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Entrepreneurship Education and Pupils' Attitudes Towards Entrepreneurs

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1. Introduction

Entrepreneurship is widely recognized as an engine of economic and social development. Initiating policies to increase peoples' propensity to become entrepreneurs is a key challenge for policymakers, and entrepreneurship education is considered important to create a culture for entrepreneurship. Over the past decades there has been a significant increase in the use of entrepreneurship education in schools, university colleges and universities in Europe. This chapter will focus on entrepreneurship education in upper secondary education and training. The main aim is to assess whether a European entrepreneurship programme promotes positive attitudes towards entrepreneurs among pupils. An investigation of pupils' attitudes towards entrepreneurs is important because these attitudes may also reflect how desirable they find the prospect of becoming an entrepreneur themselves as a future career choice (Kolvereid, 1996; Guerrero et al., 2008). It is also argued that the roots of an entrepreneurial career can be attributed to early phases of a person's socialization, and that there is a positive correlation between entrepreneurial intentions at a young stage in life and entrepreneurial activity later on (Krueger et al., 2000; Aldrich, 2006).

The following research question is asked: Are pupils participating in entrepreneurship education programmes more likely to have positive attitudes towards entrepreneurs compared to non-participants? The data used to answer this research question is from a Norwegian study of entrepreneurship education in upper secondary school. 1400 pupils answered a large survey about entrepreneurship and learning. 25 percent of the respondents had been involved in an entrepreneurship programme called the 'Company Programme' (CP) and 75 percent of them had not. CP is provided by Junior Achievement – Young Enterprise (JA-YE), the main provider of entrepreneurship programmes in Europe and Norway. CP is a practical programme where pupils – under the guidance of the teacher and a volunteer business adviser – establish, run and close a mini-enterprise during a school year. The European Commission (2005) considers CP as "Best Practice" in entrepreneurship education.

This chapter about entrepreneurship education in secondary schools serves a triple purpose vis-à-vis former research on entrepreneurship education. The first point is the need for more studies on entrepreneurship in upper secondary school. Whilst there are many studies on the

effects of entrepreneurship education in higher education (Solomon et al., 2002; Souitarus et al., 2007; Rodrigues et al., 2010), little attention has been given to the role of secondary schools. This is a paradox as secondary schools are highlighted as an important force influencing innovation systems and entrepreneurship (Fagerberg & Shrolec, 2009). The second point is that recent reviews of the entrepreneurship education literature conclude that the link between entrepreneurship education and entrepreneurial intentions and new venture creation is "under-researched" (Pittaway & Cope, 2007; Goduscheit, 2011). The analysis provided in this chapter helps to correct this gap in research in an upper secondary school context. The third point is that the entrepreneurship education literature is criticized for the lack of high-quality quantitative studies of entrepreneurship education (Johansen & Schanke, 2011). In this chapter, the effects of an entrepreneurship education program are examined, using a rigorous and strong quasi- experimental control-group design and a multilevel regression that controls for the non-random assignment of pupils into a test group or a control group.

The chapter is structured in four sections. The next section gives a short presentation of the Norwegian strategy on entrepreneurship, as well as details about the implementation of CP in Norway. The research design, data and variables are discussed in section 3. Section 4 presents our empirical analyses, and relates our results with other studies on the impacts of CP in Norway and in Europe. Section 5 ends the chapter with some final comments.

2. The Norwegian strategy on entrepreneurship education

Policy makers have developed a wide array of measures to support entrepreneurship, and key among these is the call for the education system to contribute through proper educational programmes, i.e. entrepreneurship education. A series of influential reports by OECD (Ball, 1989) and the European Commission (2005), argue that entrepreneurship education must be at the core of any nation's education policy. Currently, entrepreneurship education is one of the fastest growing areas in higher education (Finkle, 2009), and there appears to be a consensus that entrepreneurship education has a major role to play in the economic development of a country (Gibb, 1996).

This section will give a presentation of the Company Programme (CP). It will also give a short presentation of the distribution of entrepreneurship projects in Norwegian upper secondary schools.

