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Follow-up research about juvenile degree school students' entrepreneur intentions and entrepreneur roles Post-doc –study in the context of international entrepreneurship education

Introduction

The weakening of the Finnish economy started in 2007 after the international financial crisis. Gross domestic product (GDP) contracted by up to 8.5 percent in 2009. After a slight pick-up, GDP in 2012-2013 fell by about 1% a year. Forecasts on economic growth have been declining several times since 2008. In 2016, GDP did not reach the level of 2008 yet.

PTT (Economic research of Pellervo) predicted that Finland's economy will slowly recover¹. However, growth forecasts did not materialize. According to the preliminary statistics of Eurostat 2017, the Finnish economy was at the end of 2016 the weakest in the euro area. Only in Finland and in Greece the total production declined. In Finland, GDP fell by 0.5 percent and in Greece by 0.4 percent². For 2017 PTT promised 1.4% growth. The unemployment rate was estimated to be 8.4 per cent in 2017. According to Heiskanen, the growth forecast for 2017 and 2018 is almost 2.5 %³.

¹ PTT 9/ Tiedote, *PTT:n kansantalouden ennuste: Suomi saa vähitellen kasvusta kiinni*. Saatavilla: <http://www.ptt.fi/ajankohtaista/uutiset/tiedote-pttn-kansantalouden-ennuste-suomi-saa-vahitellen-kasvusta-kiinni.html> 2016.

² P. Sajari, *Suomen talous euroalueen heikoin vuoden lopussa - Kreikan talous supistui Suomea vähemmän*. Saatavilla: www.hs.fi/talous2017.

³ R. Heiskanen, *OP ennustaa: Talous kasvaa 2,5 % tänä ja ensi vuonna*. Saatavilla: <https://www.kauppalehti.fi/uutiset/op-ennustaa-talokasvaa-2-5-prosenttia2017>.

It is believed in Finland that entrepreneurship is the answer to a number of national economic challenges. Significant challenges are the sharp growth of pensioners, structural unemployment and regional differences in economic growth and imbalances. According to Hyytinen et al., decision-makers in Finland and in European Union (EU) have emphasized the importance of entrepreneurship for economic growth⁴.

Entrepreneurship is especially perceived as a means of reducing structural unemployment. In recent years, good work has been done in Finland to promote entrepreneurship. The population has been systematically trained in entrepreneurship by many educational organizations in different ways.

Entrepreneurship and entrepreneurship education have also become an integral part of the curricula of basic education, high school education and vocational education in the 1990s and 2000s. Vocational education is a key principle and aim to take into account the needs of working life and cooperation with industry.

Significant reforms have been implemented in Finland since the beginning of 2018 for secondary vocational education and adult education. The reform of the vocational education is one of the government's top projects. The funding, guidance, operational processes, degree system and organizer structures of the education are being reformed. The core point of departure is competence based and customer orientation. Learning at work and individual study paths have been increased and deregulated.

Work has also been done in Poland in recent years to promote entrepreneurship and entrepreneurship education. However, the impact of the measures is not systematically measured in Poland and Finland. In particular, a comparative and longitudinal study of how the entrepreneurial views of secondary school students has evolved over the years through the curriculum reform and the increased entrepreneurial awareness of teachers.

Seikkula-Leino has examined the issue nationwide from the point of view of teachers. According to the study, entrepreneurship education has not progressed and expanded nationwide as it has been hoped for. Teachers have not received adequate guidance and training in entrepreneurship education. Also, the efforts of local authorities and teaching providers are not enough⁵.

⁴ A. Hyytinen, M. Pajarinen, *Yrittäjäksi ryhtyminen ja yrittäjyysasenteet Suomessa. Havainnot kyselytutkimuksista*, „Kansantaloudellinen aikakauskirja” 2005 no. 2.

⁵ J. Seikkula-Leino, *Opetussuunnitelmauudistus ja yrittäjyyskasvatuksen toteuttaminen*, Opetusministeriön julkaisuja 2007, p. 28.

Ylinen has also found the same result in studying the entrepreneurial education skills of high school teachers in Southern Ostrobothnia⁶.

The international debate on entrepreneurship policy emphasizes the importance of a new entrepreneurship for economic development. In particular, the opportunities of entrepreneurship education to promote new entrepreneurship are seen as important in the debate. Vyakarnam emphasizes personal development, business development and entrepreneurial competence development in entrepreneurship education⁷.

In Poland, entrepreneurial attitudes have changed. According to Hoviseppä, Poland is in the middle of the euro family. In 2008, Poland's national income was 57.5% of the EU average of 27 countries. Poland reached one important limit when it rose to half of the European Economic Capital of Germany in 2008⁸. A positive change has continued, as according to Okko, the Polish economy is European nobility. Even in the mid-1990s, economic prosperity between Germany and Poland was one of three⁹. According to Hoviseppä, the Polish economy has been reinforced by the high level of education and employment of the Poles.

According to the studies, entrepreneurship education is seen among students as a mainstay of entrepreneurship. The role of teaching is to encourage students to internalize the skills and knowledge that support the development of entrepreneurship^{10,11,12}. On the other hand, according to Turunen, the opportunities of entrepreneurship education and training to

⁶ A. Ylinen, *Opettajien yrittäjyyskasvatusvalmiudet Etelä-Pohjanmaan lukioissa*, Väitöskirja. „Jyväskylä Studies in Business and Economics” 2011 no. 98.

⁷ S. Vyakarnam, *Inviting you to add your thoughts on how we can use entrepreneurship education to change mindsets and make a difference*, Saatavilla WWW-muodossa URL: <http://shaivyakarnam.blogspot.com/2009/05/why-entrepreneurship-education>.

⁸ M. Hoviseppä, *Puola on kirimässä euro-perheen keskikastiin*, Maailmalta, Sanomalehti Pohjalainen no. 220/2009.

⁹ P. Okko, *Puolan taloustilanne on euromaiden aatelia*, Keskustelua eurokriisistä osa 2/2, emeritusprofessori Paavo Okko Turun kauppakorkeakoulusta ja Suomen Puolan entinen suurlähettiläs Vesa Himanen. Yle.fi/ taustapeili 2012.

¹⁰ M. Koironen, M. Peltonen, *Yrittäjyyskasvatus*, Konetuumat Oy, Tammer-Paino, Tampere 1995.

¹¹ N. E. Peterman, J. Kennedy, *Enterprise Education: Influencing Students' Perceptions of Entrepreneurship*. „Entrepreneurship Theory & Practice” Winter 2003, p. 129-144.

¹² D. Kelley, N. Bosma, J. E. Amoros, *Global Entrepreneurship Monitor, Global Report*, Babson 2010.

increase entrepreneurship and entrepreneurs through pedagogical and educational means have been disputed among entrepreneurship researchers¹³.

The aim of this quantitative study is to find out the following:

1. What kinds of future entrepreneurial roles and intentions have second degree students now?
2. What are the differences between the Finnish schools and two Polish schools?
3. Are there differences between different genders?
4. What is the effect of role models, that is, fatherhood, motherhood and kinship / friendship with entrepreneurship?
5. In addition, it is being studied:
6. Whether the future entrepreneurial roles and intentions of high school students are different compared to the data obtained 10 years ago.

Demographic factors include gender, school, entrepreneurial and non-entrepreneurial background, as well as entrepreneurship of a close relative / friendship circle. The study produces comparative data from two different countries by comparing the entrepreneurial outlook.

A large number of generations will take place in Finnish and Polish companies in the coming years.

The purpose of this article is to find out how young persons with entrepreneurial background will see a possible continuation of family business for their part in the future.

The article consists of five main chapters. Following the introduction, chapter two presents the theoretical framework of the study and the hypotheses. Chapter three examines the methodology of the research and chapter four presents the results of the research. Chapter five presents the conclusions of the study and further research proposals.

Theoretical framework

Intention, entrepreneurial roles, -intentions and previous studies

According to the theory of planned behavior, intentions are a key factor explaining individual behavior. Intention to implement certain behavior has

¹³ T. Turunen, *Yrittäjyys – mitä se merkitsee? Yrittäjyyden ja sen sukulaiskäsitteiden käyttö koulutuksessa, tutkimuksessa ja politiikassa 1900-luvun loppupuolelta 2000-luvun alkuun*, „Jyväskylä Studies in Business and Economics” 2011 no. 102.

been identified as a key forecaster of individual behavior. The more intense the intention is, the more likely the behavior will be^{14,15}.

According to Shepherd and Krueger, entrepreneurship intentions are based on positive experiences and social networks that encourage entrepreneurship¹⁶. According to Pittaway and Cope, the entrepreneurial intention does not necessarily lead to action, but it is a prerequisite for starting up¹⁷. Entrepreneurship education may have a strong effect on new businesses. The intention is not permanent; entrepreneurship can also be conceptualized by the intention of abandonment, the importance of which is particularly evident in generational exchanges¹⁸.

The intention consists of the perceptions of an individual, but also of the possibilities of the community and organizations¹⁹. Berglund also sees entrepreneurship as a transition from one position to another. Such a transition occurs, inter alia, when a person moves from wage employment to an entrepreneur²⁰. According to Thompson, the best way to learn and develop self-knowledge for entrepreneurship in an individual's business world is to set up a company²¹.

In recent years, entrepreneurial intention research has rapidly devolved as a self-directed trend into entrepreneurship education²². Increasingly, entrepreneurship intentions are used as the theoretical framework. Effect of gender on entrepreneurial intentions is perhaps the most studied. Studies

¹⁴ I. Ajzen, *The theory of planned behavior*, „Organizational Behavior and Human Decision Processes” 1991 no. 50 (2), p. 179-211.

¹⁵ N. F. Jr. Krueger, A. L. Carsrud, *Entrepreneurial intentions: Applying the theory of planned behavior*, „Entrepreneurship & Regional Development” 1993 no. 5, p. 315-330.

¹⁶ D. A. Shepherd, N. F. Krueger, *An Intentions-Based Model of Entrepreneurial Teams' Social Cognition*, „Entrepreneurship Theory & Practice” Winter 2002, p. 167-185.

¹⁷ L. Pittaway, J. Cope, *Entrepreneurship Education: A Systematic Review of the Evidence*, „International Small Business Journal” 2007 vol. 25, p. 479-510.

¹⁸ M. L. Sang, C. Daesung, L. Seong-Bae: *Impact of Entrepreneurship Education: A Comparative Study of the U.S. and Korea*, „International Entrepreneurship and Management Journal” 2005 vol. 1, p. 27-43.

¹⁹ F. Wilson, J. Kickul, D. Marlino: *Gender, Entrepreneurial Self-Efficacy and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education*, „Entrepreneurship Theory & Practice” May 2007, p. 387-406.

²⁰ K. Berglund, *Discursive Diversity in Fashioning Entrepreneurial Identity*, in C. Steyaert & D. Hjorth (eds.), *Entrepreneurship as Social Change A Third Movements in Entrepreneurship Book*, Cheltenham, UK: Edgar Elgar Publishing 2006, p. 231-250.

²¹ H. Mushtaq, A., S. Naimat: *Networking and women entrepreneurs: Beyond patriarchal traditions*, „African Journal of Business Management” 2011 Vol. 5(14), p. 5784-5791.

