construct the final variable that measures whether a respondent is involved in Social Early-stage Entrepreneurial Activity by using several control questions. Nonetheless, these variations in the interpretation of the original question should be taken into consideration.

Furthermore, some variables included in the dataset report a high number of missing values which cause a loss of information in the final empirical analysis. Especially, the variables concerning the assessment of own skills and the fear of failure when setting up new business are found to have a high number of missing values. By including these variables in the regression analysis the total number of included observations is strongly reduced which might cause the data to be slightly more biased.

The special category within the variable *household income*, that includes observations that missed or could not be coded, also caused a substantial reduction in the total number of observations. This category could not be included in the regression analysis, because it is very hard to interpret the results for this category. Nonetheless, this category seems to be a special group of individuals as it was found to be significant in the (not shown) regression model in which this category was included. Excluding these observations thus caused the number of

observations to be strongly reduced and therefore caused a loss of information.

A similar problem arises in the construction of the *social mission* variable, where 9.584 observations were found to report only missing values for the economic, social and environmental scoring questions. These respondents might not be able to answer this question or for some reason they did not want to answer this question, at least they did not provide a valid value for the scoring variables. These observations therefore could not be included in the regression analysis and were treated as missing values. This might cause the data to be biased to at least some extent. Furthermore, as explained in the data section, this variable is constructed in a way in which it represents the average scores that are given by the respondents to their social and environmental goals. The average scores are used because some respondents had several entrepreneurial roles and therefore had given several social and/or environmental scores. Therefore, in order for effectively comparing these respondents with others who only had given social and/or environmental scores for one entrepreneurial role, the average scores were calculated. Otherwise, these respondents could not be compared with each other regarding their social mission and the respondents with several roles had to be excluded from the analysis, resulting in a substantial loss of observations. However, these averages might sometimes be misleading and might not represent the real social and/or environmental goals for some respondents.

Another limitation regarding the construction of new variables concerns the questions that are used to create the new variable *innovativeness*. As the questions on which this variable is created are not completely similar for all respondents, the results on this variable should be taken with caution. As the different questions might result in a different perception of the question by the respondents, it is questionable whether this variable measures the same for every respondent. Although the used questions are carefully chosen, cautiousness in interpreting the results is required.

Furthermore, as the purpose of the empirical analysis was to analyze whether social and commercial entrepreneurs differed, this current dataset is not perfectly suitable for answering the research question. The dataset consist of self-reported data and lacks the control of external parties concerning the validity of the given answers. Therefore the analysis is prone to self-reporting biases and results on the differences between both groups of entrepreneurs should be taken with caution. In the end, it might be that the results show a different perception of social entrepreneurship and a different perspective of one's own character, instead of really different characteristics. Also the dataset consists of data collected during one specific year and it does not allow for panel data analyses. Using panel data for studying

the differences between social and commercial entrepreneurs might shed more light on the structural differences, as the current data leaves space for temporary fluctuations and time-period effects.

A final limitation on the empirical analysis might be the inclusion of a restricted number of variables. Of course, not all relevant variables could be taken into account as a high number of variables are of influence on the dependent variable. Nevertheless, only part of the variation in the dependent variable is explained by the model and more variables could be included to improve the explanatory power of the model.

Last but certainly not least, caution is required when drawing conclusions on the relationship between the analyzed characteristics and the probability of being social entrepreneur. As was already mentioned earlier on in this paper, the causal relation and direction of this relationship is far from clear. The different characteristics of individuals might explain the choice and the success of becoming social entrepreneur, but it might very well be that the process becoming a social entrepreneur changes the character of the individual. In order to clarify this relationship, the same study might be repeated by using panel data and analyzing the characteristics over time.

7. Further Research

Some interesting directions for further research can be proposed in respond to this study, in order to extend the current base of literature.

First of all, repeating studies should be done to confirm the results of this study and making them more robust. For example, the same kind of study could be carried out using panel data to analyze the differences between social entrepreneurs and commercial entrepreneurs over time. This kind of analyses might shed more light on the structural differences between both kinds of entrepreneurs and might reveal possible changing patterns regarding these differences. Also the time specific differences, that could be present in the current study as it only used data from 2009, could be filtered out to get a more realistic view on the differences between both groups. Furthermore, a panel data study might also shed more light on the causality problem that is present for analyzed relationship. When analyzing the changing characteristics over time, the characteristics could be analyzed before the moment of becoming social entrepreneur and also in the period afterwards. By analyzing the effect of the occupational choice to become social entrepreneur, perhaps more could be concluded upon

the causal direction of the relationship between certain characteristics and becoming social entrepreneur.

Also, the current analysis could be repeated using different datasets, if available. By repeating the same analysis on different sets of data, the findings can be made more robust or might reveal some biases in a specific dataset.

Similarly, the same analyzes could be repeated using data from one specific country or a set of countries. This way the possible cultural differences that might exist regarding social entrepreneurship are filtered out of the analysis and a more pure analysis might be performed. Also this might help shape local policies regarding social entrepreneurship by presenting findings that are specifically relevant for that specific region.

8. Conclusion

This study has attempted to clarify the differences between social and commercial entrepreneurs regarding some essential characteristics. It has contributed to existing literature by providing an empirical comparison of the two groups of individuals, by using logistic regression models. So far the literature mostly consisted of quantitative comparisons of the two groups using some descriptive statistics and lacked supporting quantitative analyses that used a large dataset on social entrepreneurship for performing cross-sectional analyses. By attempting to come up with a quantitative comparison using logistic regression models, this study has aimed to contribute to the existing base of literature on social entrepreneurship. Using data on both social and commercial entrepreneurship from the GEM Adult Population Survey from 2009, both groups of entrepreneurs were compared on a total of eight different characteristics and aspect. From the analysis it was concluded that social entrepreneurs have a higher social mission, are more innovative, are on average older, have a higher level of education, are equally confident in their own entrepreneurial skills, have equal levels of fear of failure, have a lower household income and are equally likely to be either female or male compared to commercial entrepreneurs. Overall it is therefore concluded that social entrepreneurs are indeed clearly different from commercial entrepreneurs regarding some essential characteristics and aspects. Hence, educating them in a differentiated way seems to be justified and could help stimulating the growth of the social entrepreneurship sector in the current economy.

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