2.1 JA-YE and the Company Programme

JA-YE Europe is a non-profit organisation educating young people about the world of entrepreneurship. JA-YE offers entrepreneurship programmes for all stages of education; from kindergarten to higher education. They are Europe's largest provider of enterprise education programmes and reach more than 2 million children in 40 member countries annually. In Norway, more than 100,000 children learned about entrepreneurship through 'learning by doing' programmes provided by JA-YE in 2010 (Johansen & Schanke, 2011). JA-YE Norway is financially supported by the ministries of Education and Research, Business and Industry and Local Government and Regional Development.

CP is considered the premier programme of all entrepreneurship education programmes offered in Norway, and it is by far the most widespread programme. Approximately 15 % of

all pupils participate in the programme during their time in upper secondary school (ibid.). CP combines practical and theoretical learning and stimulates collaboration between school and working life. The programme aims to prepare young people for working life by showing them how to generate wealth and manage it, how to create jobs which make their communities more robust, and how to apply entrepreneurial thinking to the workplace. In CP, pupils form mini-enterprises under the guidance of a teacher and volunteer business advisers. The students sell stock, elect officers, produce and market products or services, keep records, conduct stockholders' meetings and liquidate, all in about 25 weeks (from October to May). The programme provides a real experience of business enterprise, and, at the end of the school year, the mini-companies participate in National and European Competitions and Trade Fairs. Another Norwegian study estimates that pupils, on average, spend 200 hours on CP: half of this time is school work and the other half is after school activities (Johansen et al., 2011).

When our research group was asked to assess the impacts of entrepreneurship education in secondary schools, a quantitative study of the possible impacts of CP-participation was the no. 1 issue of our assignor, the Norwegian government. More precisely, we were asked to investigate whether or not CP reaches their objectives of: i) promoting personal qualities relevant to entrepreneurship (creativity, cooperation abilities, and spirit of initiative), ii) infusing knowledge and skills concerning innovative processes and business, and iii) contributing to positive attitudes towards entrepreneurs and self-employment. The latter objective is the focus of this article.

2.2 The distribution of entrepreneurship education in Norway

Since the 1970s, Norwegian secondary schools have offered action-learning projects. The concept "entrepreneurship" was not used until the mid-1990s, when it was introduced as an educational objective and linked to the use of the project method in the Curriculum for the 10-year compulsory school in Norway (L97). Subsequent to L97, JA-YE Norway was founded and three Government Action Plans on entrepreneurship education have been presented. The first plan was *See the opportunities and make them work* from 2004. This plan was revised in 2006, and the new plan offered practical advice on how to implement entrepreneurship. The current Action Plan, *Entrepreneurship in education and training 2009-2014,* comprises the entire educational career. Entrepreneurship education in Norway is also anchored in three Government White Papers: White Paper no. 7 (2008-2009) An Innovative and Sustainable Norway; White Paper no. 25 (2008-2009) Local Growth and Belief in the Future; and White Paper no. 44 (2008-2009) Education Strategy. Furthermore, the strategy on entrepreneurship education is embedded in the National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training. This is the official curriculum for Norwegian schools, and it highlights entrepreneurship education as a means to increase motivation, improve the pupils' completion rates, and as relevant for an active working life in the future (Directorate for education and training, 2011).

Norway has comparatively high percentage of schools involved with entrepreneurship education (Martinez et al., 2010). A recent study shows that approximately 90 % of Norwegian lower secondary and upper secondary schools provide entrepreneurship education of some kind (Johansen & Schanke, 2011). As previously mentioned, CP by JA-YE is the most widespread entrepreneurship programme: CP is offered in 67 % of all upper

secondary schools. Other schools organize entrepreneurship education projects such as pupil enterprises themselves. In addition, a subject called Entrepreneurship and Business Development was established in 2007. This subject is taught 280 school hours over two years, and it is offered in 18 % of upper secondary schools (ibid.). Finally, entrepreneurship is a topic in subjects such as Social Studies (both lower secondary school and upper secondary school), Food and Health (lower secondary school) and Leadership Development (upper secondary school) (Directorate for education and training, 2011).

Investigating whether or not Norwegian schools offer CP, Johansen & Schanke (2011) find that the distribution of CP varies according to education programme, school size and geography. CP is more widespread in schools with vocational education programmes compared to schools specializing in general studies. CP is less widespread in small schools compared to the larger ones. Finally, CP is particularly widespread in regions where counties have a particular strategy on entrepreneurship education. These two regions are North Norway and Central Norway.