²² A. Fayolle, F. Liñán, *Entrepreneurial intentions: literature review and new research perspectives*, The 3rd GIKA annual conference, 7-9 July 2013 Valencia, Spain.

show that men's entrepreneurship intentions are higher than women's intentions. Men are more likely to engage in entrepreneurship than women²³,^{24, 25}. All the studies have not found a correlation between the gender and intentions, or it is small²⁶.

Another important factor is the role models. In several studies, it has been found that father's or mother's entrepreneurship has an entrepreneurial sense-boosting effect^{26, 27, 28}, although some of the opposite results have been obtained²⁹. According to Aarnio, the student entrepreneurship does not seem to be highly inherited, although the existence of inheritance cannot be completely ruled out²⁶. Kickul et al. found that parental entrepreneurship had a positive impact on girls' interest in entrepreneurship, but no similar effect was found for boys²⁹.

According to Peterman and Kennedy, students think that entrepreneurship education can increase entrepreneurship intentions. On the other hand, according to Turunen, the opportunities of entrepreneurship education and training for increasing entrepreneurship and enterprises have been contested. Longitudinal research on the development of entrepreneurial thinking has been limited. According to Joensuu et al., the entrepreneurial thinking of vocational school students and polytechnic students weakened during the studies, except for the natural and environmental fields in which intentions increased. The change in the second degree explained the most change

²³ F. Wilson, D. Marlino, J. Kickul, *Our entrepreneurial future: examining the diverse attitudes and motivations of teens across gender and ethnic identity*, „Journal of Development Entrepreneurship” 2004 no. 9 (3), p. 177-197.

²⁴ A. Miettinen, S. Kokkonen, *GUESSS 2011-tutkimus (Global University Entrepreneurial Spirit Students' Survey)*, Suomen maaraportti. LUT Tuotantotalous, teknologiayrittäjyys. Lappeenranta 2012.

²⁵ S. Joensuu-Salo, E. Varamäki, A. Viljanmaa, *Yrittäjyysaikomusten muutos valmistumisen jälkeen ammatillisella toisella asteella*, „YRITTÄJYYSKASVATUSPÄIVÄT 2015”, Turun yliopiston kauppakorkeakoulun Porin yksikön julkaisu, Publication of Turku School of Economics, Pori Unit.

²⁶ L. Aarnio, *Suomen Yrittäjät: Opiskelijasta yrittäjäksi*, Opiskelun ja koulutuksen tutkimussäätiö, Otus 2015.

²⁷ A. Kuckertz, M. Wagner, *The influence of sustainability orientation on entrepreneurial intentions – Investigating the role of business experience*, „Journal of Business Venturing” 2010 no. 25 (5), p. 524-539.

²⁸ R. Uygun, M. Kasimoglu, *The emergence of entrepreneurial intentions in indigenous entrepreneurs: The role of personal background on the antecedents of intentions*, „International Journal of Business and Management” 2013 no. 8 (5), p. 24-40.

²⁹ J. Kickul, F. Wilson, D. Marlino, S. Barbosa, *Are misalignments of perceptions and self-efficacy causing gender gaps in entrepreneurial intentions among our nation's teens?*, „Journal of Small Business and Enterprise Development”, 2008 no. 15 (2), p. 321-335.

in the ability to believe and attitudes. The support of neighbourhood and gender also seemed to have an impact. The development of entrepreneurial thinking is more positive for men than for women. According to Joensuu et al., attention should be paid to attitudinal education and entrepreneurial background should be taken into account in particular when planning entrepreneurship education^{25, 30, 31}.

The aim of this study is to find out what kind of entrepreneurship roles and intentions are among second degree students. The analysis is done through 39 claims, out of which 19 statements outline the future entrepreneurial roles and 20 claims outline entrepreneurial intentions.

Research is part of the context of international entrepreneurship education. Bell, Callaghan, Demick and Scharf have found that the methods of teaching international education for entrepreneurship can be practiced almost independently of cultural differences³². Davey, Plewan and Struwig have explored the differences between European and African students' entrepreneurial thinking, attitudes and entrepreneurial role models. According to the study, African attitudes are more positive towards entrepreneurship. African students also consider entrepreneurship more likely than Europeans. However, the motives for self-employment were very similar between the groups³³.

Griffiths, Kirckul and Carsrud made research about entrepreneurship information in ten different countries. They found a correlation between the study country and the entrepreneurial thinking³⁴. Franco, Haase and Lautenschläger studied the entrepreneurial thinking of university students in Germany and Portugal. The conclusion of the study was that the entrepreneurial thinking in Germany is clearly lower³⁵.

³⁰ S. Wu, L. Wu, *The impact of higher education on entrepreneurial intentions of university students in China*, „Journal of Small Business and Enterprise Development” 2008 no. 15 (4), p. 640-655.

³¹ G. Nabi, R. Holden, A. Walmsley, *From student to entrepreneur: towards a model of graduate entrepreneurial career-making*, „Journal of Education and Work” 2010 no. 23 (5), p. 389-415.

³² J. Bell, I. Callaghan, D. Demick, F. Scharf, *Internationalizing Entrepreneurship Education*, „Journal of International Entrepreneurship” 2004 vol. 2, p. 109-124.

³³ T. Davey, C. Plewa, M. Struwig, *Entrepreneurship perceptions and career intentions of international students*, „Education + training” 2011 no. 53 (5).

³⁴ M. Griffiths, J. Kickul, A. Carsrud, *Government bureaucracy, transactional impediments, and entrepreneurial intentions*, „International small business journal” 2010 no. 27 (5), p. 626-645.

³⁵ M. Franco, H. Haase, A. Lautenschläger, *Students' entrepreneurial intentions: an inter-regional comparison*, „Education + training” 2010 no. 52 (4), p. 260-275.

Research contributions of schools to entrepreneurship education and training

The current curriculum for vocational education includes entrepreneurship studies for 5-10 credits. The basics of vocational qualifications have been renewed nationwide since the first of August 2015. Instead of the credits that were previously used, knowledge points were acquired that reflect skills, not the time spent in learning³⁶.

According to Hievasen et al., the Finnish National Board of Education notes that training providers must improve the ability of students or graduates to complete entrepreneurship studies³⁷.

According to the situation survey conducted by Nevanperä, in a Family Business Association researcher's meeting, the entrepreneurship studies according to curriculum in vocational training have been well implemented at the Education and Training Centre of Seinäjoki. The entrepreneurship studies have only partially implemented at the institutes of the Education and Training Centre of Kauhajoki and at the Education and Training Centre of Järviseu³⁸.

In recent years, the Suupohja Vocational Institute's various business units have invested heavily in entrepreneurship. Several student companies have been set up. In 2015, a modern teaching farm was built for the institute of agriculture, and a biogas plant was completed in 2017. The biogas plant is also a modern learning environment for agricultural students and farmers in the region.

In the education of the mercenaries, the development activities are focused in particular on team entrepreneurship and the development of business cooperation. Mercenary students have set up a number of NY (young entrepreneurship) companies whose services have been offered on open-air days, on the internet and on various media.

Some NY companies also participated in the Seinäjoki Education Fair and in the Vaasa Fair. Part-Time NY was selected as the best NY Company in the region and they were invited to a nationwide NY business competition

³⁶ *Ammatilliset perustutkinnot ja tutkintojen perusteet 2014*, Perusteet tulivat voimaan 1.8.2015.

³⁷ R. Hievanen, K. Lounema, S-L. Kärki, *Ammatillisten perustutkintojen perusteiden sekä valmistavien ja valmentavien koulutusten opetussuunnitelmien toimeenpanon seuranta*, www.oph.fi/julkaisut 2011.

³⁸ E. Nevanperä, *Etelä-Pohjanmaan toisen asteen koulutuksen kehittämis- ja koordinaatiohanke. Vaihtoehtoiset mallit toisen asteen koulutuksen järjestämisessä Etelä-Pohjanmaalla*, Etelä-Pohjanmaan liiton julkaisuja 2012.

in Kajaani in the spring of 2014. All Class 3 students participated in NY business activities, focusing particularly on teamwork. In the autumn of 2013, a new education for games was launched in the Program of Information and Communication Science. Young people are interested in education. Development projects and business co-operation have produced results. Through the national semi-finals, two teams arrived at the nationwide Taitaja 2017 finals.

Media assistant education in the field of culture has also increased entrepreneurship, especially in theses. Media assistants have participated in the Taitaja-2014 Finnish Championship competitions and theses have become more labor-intensive. In 2015, media assistants reached the region's win in the South Ostrobothnia Youth Entrepreneurship competitions and participated in the nationwide final competition.

Entrepreneurship is a career option and a mode of action in the curriculum of Teuva high school. Entrepreneurship-related motivation, societal, technological and legal issues have been included in the courses of different subjects. In addition to the theory, the school has also invested in practical entrepreneurship. An entrepreneurship course has been offered to students for several years, including a business plan for 3-4 students. Over ten young people, about 20% of students, have chosen the course annually. In the business plan, students have been assisted by the TEAK Adult Education Center and entrepreneurs in the area.

Teuva high school also participated in the development project of entrepreneurship education and entrepreneurship network (Y-love) of the National Board of Education. The development project included 23 high schools from all over Finland. In addition to Teuva, Kauhava, Härmä, Lappajärvi and Evijärvi high schools represented the South Ostrobothnia region. According to Nevanperä, the Y-Love goal in the entrepreneurship network was well implemented. The number of entrepreneurship courses was highest in Kauhava and Lappajärvi. In relation to school size, the majority of students were in Teuva (50%) and the second most in Lappajärvi (19%)³⁹.

In the comparisons of this study, in the Polish high schools in Cieszyn, entrepreneurship education is not really there. In Copernicus high school, entrepreneurship lessons are held for 1-2 hours per week at second and third class levels. Lessons teach entrepreneurial activities such as company based and tax legislation. Correspondingly, at Evangelical high school, entrepreneurship is taught to third year students for two hours a week. The themes of

³⁹ Ibidem.

lessons consist of the following: market, tax system, financial arrangements, establishment of the company and application of the job.

The impact of entrepreneurship education, education and training on entrepreneurial roles and intentions in the light of various studies

Education, teaching and training are closely related. They all affect the development of the individual. As a concept, education is the largest of them. Teaching is needed both in education and in training. In education, it is essential to teach information and to develop skills. Training ends at some point, education is continuous and lifelong⁴⁰.

Entrepreneurship education is related to entrepreneurship, and it is a part of education. Entrepreneurship education and civic education are closely related concepts. The aim is to influence skills, beliefs and entrepreneurial behaviour⁴¹. An individual chooses and grows into entrepreneurship. Entrepreneur's intention and speed of growth can be promoted. Among other things, the general entrepreneurial atmosphere, the home environment, teachers and the school influence entrepreneurship growth⁴².

Entrepreneurship must not be understood as a training goal strictly only for external entrepreneurship. Entrepreneurship courses and entrepreneurship training are not entrepreneurial education⁴³. The task of entrepreneurship education is to develop a positive attitude towards entrepreneurship and work. Growth in entrepreneurship is largely spiritual growth, so it is challenging⁴⁴.