3. Design and variables

Sections 3 to 5 will examine whether pupils participating in the Company Programme (CP) are more positive towards entrepreneurs compared to non-participants. The data used is from a pupil survey administered to 24 upper secondary schools. The selection of schools was based on two criteria: i) regional diversity and ii) level of CP-participation (low and high). Questionnaires were answered in writing at school. 1900 children were invited to participate in the study, and the net sample included 1454 respondents. That gives a response rate of 76. As mentioned in the introduction, 25 percent of the respondents had been involved in CP and 75 percent of the respondents did not. This section looks into the research design and the variables used in the analysis.

3.1 Research design

Research that aims to examine the effects of education programmes needs to answer the following counterfactual question: what would have happened with the participants (e.g. their attitudes), if they had not participated in the programme? Considering CP, one is able to observe the factual situation (what happens to CP-participants), but it is not possible to observe the counterfactual situation (what would have happened to participants had they not been included in CP). Hence, it is necessary to approximate the counterfactual situation.

Many evaluation studies rely on comparison-group designs when approximating the counterfactual situation. In such designs, a group of participants (the test group) are compared to a group of non-participants (the control group), where the latter group is used as an estimate of the counterfactual situation. The difference in the average score (on some indicator) between these two groups is then used as the estimate of the causal influence of the programme. Unfortunately, the allocation of individuals to either the test or control-group is non-random in most evaluation research. Non-randomness creates several statistical problems associated with unobserved heterogeneity, self-selection, and selection bias. Therefore, random assignment of individuals to the test and control group is judged as the 'gold standard' in the literature (Wooldridge, 2002).

In this study, a group of 16-17 year-olds who participated in CP is compared to a group of non-participants. Pupils themselves do not influence the decision to participate in CP or not, and, in theory, the pupils could have been randomly assigned into either CP-participation or non-participation. In practice, the random assignment rule is violated. One challenge is that the school leadership decides whether or not their school should participate in CP. In order to avoid any potential selection bias that may arise due to non-random selection of schools into the programme, fixed school effects are controlled for in the analysis. The second challenge with this design is that a few schools in the sample systematically allocated pupils with the weakest academic skills (in terms of marks) to CP-participation. Approached on this matter, school leaders argued that theoretically low skilled pupils should take part in CP in the hopes that they might benefit from a more practical and less academic learning environment (Johansen et al., 2011). In order to control for the possible overrepresentation of pupils with low academic skills in the CP-group, a variable measuring average mark is included in the analysis.

In sum, by controlling for school effects and average marks, we control for the two factors that distort the random assignment rule. We are, thus, in the position where we have a methodologically strong quasi-experimental research design. The dependent variables and the independent variables are discussed in more detail below.

3.2 Dependent variables

A number of studies have been dedicated to assessing the effectiveness of entrepreneurship education in higher education. They have shown that entrepreneurship education programmes have a significant positive impact on various competencies that are associated with entrepreneurship, entrepreneurial intentions and attitudes to entrepreneurship. Providing information about a different level of the education system, upper secondary school, this chapter aims to contribute to the literature about impacts of entrepreneurship programmes.

Entrepreneurs play a key role in the economy in relation to prosperity and growth, but the public image of the entrepreneur is by no means always a positive one (Volkmann & Tokarski, 2009). Pupils' attitudes towards entrepreneurs can also reflect how desirable they find the prospect of becoming an entrepreneur themselves as a future career choice (Kolvereid, 1996, Guerrero et al., 2008). In our study, the pupils were asked to agree or disagree with a series of six statements about entrepreneurs. A five-point Likert scale was used on all statements: strongly disagree, disagree, neither agree nor disagree, agree and strongly agree. The net sample for this part of the survey was 1399, and that means that 55 respondents in the sample did not answer questions about attitudes toward entrepreneurs.

Table 1 shows that 85 % of the respondents agree that using their creativity is important for people who choose to become entrepreneurs. The majority also agree that entrepreneurs desire to be their own boss (68 %).

Pupils in upper secondary school in Norway are divided on whether or not entrepreneurs want to be recognised by society and want much flexibility at work. 43 % agree that an entrepreneur is someone who wants recognition by society, 14 % disagree and 43 % neither

agree nor disagree. 41 % agree that an entrepreneur is someone who wants to work when he or she feels like it, 21 % disagree and 38 % neither agree nor disagree.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
… wants to use his/her creativity	1	2	12	46	39
… wants to be his/her own boss	3	5	24	49	19
… wants recognition by society	4	10	43	32	11
… wants to work when he/she feels like it	5	16	38	30	11
… is not well educated	28	32	33	4	3
… cannot find other job	41	28	25	4	2

Table 1. An entrepreneur is someone who … (%)
N = 1399

Necessity entrepreneurship refers to individuals pushed into entrepreneurship because they have no better alternatives for work. Pupils in upper secondary school in Norway do not think that entrepreneurs risk unemployment and are uneducated. Only 6 % think entrepreneurs cannot find other jobs compared to the 69 % that disagree. Only 7 % think entrepreneurs are not well educated compared to the 60 % that disagree.

3.3 Independent variables

The main focus of our article is to assess whether CP affects pupils' attitude towards entrepreneurs. The survey includes questions on many background variables that will enable us to control for a range of 'competing explanations' in our assessment of the impact of CP. We use multilevel models to estimate the influence of CP on attitudes towards entrepreneurs. Multilevel models are statistical models of parameters that vary at more than one level. They are well suited for our study in upper secondary schools, where the opinions of pupils within the same school can be correlated. Such correlations must be represented in the analyses for the correct inferences to be drawn from the study.

The main explanatory dimension is entrepreneurship education. It is expected that a higher share of participants in entrepreneurship education programmes have a positive attitude toward entrepreneurs than non-participants. The chosen variable is participation in CP. In the model, CP-participation equals 1 and non-participation equals 0 (reference category).

The first control variable is school, and this variable represents level 2 in our multilevel model. One reason to control for school effects is that some schools in our sample have violated the random assignment rule. Another reason is that we expected to find differences between schools; that pupils from some schools are more positive towards entrepreneurs than other schools (Snijders & Bosker, 1999).

The second control variable is academic skills, and the indicator used is the average mark from lower secondary school. The scale varies from 2 (lowest) to 6 (best), and the mean is about 4. This variable is included because some schools chose to actively recruit pupils with lower levels of scholarly achievement to CP-participation (test group). The inclusion of this

variable also allows the investigation of whether pupils who are doing well academically, or those who are not, have a more positive view of entrepreneurs.

The third control variable is gender. Sociological theories and studies of social stratification have found profound gender differences when examining vocational attitudes. In most European countries, men are more involved in entrepreneurial activity compared to women. It is expected that boys will have a more positive image of entrepreneurs compared to girls. The sample consists of 54% girls and 46% boys. In the model, boy equals 1 and girl equals 0 (reference category).

The fourth control variable is immigrant background. Studies of immigration and entrepreneurial activity in Norway continue to show that a considerably lower share of immigrants start up businesses as compared to native Norwegians (Østby, 2004). We also expect attitudes towards entrepreneurs to be less positive amongst immigrant pupils compared to native-born Norwegian pupils. The sample consists of 8% immigrants and 92% native Norwegians. In the model, immigrant equals 1 and Norwegian equals 0 (reference category).

The fifth control variable involves parents' education. Former studies show that those with higher education (university degree) are more often involved in entrepreneurial activity compared to those with lower educational attainment (Bosma & Harding, 2007). The sample includes 32% respondents with low educated parents, and 68% of the respondents have one or two high educated parents (minimum bachelor degree). In the model, high education equals 1 and low education equals 0 (reference category).

The inclusion of gender, ethnic background and parents' educational attainment serves another purpose. To the extent that the variable 'average mark' contains measurement error, these variables may be important. It is well known that boys (compared to girls), children with immigrant background (compared to Norwegians) and children with low educated parents (compared to children with high educated parents) are overrepresented among pupils with low average marks.

4. Empirical findings

This section informs about the results. First, we present six multilevel models and comment on the results. Second, we connect empirical findings to the hypotheses presented in section 3.3. Third, CP is a widespread entrepreneurship programme, and we will highlight the differences and similarities of our results for Norway with what is happening elsewhere in Europe.

4.1 Presentation of results

Table 2 reports estimates and significance for six multilevel models. Estimates show the average increase in the dependent variable with one measurement increase in X (independent variable) when other independent variables are held constant. Coefficients for which obtained p-values are less than 0.1 are marked as statistically significant with asterisks (*).