Entrepreneurship education is a continuous process that goes through life and school system. In entrepreneurship education, teaching methods should be entrepreneurial, learner-motivating, social-oriented and student-centered. Cooperation with the business community is also central. Practice in companies and students' own business deals are perhaps the best

⁴⁰ S. Hirsjärvi, J. Huttunen, *Johdatus kasvatustieteeseen*, 4.5. painos. Juva: WSOY 1995.

⁴¹ J. Seikkula-Leino, *Kumppanuusmalli vahvistamassa aikomuksia yrittäjyyskasvatukseen. Yrittäjyyskasvatuksen muotoutuva maisema-yrittäjyyskasvatuksen identiteettiä rakentamassa*, „Julkaisuja” Jyväskylän yliopisto Taloustieteiden tiedekunta, 1999 no. 176/2009.

⁴² C. Harthorn, P.D. Hannon, *Paradoxes in entrepreneurship education: chalk and talk or chalk and cheese? A case approach*, „Education + Training” 2005 vol. 47 issue 8/9, p.616 – 627.

⁴³ K. Ristimäki, *Yrittäjyyskasvatus Kokkolan kouluissa. Tutkimus opettajien yrittäjyysasenteista ja arvoista*, Jyväskylän yliopisto. ChydeniusInstituutti, Kokkola. Saarijärvi: Gummerus 1998.

⁴⁴ M. Koironen, M. Peltonen, *Yrittäjyyskasvatus*, Konetuumat Oy, Tammer-Paino, Tampere 1995.

entrepreneurship education. According to Lassila, several research results show that entrepreneurship education can influence entrepreneurial attitudes and entrepreneurship education significantly increases entrepreneurial intentions among students^{45, 46}.

According to Seikkula-Leino, teachers do not know enough about the goals, content and working methods of entrepreneurship education. An obligation should be made for further training of teachers. Entrepreneurship education should be included in education⁵. Entrepreneurship education should use methods that support experiential, creative, critical thinking and active action. The development of entrepreneurial education and support for new entrepreneurs seems to be the process of developing entrepreneurial identities⁴⁷.

According to Hägg, the importance of entrepreneurship training in the process of entrepreneurship identity development has not been studied much⁴⁸. Aaltio emphasizes pedagogical solutions and processes in which identities are important⁴⁹. According to Turner, entrepreneurship coaching is a transition period where an individual moves from one social position to another, such as an employee to an entrepreneur⁵⁰.

According to Colette et al., entrepreneurship education is of three levels. Getting acquainted with business („about”), ie raising awareness and starting a business at the theoretical level. In the “for” category,

⁴⁵ H. Lassila, *Mitä yrittäjyys minulle merkitsee? AMK-opiskelijoiden käsityksiä yrittäjyydestä. Yrittäjyyskasvatuksen muotoutuva maisema-yrittäjyyskasvatuksen identiteettiä rakentamassa*, „Julkaisuja” Jyväskylän yliopisto Taloustieteiden tiedekunta, 1999 no. 176/2009.

⁴⁶ A. Fayolle, J.M. Degeorge: *Attitudes, Intentions and Behaviour: New Approaches to Evaluating Entrepreneurship Education*, Teoksessa Fayolle, A. ja Klandt, H., „International Entrepreneurship Education. Issues and Newness”, Edward Elgar, Cheltenham UK 2006.

⁴⁷ C. Diensberg, *Towards Entrepreneurial Regions: Ten Propositions for Successful Entrepreneurship Promotion and Education*, „Rostock Working Papers on Economic and Human Recourse Development” 2008 no. 29.

⁴⁸ O. Hägg, *Yrittäjäidentiteetin kehittyminen yrittäjyysvalmennuksessa*, Teoksessa: Juha Kansikas & Paula Kyrö & Jaana Seikkula-Leino & Tarja Römer-Paakkanen (toim.) ”Yrittäjyyskasvatuksen muotoutuva maisema- Yrittäjyyskasvatuksen identiteettiä rakentamassa”, „Julkaisuja” Jyväskylän yliopisto Taloustieteiden tiedekunta, 1999 no. 176/2009.

⁴⁹ I. Aaltio, *Yrittäjän uudet identiteetit talouselämän muuttuvassa toimintaympäristössä - koulutuksellisia näkökulmia*, Teoksessa P. Kyrö & H. Lehtonen & K. Ristimäki (toim.) „Yrittäjyyskasvatuksen monia suuntia”. Tampere: Tampereen yliopiston Kauppakorkeakoulu 2007, s. 62–77.

⁵⁰ V. Turner, *Rituaali, rakenne ja communitas*. Helsinki: Kustannusosakeyhtiö Summa 2007.

people who are interested in starting a business are looked for. They are encouraged, taught entrepreneurial skills, and preparing business plans. At the level („in”) you learn business practice in practice⁵¹. Mwasalwiba emphasizes the importance of entrepreneurship education in developing the entrepreneurial qualities of future entrepreneurs. In general, the effectiveness of entrepreneurship training has been demonstrated by measuring the effectiveness of training in entrepreneurial thinking, attitudes and activity⁵².

The effectiveness of entrepreneurship education in entrepreneurship intentions has been studied, among others, by Faye et al.⁵³, Lee et al.⁵⁴ and Sandhu et al.⁵⁵. A positive connection between entrepreneurship training and the entrepreneurial intentions has been gained, among others, by Wilson et al.⁵⁶ and Jones et al.⁵⁷. According to Marques et al.⁵⁸, entrepreneurship education has no effect and Pihkala and Miettinen have a negative impact⁵⁹. Pajarinen and Rouvinen have also doubted the possibility of entrepreneurship training to teach entrepreneurship⁶⁰.

⁵¹ H. Colette, H. Frances, L. Claire „*Entrepreneurship education and training: can entrepreneurship be taught? Part I*”, Education 2005.

⁵² E. Mwasalwiba, *Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators*, „Education + training” 2010 no. 52 (1), p. 20-50.

⁵³ A. Fayolle, B. Gailly, N. Lassas- Clerc, *The long-term effect of entrepreneurship teaching programmes on entrepreneurial intention*. „RENT XIX Conference”, 17-18 November 2005 Naples, Italy.

⁵⁴ L. Lee, P. Wong, M. Foo, A. Leung, *Entrepreneurial intentions: the influence of organizational and individual factors*, „Journal of business venturing” 6 (1) 2011, p. 124-136.

⁵⁵ M. Sandhu, S. Sidique, S. Riaz, *Entrepreneurship barriers and entrepreneurial inclination among Malaysian postgraduate students*, „International journal of entrepreneurial behavior & research” 2011 no. 17 (4), p. 428-449.

⁵⁶ F. Wilson, J. Kickul, D. Martino, S. Barbosa, M. Griffiths, *An analysis of the role of gender and self-efficacy in developing female*, „Journal of developmental entrepreneurship” 2009 no. 14 (2), p. 105-119.

⁵⁷ P. Jones, A. Jones, G. Packham , C. Miller, *Student attitudes towards enterprise education in Poland: a positive impact*, „Education + training” 2008 no. 50 (7), p. 597-614.

⁵⁸ C. Marques, J. Ferreira, D. Gomes, R. Rodrigues, *Entrepreneurship education: how psychological, demographic and behavioural factors predict the entrepreneurial intention*, „Education + training” 2012 no. 54 (8/9), p. 657-672.

⁵⁹ J. Pihkala, A. Miettinen, *Exploring changes in entrepreneurial intentions – a follow-up study in two polytechnics*, „Proceeding of international entrepreneurship conference” IntEnt, 5-7 July 2004 Naples, Italy.

⁶⁰ M. Pajarinen, P. Rouvinen, *Mistä yrittäjät tulevat?*, Tekes. Teknologiakatsaus 198/2006. Helsinki.

Differences between countries in attitudes to entrepreneurship, entrepreneurial roles and intentions

Kiander notes that Finland has more entrepreneurs in relation to the population than in the United States. On the other hand, according to opinion polls, the attitude of Americans to entrepreneurship is much more positive than Finns. In Kiander's view, entrepreneurship does not appear to be a major national economic success in the comparison of the OECD countries. Kiander's conclusion is that there is no need for more entrepreneurs in Finland⁶¹.

When comparing the entrepreneurial activity of the countries targeted by this article, it is noticed that in 2004, Poland's activity rate (8.8%) was double for Finland's (4.4%)⁶². Entrepreneurial activity, however, grew in Finland in four years and it was in 2008 (7.3%), although in 2010 it was again lower (5.7%). Finland was close to the average level of innovation-driven economies, but the number of start-up entrepreneurs was lower than in previous years. Among the 20 innovation-driven economies involved in the survey, Finland ranked sixth⁶³.

According to a study conducted by ETLA in 2005, entrepreneurship in Finland was more unknown than a paid job compared to other Europe and the United States. However, a major achievement in the study was that young people believed in entrepreneurship opportunities already in 2005 a little more compared to other age groups⁶⁴.

According to Stenholm et al., Finnish young people are more positive about entrepreneurship than average⁶⁵. According to the youth barometer, about 10 percent of 15 to 29 year olds think that they are working in their own company at the age of 35. About 20 percent thinks that it is quite important⁶⁶.

⁶¹ J. Kiander, *Onko Suomessa liian vähän yrittäjiä?* VATT, Valtion taloudellinen tutkimuskeskus, Government Institute for Economic Research 2004, No 343, Helsinki.

⁶² P. Arenius, E. Autio, A. Kovalainen, *Gem 2004. Global Entrepreneurship Monitor, Suomen yrittäjyysaktiivisuustutkimuksen keskeisiä tuloksia*. Turku: Turun Kauppakorkeakoulu, Turku 2005.

⁶³ J. Heinonen, A. Kovalainen, *Gem 2009. Global Entrepreneurship Monitor, Suomen yrittäjyysaktiivisuustutkimuksen keskeisiä tuloksia*, Turku: Turun Kauppakorkeakoulu, Turun yliopisto 2010.

⁶⁴ A. Hyytinen, M. Pajarinen, *Yrittäjäksi ryhtyminen ja yrittäjyysasenteet Suomessa: Havaintoja kyselytutkimuksista*, „Kansantaloudellinen aikakauskirja” 2005 no. 2.

⁶⁵ P. Stenholm, S. Suomalainen, A. Kovalainen, J. Heinonen and T. Pukkinen, *Global Entrepreneurship monitor– Finnish 2013 Report*, Turun yliopisto.

⁶⁶ H. Kempfi, *Nuorisobarometri: Nuorilta vahva viesti Suomen tulevaisuudesta*, Valtion nuorisoneuvosto 2017.

On the other hand, according to Haanpää et al., entrepreneurship as a career option is interesting to young Finns quite a bit. The perpetuity and the risk-free nature of life are more important to young people in life⁶⁷.

According to the Global Entrepreneurship and Development Index (GEDI) 2013, entrepreneurial climate is favorable in Finland. Finland's ranking was 16th among 130 countries. USA was at the top, Sweden was the second, and Germany was a bit ahead of Finland. Fifteen years later (2014), the climate of entrepreneurship was the world's strongest in Finland. Finland's success was good thanks to positive attitudes. Networking and process development were also top-notch (Figure 1). As a whole, a certain degree of softness is found in entrepreneurship activity. Sweden was the third in the index and Norway was 14th⁶⁸.