A common application of multilevel models is to apportion the variance in the response according to the different levels of the data. In our case we have the school level (level 2) and the individual level (level 1). A Variance Partition Coefficient of 1 % in all models tells

that only 1 % of the variation is at the school level. This is lower than most other educational research studies, in which between 5-15 % of the total variation in the dependent variable is variation between schools or classes, and 85-95% is at the individual level (Snijders & Bosker, 1999). In other words, school effects are very small when we consider pupils' attitudes towards entrepreneurs.

Variables	Attitude 1	Attitude 2	Attitude 3	Attitude 4	Attitude 5	Attitude 6
Intercept	3.77	3.12	3.25	3.53	3.21	3.04
Participation in CP	**0.14*** **	**-0.07**	**0.08**	**-0.14*** **	**-0.11***	**-0.20*** **
Average mark	0.08**	0.15***	0.02	-0.06	-0.20***	-0.20***
Norwegian	0.26***	0.11*	-0.00	0.06	-0.23***	-0.37**
Boy	-0.23***	-0.05	0.17***	0.00	0.20***	0.24***
Parents with low education	0.01	-0.08	-0.19***	-0.13*	-0.18***	-0.12*
VPC	1 %	1 %	1 %	1%	1 %	1 %

Reference categories: non-participation in CP; immigrant background;
girl; parent(s) with high education
VPC = Variance Partition Coefficient
Notes: ***significant at 0.01, **significant at 0.05, *significant at 0.1
Attitude1 = An entrepreneur is someone who wants to use his/her creativity
Attitude2 = An entrepreneur is someone who wants to be his/her own boss
Attitude3 = An entrepreneur is someone who wants recognition by society
Attitude4 = An entrepreneur is someone who wants to work when he/she feels like it
Attitude5 = An entrepreneur is someone who is not well educated
Attitude6 = An entrepreneur is someone who cannot find other jobs

Table 2. The factors explaining attitudes towards entrepreneurs

The table follows a decision rule such as the following: reject H_0 and believe H_1 if $p < 0.1$. Through this test, we find statistically significant effects for participation in CP in three models: CP-participants are more likely than non-participants to agree that an entrepreneur is someone who wants to use his/her creativity, and they are less likely to agree that an entrepreneur is someone who cannot find other job, wants to work when he/she feels like it, and is not well educated.

It is also shown that the remaining variables are significant in various models. Average mark and Norwegian (ethnic background) are significant in four models: "who wants to use his/her creativity", "who wants to be his/her own boss", "who is not well educated" and "who cannot find other job". Boy (gender) is also significant in four models: "who wants to use his/her creativity", "who wants recognition by society", "who is not well educated" and "who cannot find other job". The variable parents` with low education (parents' education) is also significant in four models: "who wants recognition by society", "who wants to work when he/she feels like it", "who is not well educated" and "who cannot find other job".

4.2 Expectations and empirical findings

Our results have confirmed most of the hypotheses presented in section 3.3. Most importantly, CP-participants seem to have a more positive view on entrepreneurs than non-participants. Compared to non-participants, a higher share of CP-participants sees entrepreneurs as someone with a desire to be creative, well educated and driven by opportunity (i.e. they are not entrepreneurs out of necessity because they cannot find other jobs). We have also confirmed that parental background matters: native-born Norwegian pupils have a more positive image of entrepreneurs than pupils with immigrant backgrounds, and pupils with high educated parents are more positive towards entrepreneurs compared to pupils with parents with lower educational attainment. Both findings were expected since they draw a parallel to entrepreneurial activity, in which high educated Norwegians are overrepresented.

We did not confirm the expectation that boys would have a more positive image of entrepreneurs compared to girls. Actually, the correlation was the opposite. This was a surprise since men are considerably more often involved in entrepreneurial activity compared to women. To understand this finding, we need more research to follow up.

On the matter of academic skills, it seems that pupils with the best marks are considerably more positive towards entrepreneurs than those with the lowest marks. This is interesting since some schools choose to actively recruit pupils with low scholarly achievement to CP-participation. To increase the share of young people with a positive view towards entrepreneurs, this strategy might be favourable. In addition, we can hope that CP-participation can increase school motivation and improve the pupils' completion rates. A recent Norwegian study indicates that CP is particularly beneficial for pupils with the weakest academic skills (Johansen et al., 2011).

4.3 Other empirical studies of CP

There are few high quality quantitative studies examining the role of entrepreneurship education in secondary schools. Rather recently, some research projects about the impacts of entrepreneurship programmes in upper secondary schools have been put forth, both in Norway and other countries. Since CP is taught to more than 250,000 pupils in forty European countries, scholars investigating the upper secondary level have shown a particular interest in CP. We will give a short presentation of findings from seven research projects and how they fit with our empirical results.

In Norway, three robust effect studies of CP have been conducted. The first study looks into short-term impacts of CP. Johansen et al. (2011) investigates data on registered absence in a school year, and through multivariate analyses they show that CP-participants are likely to have lower school absence as compared to other pupils. This finding is contested in the second study investigated. More than 3000 pupils in secondary school responded to a survey about entrepreneurship education, and the researchers found that participation in CP had no impact on school motivation and a negative impact on the average grade. Furthermore, CP had no impact on creativity, knowledge about cooperation, and willingness to take the initiative (Johansen et al. 2008). The third research project assesses long-term impacts of CP (Johansen 2011). 1200 respondents aged 24 and 25 years participated in a telephone survey: 50 % of the sample were former CP-participants and

50 % had not participated in the programme. The survey also included questions on twelve background variables (e.g. experiences with other entrepreneurship programmes, gender, ethnic background and parents experiences with self employment). Controlling for 'competing explanations', the study indicates that CP has a positive impact on desire to be self-employed, entrepreneurial competence and entrepreneurial activity. Compared to non-participants, CP participants more often consider self-employment to be an interesting career option, more often judge that they have the necessary knowledge and skills to set up and run a new business, and they are overrepresented among those having set up their own company. The study also disclose that participation in CP seems to have no impact on employability, intrapreneurship, as well as high-growth ambitions among those having started an enterprise.

From other countries, we will highlight five studies investigating various effects of CP. First, Peterman and Kennedy (2003) explore changes in the perceptions of a sample of secondary school students enrolled in JAs programme in Australia. Using a pre-test post-test control group design, they find that enterprise participants reported significantly higher perceptions of both desirability and feasibility for entrepreneurship after the programme. Second, in a survey analyzed by van den Berghe (2010), 2300 former CP-participants from fifteen European countries answered a self-assessment survey about learning effects. Many respondents found that CP provided knowledge on what is needed to start a company, and some respondents had become more interested in starting up their own business later. Third, investigating approximately 1000 former CP-participants from 20 to 30 years of age in six European countries, it is found that the share of former CP-participants that have become entrepreneurs exceeds the share involved in entrepreneurial activities in national populations (Johansen, 2010). Furthermore, the study points out that CP increases the likelihood of starting up a company before turning 25 years of age and before the completion of a university degree. Fourth, Wennberg (2010) compares JA Sweden's register of CP-alumni with Statistics Sweden's register on individuals' labour market activities and enterprise information. He finds that former CP-participants are more likely than the control group to engage in entrepreneurship by starting a firm.

In the final study, 10000 young people between 15 and 19 years of age participated in a survey on entrepreneurship conducted in 26 European countries (Frydenlund 2005). 65 % of the respondents took part in CP and 35 % did not have any acquaintance with CP. This survey included a series of statements on why people make the choice to become an entrepreneur, and there are many similarities and some differences between our Norwegian results and the results from this comparative survey. In both studies, very few respondents think that entrepreneurs risk unemployment and are uneducated: the shares that think entrepreneurs cannot find other job are 6 % in the Norwegian survey and 8 % in the European survey, whilst 7 % in the Norwegian survey think entrepreneurs are not well educated compared to 6 % in the European survey. Furthermore, approximately 40 % in the Norwegian and European samples agree that an entrepreneur is someone who wants to work when he or she feels like, and between 60 and 70 % percent in both samples agree that entrepreneurs desire to be their own boss. However, results differ on whether or not entrepreneurs want to be recognised by society: "only" 43 % of the Norwegian sample agree that an entrepreneur is someone who wants recognition by society compared to 58 % in the European sample. In our Norwegian study, 85 % of the respondents agree that an

entrepreneur is someone who wants to use his or her creativity. Unfortunately, this statement was not included in the European survey.