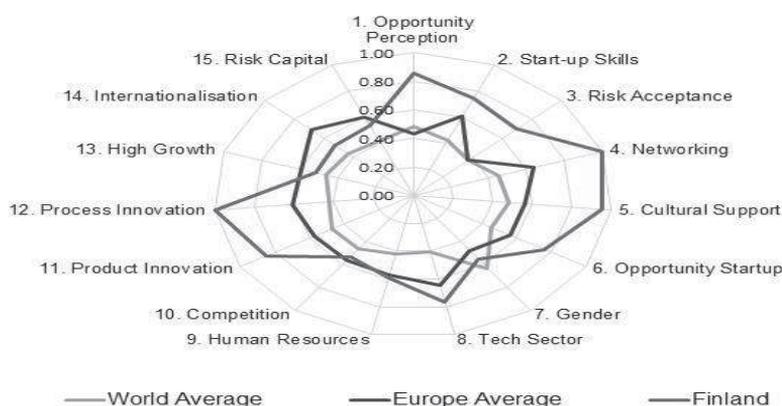


Figure 1. Global Entrepreneurship & Development Index 2014

However, the level of entrepreneurial attitudes has not remained at a high level in Finland. According to the GEDI Index 2015, Finland's position was 14th among the 130 countries. Among the 39 countries in Europe, Finland was ranked 9th.

According to IMD (Institute for Management Development) 2014, Finland's competitiveness is up to the 1990s. Finland has fallen to 20th place.

⁶⁷ L. Haanpää, S. Tuppurainen: *Nuoret yrittävät. Vastuullisuus, joustavuus ja mahdollisuudet yrittäjyydessä*, Nuorisotutkimusverkosto/ Nuorisotutkimusseura julkaisuja 122. Helsinki 2012.

⁶⁸ E. Autio, J.A. Zoltan, S. Laszlo, *Global Entrepreneurship & Development Index 2014*, The Global Entrepreneurship and Development Institute, Washington D.C., USA.

At its best, Finland has been in second place in 2002. Poland's ranking is 42rd. Poland's highest ranking in 2010 was 39th⁶⁹.

Based on the aforementioned previous studies, the following hypotheses can be presented:

- Hypothesis 1: Both Finnish and Polish students are interested in entrepreneurship roles and intentions in the future;
- Hypothesis 2: Students' future entrepreneurial roles and intentions have both school-specific and international differences, Finns ones are stronger than the Poles;
- Hypothesis 3: Men's entrepreneurial roles and intentions are stronger than women's;
- Hypothesis 4: The role models have a positive effect;
- Hypothesis 5: The entrepreneurial roles and intentions of 2015 high school students are stronger than 10 years ago.

The state of the study is illustrated in Figure 2.

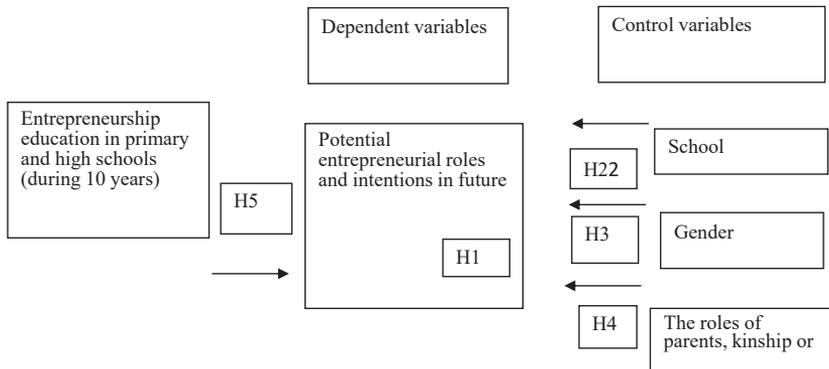


Figure 2. The structure of survey

Methodology

Variables

The research questionnaire is a part of the researcher's dissertation research in 2003. In cooperation with the researcher and Seinäjoki University of Applied Sciences, the form was transformed into a web-based form and the form was summarized and clarified. The researcher arranged a questionnaire

⁶⁹ M. Pajarinen ja P. Rouvinen, *Kilpailukyky à la IMD ja WEF*, Helsinki: Taloustieto (ETLA B263) 2014.

for Polish students at the two high schools in Cieszyn in October 2014. The students of the Teuva High School and the Suupohja Vocational Institute responded to the questionnaire in November 2014. Subsequently, statistical means, std. deviations and significances, variance analysis (ANOVA), linear regression analysis, and T-test were run from the data.

In the comparative study, the results of this study were compared to the results of the 2006-2007 study⁷⁰. Thus, it is possible to compare the answers given by the students of the Finnish and the two Polish high school ten years ago to the answers of the current students. This is not a follow-up study because students are not the same in both studies. The age and class of the students are the same as in the previous study, so there may be indicative results. The age and class of current respondents are the same as 10 years ago, so there are some indicative results.

The statistical significance (p) is used to describe the magnitude of the differences. A small (p) value implies a small random effect as a factor of differences. The smaller (p) value, the more obvious difference between the groups. The P-value is also influenced by the number of respondents and the deviation. The statistically significant difference means that (p) is not more than 0.05.

The form consists of background information as well as sections C (19 prospective entrepreneurial roles for students) and D (20 possible future entrepreneurial intentions for students), which were factorized into five factors to facilitate results. The Likert scale of 1-5 was used in the study.

In the study, Cronbach's alpha was calculated for five variables loaded into different factors as follows:

I Team entrepreneur. A mean variable was generated from eighteen claims (min = 1, max = 5); Finnish respondents: mean = 2.69, sd = 1.04; Polish respondents: mean = 3.00, sd = 0.80. The variable's reliability was good (Chronbach's alpha = 0.96).

II Network entrepreneur. A mean variable was generated from six claims (min = 1, max = 5); Finnish respondents: mean = 2.88, sd = 0.92; Polish respondents: mean = 3.07, sd = 0.75. The variable's reliability was good (Chronbach's alpha = 0.86).

III Family business entrepreneur. A mean variable was generated from four claims (min = 1, max = 5); Finnish respondents: mean = 2.76, sd = 1.15;

⁷⁰ E. Nevanperä, J. Kansikas, *Toisen asteen opiskelijoiden yrittäjyysintentiont*. Tutkimus kansainvälisen yrittäjyyskasvatuksen kontekstissa, „Ammattikasvatuksen aikakauskirja”, 2009 no. 1.

Polish respondents: mean = 2.63, sd = 0.98. Variable Reliability was Good (Chronbach's alpha = 0.85).

IV Subcontracting entrepreneur. A mean variable was generated from the three claims (min = 1, max = 5); Finnish respondents: mean = 2.93, sd = 0.92; Polish respondents: mean = 3.06, sd = 0.89. The variable reliability was very satisfactory (Chronbach's alpha = 0.63).

V Businessman entrepreneur. A mean variable was generated from four claims (min = 1, max = 5); Finnish respondents: mean = 3.02, sd = 0.91; Polish respondents: mean = 3.27, sd = 0.80. Variable Reliability was Good (Chronbach's Alpha = 0.75).

From the point of view of the study, chronbach's alphas are relatively high with one exception (factor IV = 0.63), which means that the meter is good and useful for this study. All claims are presented in Appendix 1.

Data collection and material

Three Finnish vocational schools, one high school and two foreign high schools have participated in the study. Participating institutions are presented in Table 1.

Table 1. The participating schools (in 2015 and the academic year 2006-2007)

Finnish second degree schools (224 respondents, grades 2-3, girls 38%)	Foreign second degree schools (100 respondents, grades 2-3, girls 58%)
Suupohja Vocational Institute; Vocational College (92, girls 31%)	Copernicus High School Poland (61, girls 62%, year 2007 112, girls 51%)
Suupohja Vocational Institute; Commercial College (64, girls 47%)	Evangelical High School Poland (39, girls 51%, year 2007 31, girls 45%)
Suupohja Vocational Institute; Agricultural College (29, girls 18%)	
Teuva High School (39, girls 53%; year 2006 21, girls 5%)	

The students represent four different fields of study. The number of respondents for the academic year 2006-2007 is in brackets (Table 1). In the academic year 2006-2007, the Suupohja Vocational Institute was not involved.

The most respondents are from high schools 139, of which 39 are Finnish. Secondly most respondents are from Vocational College 92; technology and transport, tourism, catering and the economy and social, health and sports. Next the largest number of respondents are from the Commercial

School 64; social sciences, business and administration, and natural sciences. The least respondents, 29; are from the natural resource sector.

Of the Finnish respondents, 34% of the father acted as entrepreneurs and the mother by 20%. Father, mother, or both worked as entrepreneurs by 40%. Of the respondents 81% had several or some entrepreneurs in the family or friends' circle. Similarly, the father of the Polish respondents acted as an entrepreneur by 32% and their mother by 14%. 82% had several or some entrepreneurs in the family or friends' circle. In the academic year 2006-2007, about 50% of respondents had entrepreneur background, i.e. father, mother, or both were entrepreneurs.

RESULTS

Potential entrepreneurial roles and intentions in future

Table 2 shows the reliability of the various parts of the material indicator, the number of respondents, means, standard deviations, minima and maximums. The businessman entrepreneur factor gets the highest mean (3.1) and the family entrepreneur factor is the lowest mean (2.7). The mean differences are not large (2.7-3.1). Significance differences occur with all entrepreneurial factors. Reliability values are high except for business entrepreneur (0.63).

Table 2. Potential entrepreneurial roles and intentions for young people in future, reliability values and other descriptive values

Potential entrepreneurial roles and intentions in future (indicators)	Reliability	N	Mean	Std. Deviation	Minimum	Maximum
Team entrepreneur factor	0,96	321	2,8	,80-1,04	1	5
Network entrepreneur factor	0,86	321	2,9	,75 -,92	1	5
Family business factor	0,85	321	2,7	,98 -1,15	1	5
Subcontracting entrepreneur factor	0,63	321	3,0	,89 -,92	1	5
Businessman entrepreneur factor	0,75	321	3,1	,80-,91	1	5

Copernicus high school gives the highest mean for team entrepreneurship (3,13). Teuva high school gives the lowest mean (2,13). The difference between schools is very significant. Vocational school's mean for team entrepreneurship is also high (3,05). The difference between Teuva high school and vocational school is very significant. The difference between

Teuva high school and Evangelical high school (2,87) is very significant. The mean of vocational school is almost significantly higher than the commercial school's mean. The mean of Copernicus high school is significantly higher than commercial college's mean.