Our results from multilevel models presented in section 4.1 indicate that Norwegian CP-participants have a more positive view towards entrepreneurs than non-participants. The report from the European survey from 2005 does not compare results for CP-participants and non-participants (Frydenlund, 2005), and that makes it impossible to compare findings. However, the other mentioned research projects point out that CP has different impacts. In the long term, CP seems to increase entrepreneurial activity (Johansen, 2010; 2011; Wennberg 2010). In the short-term, CP seems to increase the share of young people that desire self-employment, and the share that judge that they are competent to set up and run a new business (Peterman & Kennedy, 2003; van den Berghe, 2010). Such findings are in accordance with our study, in which we find that CP promotes more positive attitudes towards entrepreneurs among young people.

5. Conclusion

Initiating policies to increase peoples' propensity to consider and become entrepreneurs is a key challenge for policymakers. Long-term structural policies to create a culture for entrepreneurship have been an area of commitment for European countries for many years, and a particular focus has been on entrepreneurship education policy. When considering impacts of entrepreneurship programmes in upper secondary school, we must be aware that direct economic effects only will appear in the longer run. Pupils will have to complete their education and maybe even work some years as employed personnel, before they take steps towards creating their own firm.

Over the past decades there has been a vital increase of entrepreneurship at all levels of the education system in Europe. In Norway, the Ministry of Education and Research and the Norwegian Directorate of Education and Training have spent much time, energy and money to introduce and implement entrepreneurship education in Norwegian secondary schools. Thus, it is important to assess if this grand policy initiative has the expected impact on pupils' personal qualities, knowledge and skills concerning innovation and business, and their attitudes towards entrepreneurship. This chapter was focused on the final aim.

An assessment of the international literature on entrepreneurship education reveals several gaps in our knowledge about entrepreneurship education in secondary schools: there are few studies in general and particularly few high-quality quantitative effect studies. This chapter is interesting in this respect, since it examines entrepreneurship education in secondary schools and provides quantitative data aimed at examining whether entrepreneurship education affects attitudes towards entrepreneurs. Thus, this chapter has contributed to a less researched field in the literature on entrepreneurship education.

The empirical part referred to a pupil survey in Norwegian upper secondary schools. Examining attitudes towards entrepreneurs, we used six indicators regarding “who are entrepreneurs”. According to these pupils, an entrepreneur is someone who desires to use his/her creativity and be his/her own boss. An entrepreneur is not someone who risks unemployment and is less well educated. These findings could be interpreted as indicating that most pupils in upper secondary schools have a positive image of entrepreneurs. Pupils

are divided over whether entrepreneurs want to be recognized by society and want to work when they feel like it.

We were particularly interested in the possible implications of CP, a programme provided by JA-YE. Results from the econometric analysis, reported in Table 2, indicate that exposure to CP in Norwegian upper secondary school has promoted more positive attitudes among young people towards entrepreneurs. We found that participants in CP are more likely than non-participants to think that entrepreneurs chose their career path because they wanted to be creative in their job. We also found that participants in CP are less likely than non-participants to think that entrepreneurs cannot find other jobs, have low education and want to work when they feel like it. Hence, the chapter illustrates that the implementation of high quality entrepreneurship education programmes within upper secondary schools have the potential to influence pupils to be positive towards entrepreneurs and self-employment in the future.

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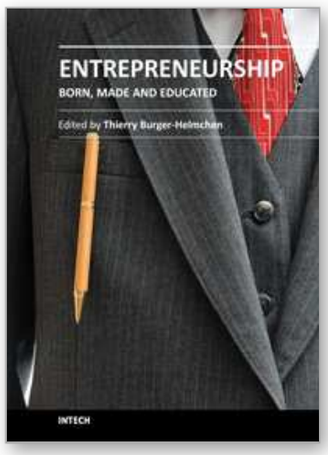

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Entrepreneurship has a tremendous impact on the economic development of a country. As can be expected, many public policies foster the development of self- entrepreneurship in times of unemployment, praise the creation of firms and con- sider the willingness to start new ventures as a sign of good fortune. Are those behaviours inherent to a human being, to his genetic code, his psychology or can students, younger children or even adults be taught to become entrepreneurs? What should be the position of universities, of policy makers and how much does it matter for a country? This book presents several articles, following different research approaches to answer those difficult questions. The researchers explore in particular the psychology of entrepreneurship, the role of academia and the macroeconomic impact of entrepreneurship.

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