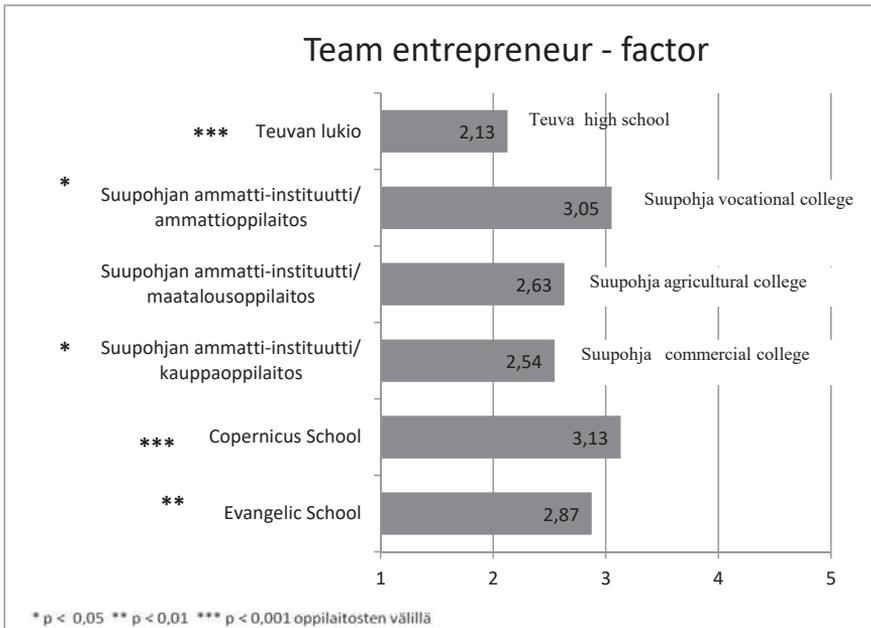


Figure 3. The means of the team entrepreneur factor by schools

The Copernicus high school gives the mean (3,10) for network entrepreneurship and the vocational college gives the mean (3,14). The mean of the commercial college is (2,73) and the mean of the Teuva high school is (2,59). The difference between mean grades of the vocational college and Teuva high school is almost significant. Almost significant difference is also between the Teuva high school and the Copernicus high school. The mean of the vocational college is almost significantly higher than the mean of the commercial college.

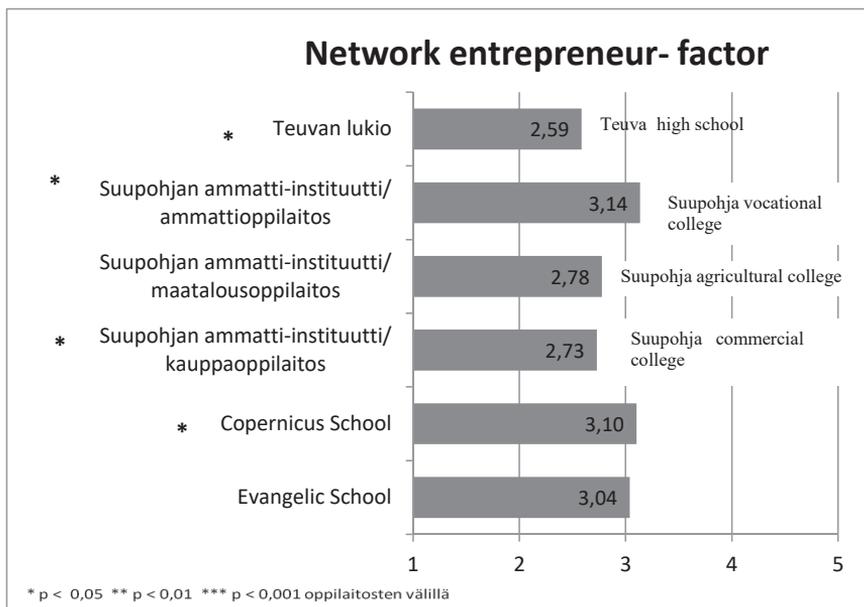


Figure 4. The means of the network entrepreneur factor by schools

The students of the agricultural college seem to have the greatest expectations of continuing the family business (mean 3,55). The lowest mean is given by the commercial college (2,24). The difference is statistically very significant. The Teuva high school gives the lowest mean (2,34). The difference between the Teuva high school and the agricultural college is very significant. The mean of the vocational college (3,05) is significantly higher than the mean of the Teuva high school. The mean of the agricultural college is significantly higher than the mean of the Kopernikus high school. The difference between the Evangelical high school and the agricultural college is significant.

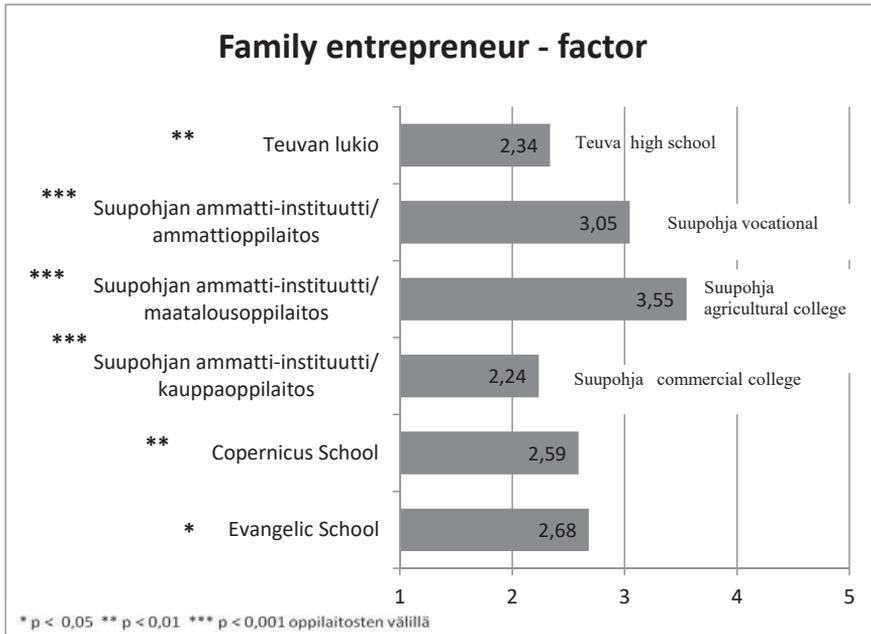


Figure 5. The means of the family entrepreneur factor by schools

The subcontracting entrepreneurship is important for students at vocational college (mean 3.28). The lowest mean is given by Teuva high school (2.54). The difference is very significant. The mean of the Evangelical high school (3.13) is also high. The difference between Teuva high school and Evangelical high school is almost significant.

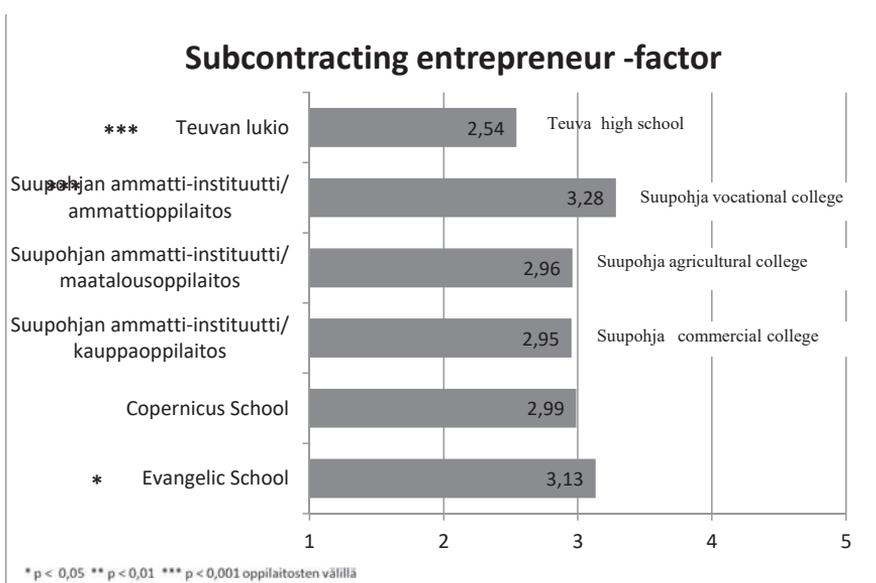


Figure 6. The means of the subcontracting entrepreneur factor by schools

Polish students think that the businessman entrepreneurship is important. The Copernicus high school gives the mean (3.35) and the Evangelical high school gives the mean (3.19). The mean of the vocational school (3.23) is the second highest after the mean of the Copernicus high school. The differences between the means of the Teuva high school, the commercial college and the Copernicus high school are almost significant.

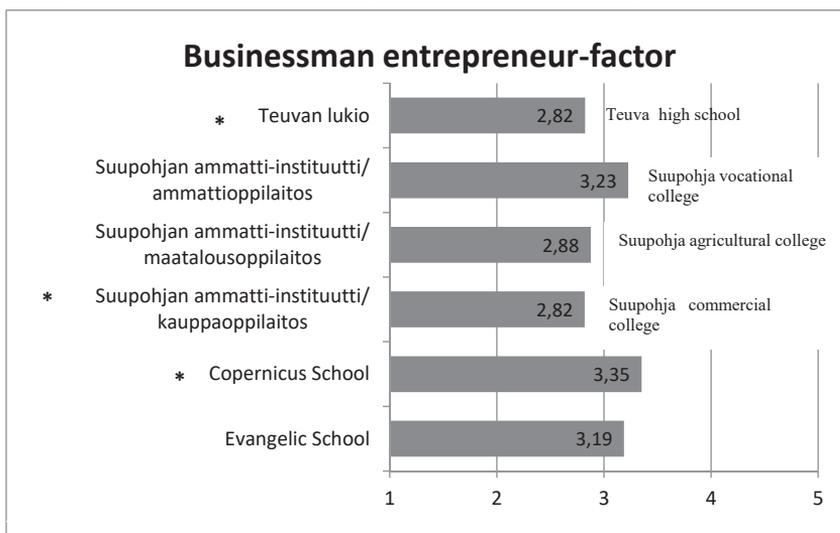


Figure 7. The means of the businessman entrepreneur factor by schools

Different background variables also play a role in the relationship between young people in different entrepreneurial models. Team entrepreneurship does not seem to be in the minds of girls because the mean of girls (2.4) is significantly lower than the mean of boys (2.8).

Girls are considerably less attractive to family entrepreneurship than boys. The mean of boys (2.7) is significantly higher than the mean of girls (2.1). Father's influence is great for family entrepreneurship. Father's entrepreneurial background raises very significantly the mean compared to other students.

Subcontracting entrepreneurship does not seem to interest girls because the mean of girls (2.7) is significantly lower than the mean of boys (3.3). Businessman entrepreneurship is also not in the minds of the girls because their mean (2.85) is lower than the mean of boys (3.1). The difference is symptomatic.

Regression analysis of cross-material

Possible future entrepreneurial roles and intentions

The theoretical model of the study was tested by linear regression analysis. Table 3 illustrates the results of the linear regression analysis as follows: What factors have the influence, when students think about their possible future entrepreneurial roles and intentions.

The control variables or background factors explain 19% about the variation of the family entrepreneurship role / intention factor. Father's entrepreneurial background explains most of the family entrepreneurship role / intention and the second most gender (girl). Father's entrepreneurship and gender (girl) explain the factor very significantly.

Table 3. Linear regression analysis of the material.

LINEAR REGRESSION As a variable to be explained	Family business role / intention	Subcontracting entrepreneur role / intention	Team entrepreneur role / intention	Businessman entrepreneur role / intention
Control variables				
Gender (girl)	-0,61 ***	-0,49 ***	-0,40 **	-0,25 Symtomatic
Father's entrepreneurship	0,66 ***	0,10	-0,04	0,10
Mother's entrepreneurship	0,26	-0,02	0,24	-0,08

Entrepreneurship of close relatives or friends	0,06	-0,12	0,04	0,02
Model fit statistics				
Adjusted R ²	0,189	0,056	0,030	0,002
F-statistics	13,29 ***	4,12 **	2,65 *	1,08
* p 0,05 ** p < 0,01 *** p < 0,001				
Standardized coefficients were used				

The explanation of the subcontracting entrepreneurial role / intention factor is less than 6%. The gender (girl) explains the proportionally most about the subcontracting entrepreneurial role / intention factor. The explanation is very significant. The explanation for the team entrepreneurial role / intention factor is 3%. The gender (girl) explains the relatively most about the team entrepreneurial role / intention factor. The explanation is significant. The explanation of the businessman entrepreneurial role / intention factor is only 0.2%. The gender (girl) explains the relatively most about the businessman role / intention factor. The explanation is symptomatic.

The results of comparison research

Figure 8 compares the means given by upper high school students to future entrepreneurial roles and intentions in 2015 and 2006-2007. Young people are interested in subcontracting and business entrepreneurship today. Significance differences do not occur between the reference years. The mean of family entrepreneurship in 2015 is almost significantly higher than in 2006-2007. The mean of team entrepreneurship came down a little compared to 2006-2007.

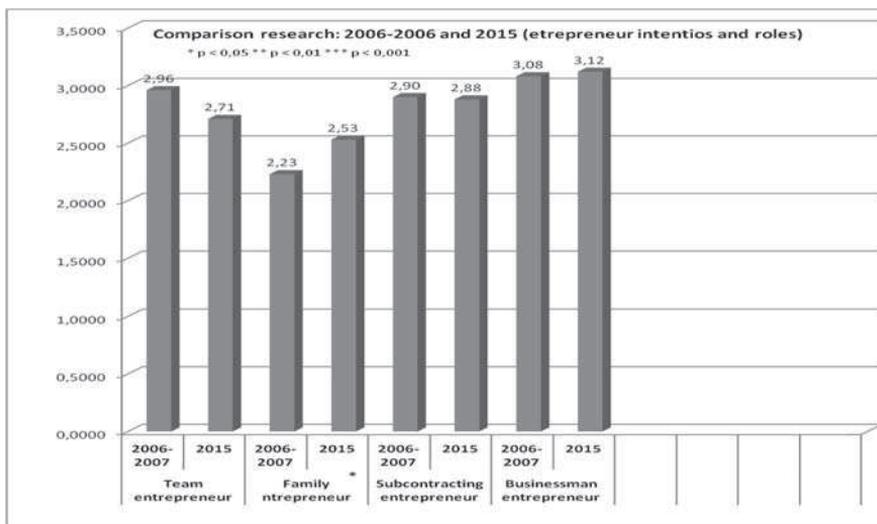


Figure 8. High school students' potential entrepreneurial roles and intentions in future; comparison research between years 2006-2007 and 2015; T-test⁷¹.

When comparing schools' means, it is noticed that only Copernicus high school students gave higher mean to team entrepreneurship in 2015 compared to 2006-2007 (Figure 9). The mean of the Evangelical High School in 2015 (2.87) is almost significantly lower than in 2006-2007 (3.45).

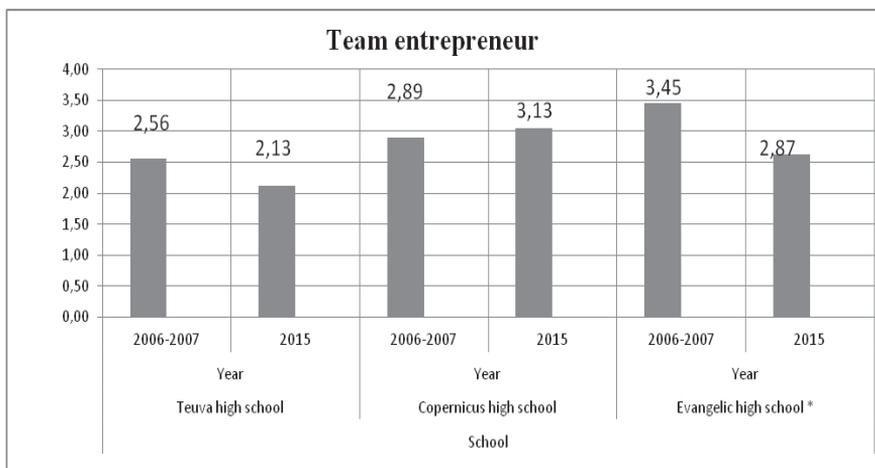


Figure 9. The means of high schools for team entrepreneurship, comparison 2006-2007 and 2015, T-test

⁷¹ J. Metsämuronen, *Tutkimuksen tekemisen perusteet ihmistieteissä*, International Methelp 2005.

In 2015, family entrepreneurship (Figure 10) gets higher means in all high schools than in 2006-2007. The biggest change occurs in the mean of the Copernicus high school. The mean in 2015 (2.59) is almost significantly higher than in 2006-2007 (2.14). The mean of the Teuva High School in 2015 (2.34) is 0.44 higher than in 2006-2007. The difference is not statistically significant.

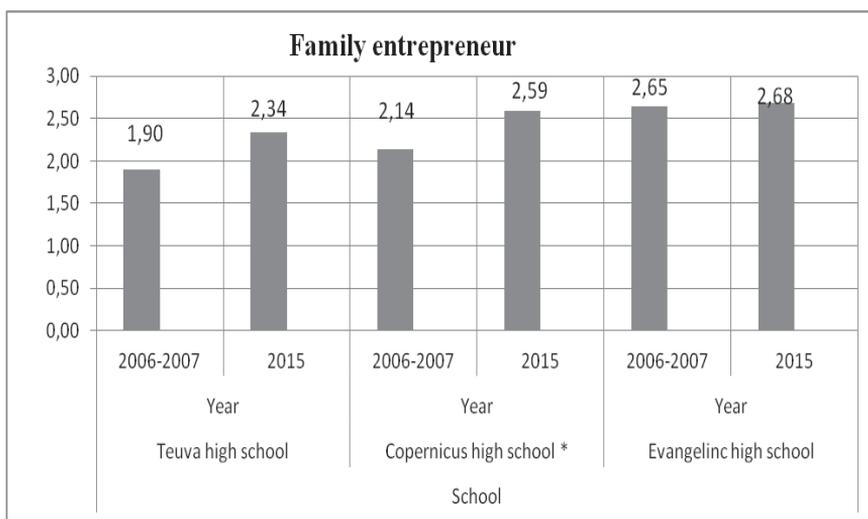


Figure 10. The means of high schools for family entrepreneurship, comparison 2006-2007 and 2015, T-test

Especially the students of the Evangelical high school are interested in subcontracting entrepreneurship. The mean in 2015 (3.13) is 0.29 higher than in 2006-2007 (2.84). The difference is not statistically significant. The mean of Teuva high school has dropped slightly. The difference is not statistically significant.

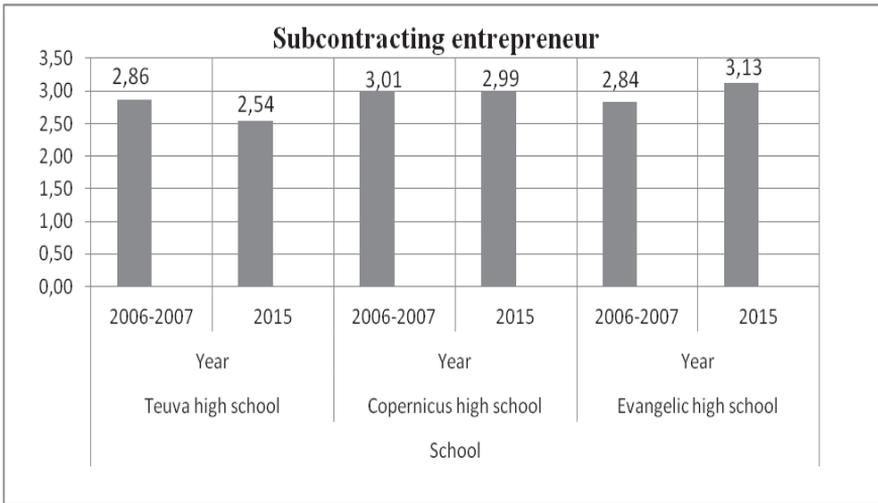


Figure 11. The means of high schools for subcontracting entrepreneurship, comparison 2006-2007 and 2015, T-test

The students of Copernicus high school are interested in businessman entrepreneurship. The mean in 2015 (3.35) is 0.28 higher than in 2006-2007 (3.07). The mean of Teuva high school has dropped slightly. The differences are not statistically significant.

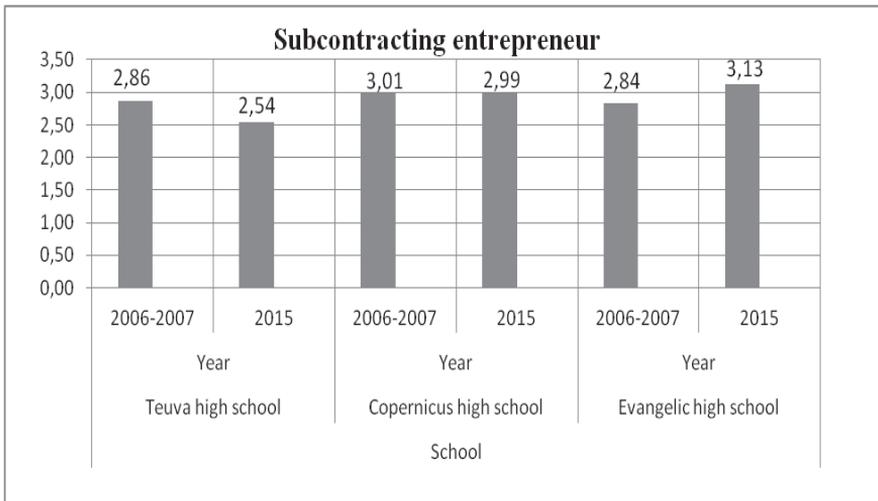


Figure 12. The means of high schools for businessman entrepreneurship, comparison 2006-2007 and 2015, T-test

Conclusion

Summary of the results

The first aim of this study was to find out what kinds of future entrepreneurial roles and intentions have second degree students now. Businessman entrepreneurship interested in both Finnish and Polish young people the most. Second place students give for subcontracting entrepreneurship. Network entrepreneurship gets third, team entrepreneurship is the fourth and family entrepreneurship gets the lowest weight. However, the mean differences are not large (means 3.1-2.7). Hypothesis 1 suggested that both Finnish and Polish students are interested in the future entrepreneurial roles and intentions. *Hypothesis 1 received support.*

The second aim was to find out what the differences between educational institutions are to be seen as a comparison between schools and as an international comparison to potential entrepreneurial roles and intentions of two high school students in South Poland.

Polish Copernicus high school gives the highest average for team entrepreneurship. The lowest is given by Teuva's high school. The difference between schools is very significant. The mean of Copernicus high school is also significantly higher than the mean of commercial school.

Vocational college gives for team entrepreneurship a significantly higher emphasis than Teuva high school. The mean of Polish Evangelical high school is significantly higher than the mean of Teuva high school. The mean of vocational college is almost significantly higher than the mean of commercial college.

Family entrepreneurship is most interested in agricultural school and the least in a commercial school. The difference is very significant. Teuva high school and Copernicus high school give very significantly lower mean and Evangelical high school gives significantly lower mean than the mean of agricultural school. The mean of vocational school is significantly higher than the mean of Teuva high school. The students of vocational school think that subcontracting entrepreneurship is very important. The students of Teuva high school think that it is not important. The difference is very significant. The mean of Evangelical school is also high. The difference between Teuva high school and Evangelical school is almost significant.

Vocational college gives the highest mean for network entrepreneurship and Copernicus high school gives the second highest mean for it. The mean of Teuva high school is again the lowest. The means of Vocational college and Copernicus high school are almost significantly higher than the mean of Teuva high school. The mean of vocational school is almost

significantly higher than the mean of commercial school. Polish students think that businessman entrepreneurship is important. Copernicus high school gives the highest mean and the mean of Evangelical high school is third highest. The mean of vocational school is the second highest. The mean of Copernicus high school is almost significantly higher compared to the mean of Teuva high school and commercial school.

Hypothesis 2 suggested that in students' attitudes for possible future entrepreneurial roles and intentions appear both school-specific and international differences. The weights of Finns are stronger than the weights of Polish. *Hypothesis 2 received partly support.* There are differences between schools. Polish high school students emphasize all entrepreneurial roles and intentions higher than Finnish high school students. The differences are even very significant. Also, compared to the emphasis of Finnish vocational school students, the emphasis of Polish young students is stronger, with the exception of family entrepreneurship.

The third aim was to find out whether there are differences between different sexes. Team entrepreneurship does not interest girls. The difference is very significant compared to boys. Boys also provide a significantly higher mean for family entrepreneurship than girls. Boys give for subcontracting entrepreneurship a much higher mean than girls give. Boys give a symptomatically higher mean for business entrepreneurship compared to girls. Hypothesis 3 suggested that men's entrepreneurial roles and intentions are stronger than women. The hypothesis clearly received support.

The fourth aim was to clear up the impact of role models, ie father, mother, and close circle / circle of friends. The father's influence is really great for family entrepreneurship. Father's entrepreneurial background raises the mean a very significantly compared to other students. *Hypothesis 4 suggested that role models have a positive impact.* The hypothesis received partial support. Father's influence is great. Mother's entrepreneurial background also has an effect, but not statistically.

The comparative study explored the possible future entrepreneurial roles and intentions of the current (academic year 2014-2015) high school students compared to the results obtained about 10 years ago. Subcontracting and business entrepreneurship are of interest to today's high school students. However, there are no significant differences between the reference years. The mean family entrepreneurship in 2015 is almost significantly higher than in 2006-2007.

The mean of team entrepreneurship has fallen somewhat from the 2006-2007 level. Only the students of the Copernicus high school will receive

a higher mean in 2015 than the average for 2006-2007. The mean of the Evangelical High School in 2015 is almost significantly lower than in 2006-2007.

In all high schools, the mean of family entrepreneurship will be higher than the average for 2006-2007 in 2015. The biggest change is in the mean of the Copernicus high school. The mean in 2015 is almost significantly higher than in 2006-2007. The mean of Teuva high school in 2015 is 0.44 higher than in 2006-2007. However, the difference is not statistically significant.

Subcontracting entrepreneurship is of interest to students of Evangelical high school. The mean in 2015 is 0.29 higher than in 2006-2007. The difference is not statistically significant. Business Entrepreneurship is of interest to the Copernicus high school students. The mean in 2015 is 0.28 higher than in 2006-2007. The mean of Teuva high school has dropped somewhat, the difference is not statistically significant.

Hypothesis 5 suggested that current students' attitudes toward potential future entrepreneurial roles and intentions are stronger than about 10 years ago. *The hypothesis received only partial support.*

Practical implications

The study confirmed that the potential future entrepreneurial roles and intentions of Finnish vocational school students are positive. The emphasis of Polish high school students for possible future entrepreneurial roles and intentions are clearly stronger than that of Finnish high school students⁶².

Similar results were also obtained by Nevanperä and Kansikas⁶⁹. The material of that study was collected in 2006 and 2007. In this study, there are significant differences in possible future entrepreneurship intentions between Finnish high school students and Finnish vocational school students. Entrepreneurship intentions of vocational school students are clearly stronger than the intentions of high school students.

The study also confirmed that men's entrepreneurial intentions are much stronger than women. Similar results have also been received by Linan & Chen⁷²; Miettinen and Kokkonen⁷³ and Joensuu et al.⁷⁴. In particular,

⁷² F.Lián, Y.-W. Chen, *Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions*, „Entrepreneurship Theory and Practice” 2009 no. 33(3), p. 593-617.

⁷³ A. Miettinen, S. Kokkonen, *GUESSS 2011-tutkimus (Global University Entrepreneurial Spirit Students' Survey)*, Suomen maaraportti. LUT Tuotantotalous, teknologiayrittäjyys. Lappeenranta 2012.

⁷⁴ S. Joensuu-Salo, E. Varamäki, A. Viljanmaa, *Yrittäjyysaikomusten muutos valmistumisen jälkeen ammatillisella toisella asteella*, „YRITTÄJYYSKASVATUSPÄIVÄT 2015”

men's attitude towards family entrepreneurship and the continuity of family entrepreneurship is really great. Father's entrepreneurial background raises the mean very significantly compared to other students. According to this study, mother's entrepreneurial background also seems to influence student's family business role and intention, although statistical significance is evident. According to other studies, father's and mother's entrepreneurial background has also been influenced by entrepreneurial thoughts, such as Uygun & Kasimoglu⁷⁵, Aarnio⁷⁶ and Joensuu et.al.⁷⁷.

The comparative study confirmed that the development activities related to long - term entrepreneurship education and the increase of student entrepreneurship in primary and secondary education seem to have a positive impact on the mean values given by students to entrepreneurial roles and intentions. The means of family entrepreneurship grew almost significantly. The means of businessman entrepreneurship grew somewhat, and the means of subcontracting entrepreneurship remained the same. For team entrepreneurship, students gave a lower mean in 2015 compared to 2006-2007. However, the difference was not statistically significant.

Young people with entrepreneurial background should be better taken into account in entrepreneurship education and training. It would also be good, especially with regard to women, to raise and face uncertainties and how to deal with them. Thus, believing in your own entrepreneurship and its implementation would be strengthened in practice. In particular, young people with a family entrepreneurship background could tell in entrepreneurship education and training to each other and other young people by multiplying their experiences of the good and bad sides of entrepreneurship. Unemployed and young people under the threat of unemployment have their own view and perspective on the matter. This can be a good and constructive

Turun yliopiston kauppakorkeakoulun Porin yksikön julkaisu, Publication of Turku School of Economics, Pori Unit.

⁷⁵ R. Uygun, M. Kasimoglu, *The emergence of entrepreneurial intentions in indigenous entrepreneurs: The role of personal background on the antecedents of intentions*, „International Journal of Business and Management” 2013 no. 8 (5), p. 24-40.

⁷⁶ L. Aarnio, *Suomen Yrittäjät: Opiskelijasta yrittäjäksi*, Opiskelun ja koulutuksen tutkimussäätiö, Otus 2015.

⁷⁷ S. Joensuu-Salo, E. Varamäki, A. Viljanmaa, *Yrittäjyysaikomusten muutos valmistumisen jälkeen ammatillisella toisella asteella*, „YRITTÄJYYSKASVATUSPÄIVÄT 2015”, Turun yliopiston kauppakorkeakoulun Porin yksikön julkaisu, Publication of Turku School of Economics, Pori Unit.

discussion about the importance of entrepreneurship for the individual and the well-being of the area⁷⁸.

Limitations

The study has limitations mainly due to material. The study was attended by four units of vocational school and one Finnish high school. On the other hand, the respondents from Finland in the survey represent over 40 different municipalities and cities from Helsinki to Oulu. Polish high school students in the study represent the region of Silesia in southern Poland. Another limitation relates to the size of the material. There are 29 respondents in the agricultural school and 39 in Finnish high school. There are also 39 respondents in the second Polish high school.

Follow-up research proposals

The comparative analysis of this study explored the future entrepreneurial roles and intentions of young people mainly at class level. It would be interesting to study at individual level how the perceptions and attitudes of young people change within 10-15 years.

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⁷⁸ S. Joensuu-Salo, E. Varamäki, A. Viljanmaa, *Yrittäjyysaikomusten muutos valmistumisen jälkeen ammatillisella toisella asteella*, „YRITTÄJYYSKASVATUSPÄIVÄT 2015”, Turun yliopiston kauppakorkeakoulun Porin yksikön julkaisu, Publication of Turku School of Economics, Pori Unit.

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**Kontynuacja badań na temat zamiarów uczniów szkół średnich
w zakresie przedsiębiorczości i ról w tym obszarze
Badanie post-doktoranckie w kontekście międzynarodowej edukacji
w zakresie przedsiębiorczości**

Celem artykułu jest określenie zamiarów uczniów szkół średnich w zakresie przedsiębiorczości oraz potencjalnych ról, jakie mogliby pełnić w tym obszarze. Przedmiotem badania uczyniono ponadto określenie, czy owe role i zamiary uczniów szkół średnich we wskazanym obszarze są odmienne od tych, które określono 10 lat temu.

Celem opisanego w artykule badania ilościowego było znalezienie następujących informacji:

1. Jakie rodzaje przyszłych ról i oraz jakie zamiary w obszarze przedsiębiorczości mają obecnie uczniowie szkół średnich?
2. Jaka jest różnica między szkołami fińskimi a dwiema polskimi szkołami?
3. Czy w analizowanym obszarze istnieją różnice międzypłciowe?
4. Jaki jest wpływ wzorów do naśladowania – ojcostwa, macierzyństwa i pokrewieństwa/ przyjaźni – z przedsiębiorczością?

Ponadto próbowano określić:

5. Czy role i zamiary uczniów szkół średnich w obszarze przedsiębiorczości są odmienne od tych, które określono 10 lat temu.

W badaniu uwzględniono następujące czynniki demograficzne: płeć, szkołę, zaplecze w obszarze przedsiębiorczości lub jego brak, a także przedsiębiorczość bliskich krewnych czy osób z kręgu przyjaciół/znajomych. W badaniu uzyskano dane porównawcze z dwóch różnych krajów, porównując perspektywy w zakresie przedsiębiorczości.

Dane zostały zebrane jesienią 2014 roku za pomocą narzędzia (Nevanperä, 2003), które było wcześniej wielokrotnie testowane: Nevanperä

& Kansikas (2008) i (2009), Nevanperä (2014) oraz na Uniwersytecie Wschodniej Finlandii i Vaasa.

W działach badawczych C i D w sumie 39 stwierdzeń (dotyczących zamiarów uczniów szkół średnich w zakresie przedsiębiorczości oraz potencjalnych ról, jakie mogliby pełnić w tym obszarze) zostało podzielonych na pięć czynników, aby ułatwić przetwarzanie wyników. W badaniu użyto pięciostopniowej skali Likerta. Rzetelność uwzględnionych zmiennych (alfa Cronbacha) była wysoka – z wyjątkiem jednej (0,63-0,96).

W badaniu udział wzięło łącznie 324 respondentów – w tym 100 obcokrajowców. 38% fińskich respondentów to dziewczęta, natomiast w grupie zagranicznych respondentów dziewczęta stanowiły 58%. Fińscy studenci biorący udział w badaniu pochodzili z 40 gmin i miast w Finlandii.

W badaniu przeprowadzonym w latach 2006-2007 udział wzięło 21 respondentów z liceum Teuva, 112 respondentów ze szkoły średniej Kopernikus oraz 31 respondentów z liceum ewangelickiego w Cieszynie.

Badania przeprowadzono w: Suupohja Vocational Institute/Vocational College (92 respondentów, 31% dziewcząt), Suupohja Vocational Institute/Commercial College (64 respondentów, dziewczynki 47%), Suupohja Vocational Institute/Agricultural College (29 respondentów, dziewczęta 18%), Teuva High School (39 respondentów w tym 53% dziewcząt; rok 2006 – 21 respondentów w tym 5% dziewcząt), Polskie Liceum Kopernika (61 respondentów w tym 62% dziewcząt; rok 2007 – 112 respondentów w tym 52% dziewcząt) i Polska Ewangelicka Szkoła średnia (39 respondentów w tym 51% dziewcząt; rok 2007 – 31 respondentów w tym 45% dziewcząt). W badaniu wykorzystane zostały następujące instrumenty statystyczne: średnie, odchylenia, wyniki analiz wariancji (ANOVA) oraz analiza regresji liniowej i testy t. Wykazano istnienie znaczących różnic między placówkami oświatowymi w obszarze zamiarów kształcących się w nich uczniów w zakresie przedsiębiorczości oraz potencjalnych ról, jakie mogliby w nim pełnić – w przypadku uczniów szkół polskich były one znacznie bardziej pozytywne, niż w przypadku ich fińskich koleżanek i kolegów. Płeć oraz szeroko pojmowane zaplecze związane z przedsiębiorczością wnoszą istotny wkład w wyjaśnienia odnoszące się do przyszłych ról i zamiarów większości młodych ludzi w analizowanym obszarze. Inne zmienne, stanowiące swego rodzaju tło, również wydają się mieć wpływ na omawiany proces.

Wyjaśnienie roli i intencji przedsiębiorcy rodzinnego jest najwyższe przy rozważaniu zmiennych kontrolnych. To wyjaśnia 19% wariacji. Stosunkowo większość tłumaczy pochodzenie przedsiębiorcze ojca i drugą pod względem płci płć (dziewczynka). Dziewczęta traktują interesy rodzinne

i kontynuowanie rodzinnego biznesu znacznie mniej niż chłopcy. Postawa przedsiębiorcza ojca znacznie podnosi średnią w porównaniu z innymi uczniami. Przedsiębiorcze pochodzenie matki ma również pozytywny wpływ.

Wśród wziętych pod uwagę zmiennych to dysponowanie przedsiębiorczym (charakteryzującym się przedsiębiorczą postawą) członkiem rodziny okazało się mieć największe znaczenie (wyjaśniało 19% wariacji wyników). Okazało się ponadto, że dziewczęta rzadziej rozważają udział w rodzinnym interesie, niż chłopcy. Zarówno przedsiębiorcza postawa ojców, jak i matek osób badanych wywierała pozytywny wpływ na ich plany w analizowanym zakresie.

Podwykonawstwo i przedsiębiorczość są interesujące dla dzisiejszych uczniów szkół średnich. Nie ma jednak istotnych różnic między wynikami zgromadzonymi w różnych latach. Średnia przedsiębiorczości rodzinnej w 2015 r. jest niemal istotnie wyższa, niż w latach 2006-2007.

Średnia przedsiębiorczości zespołu spadła nieco od poziomu z lat 2006-2007. Tylko uczniowie Liceum Kopernika otrzymają wyższą średnią w 2015 r. Niż średnia za lata 2006-2007. Średnia ewangelickiego liceum w 2015 r. Jest prawie znacznie niższa niż w latach 2006-2007. Również w przypadku pozostałych analiz, w których przedmiotem porównań były wyniki uzyskane w latach 2006-2007 oraz w roku 2015 uzyskane zostały interesujące wyniki, wskazujące na zmiany, jakie zaszły w omawianym zakresie.

Słowa kluczowe: poglądy na temat przedsiębiorczości, role i zamiary, szkoły średnie, kształcenie w zakresie przedsiębiorczości, międzynarodowość.

Follow-up research about juvenile degree school students' entrepreneur intentions and entrepreneur roles

Post-doc –study in the context of international entrepreneurship education

The purpose of the article is to find possible prospective entrepreneurial roles and intentions of second degree students. In addition, it is being studied whether the future entrepreneurial roles and intentions of high school students are different compared to the data obtained 10 years ago.

The aim of this quantitative study is to find out the following:

1. What kinds of future entrepreneurial roles and intentions have second degree students now?

2. What is the difference between the Finnish schools and the two Polish schools?
3. Are there differences between the different genders?
4. What is the effect of role models, that is, fatherhood, motherhood and kinship / friendship with entrepreneurship?

In addition, it is being studied

5. Whether the future entrepreneurial roles and intentions of high school students are different compared to the data obtained 10 years ago.

Demographic factors include gender, school, entrepreneurial and non-entrepreneurial background, as well as entrepreneurship of a close relative / friendship circle. The study produces comparative data from two different countries by comparing the entrepreneurial outlook.

The material was collected in autumn 2014 by a co-meter Nevanperä (2003). The meter and its components have been tested several times: Nevanperä & Kansikas (2008) and (2009), Nevanperä (2014) and at the University of Eastern Finland and Vaasa.

In research sections C and D, a total of 39 claims (future entrepreneurial roles and intentions of students) were factored into five factors to facilitate the processing of results. The Likert scale of 1-5 was used in the study. The reliables of variables (Cronbach alfas) were high except one (0.63-0.96).

There are a total of 324 respondents, of whom 100 are foreign. 38% of Finnish respondents are girls and 58% of foreign respondents are girls. Finnish students in the study are from 40 municipalities and cities in Finland.

In the 2006-2007 survey Teuva high school had 21 respondents, Kopernikus high school 112 respondents and Evangelical high school 31 respondents. Polish students live in Cieszyn town, in southern Poland and in the surrounding Silesian province

The study institutes are Suupohja Vocational Institute / Vocational College (92 respondents, 31% girls), Suupohja Vocational Institute / Commercial College (64 respondents, girls 47%), Suupohja Vocational Institute / Agricultural College (29 respondents, girls 18%). Teuva High School (39 respondents, 53% girls; year 2006 21 respondents, 5% girls), Polish Copernicus High School (61 respondents, 62% girls; year 2007 112, 52% girls) and Poland Evangelical High School (39 respondents, 51%; year 2007 31 respondents, 45% girls). The research data has been based on statistical means, deviations, meanings (variance analysis / ANOVA), linear regression analysis and t-test in University of Applied Sciences Seinäjoki.

There are considerable differences between educational institutions in attitudes towards future entrepreneurial roles and intentions. The future entrepreneurial roles and intentions of the Polish high school students are significantly more positive than the roles and intentions of the Finnish high school students. Gender and entrepreneurship background explain most young people's future entrepreneurial roles and intentions. Other background variables also seem to have an effect.

The explanation for the family entrepreneur's role and intention is the highest when considering the control variables. These explain 19 % of the variation. Relatively, most explains the father's entrepreneurial background and the second most gender (girl). Girls regard family business and continuing of the family business very significantly less than boys. Father's entrepreneurial attitude raises the mean very significantly compared to other students. Mother's entrepreneurial background also has an uplifting effect.

Subcontracting and business entrepreneurship are of interest to today's high school students. However, there are no significant differences between the reference years. The mean of family entrepreneurship in 2015 is almost significantly higher than in 2006-2007. Also in the case of other analyzes, in which the results of comparisons was the data acquired in 2006-2007 and in 2015, interesting results were obtained, indicating changes that have occurred in the discussed area.

Keywords: entrepreneurship views, roles and intentions, second degree, entrepreneurship education, internationality.

Appendix 1. Claims related to the average variables (factors).

I Team entrepreneur

After school and study (encircle own opinion):

What are you thinking about your possible entrepreneur role and intentions?

Although you would be sure, that entrepreneurship is not your kind,

read all alternatives and answer them, because entrepreneur role and intentions can be well many type. Answer alternatives are:

1= completely different opinion

2= almost different opinion

3= I don't know

4= almost same opinion

5= completely same opinion

I start production activity practising company.....

I search for the finance to my business idea

- I try own product preparation
- I operate in the team, which aspires to develop new business ideas
- I develop privately new product or service.....
- I am going to invest to the private business dealings.....
- I start the company of the service industry
- I search cooperation partners for me to start business
- I am in search of active business dealings possibilities.....
- I start the trade of the shop company
- I intend to participate to the company establishing course.....
- I start expert company (I sell my skill)
- I develop commercial skill for me to start own business
- I develop my skill to be able to start own entrepreneurship..
 - I intend to study entrepreneurship by way of the apprenticeship contract
- I intend to participate to the company establishing course.....
- I intend to get patent to the invention..
- I get extra incomes by selling the products of the network economy

II Networking entrepreneur

As the network marketing entrepreneur, which sells products by way of their own friendship network (for example Tupperware,

Golden Products (the washing powders), Oriflame cosmetics)

As the cooperative society entrepreneur
which sells his skills as the part work of the cooperative society

As the expert entrepreneur, who's operation is based on
education and experience acquired through the sale of expertise.

As the interior entrepreneur who works
as the developer of the work community initiatively

As the interior entrepreneur who produces the innovation
on another's duty

As the interior entrepreneur who is working on another's duty
but the income are mainly commissions (bonus)

III Family entrepreneur

As the forestry entrepreneur, whos activity is based on
the care of own forest farmhouse

To continue the company of own parents

As the agriculture entrepreneur, whos activity is based on the care of
own farmhouse

I continue parents' entrepreneurship (company)

IV Subcontracting entrepreneur

As the subcontracting entrepreneur, who's activity is based on selling of the skill or production capacity to larger companies

I try own product preparation

As the inventor entrepreneur, whos activity is based on profiting of own handicraft

V Businessman entrepreneur

As the businessman entrepreneur, whos activity is based on trading and different business work

As the boss entrepreneur, who's activity is based on leading of own company with many employees

As the expert entrepreneur, whos operation is based on education and experience acquired through the sale of expertise.

As the scientist entrepreneur, which activity is based on learnt and self learnt and self commercializing of the developed scientific information.