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Education of women entrepreneurs

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***Abstract*:** In this paper, we discuss the education of women entrepreneurs in different life stages. Education is one of the most widely used indicators of human capital. We assume that there are significant differences among women entrepreneurs at different stages of their lives, in the Early Career and Idealistic Achievement phase, Mid-Career or phase of Pragmatic Endurance, and thirdly, Advanced Career or Reinvention and Recontribution phase. Entrepreneurial women are well aware of and value the knowledge of their businesses. A sizable portion of female entrepreneurs is pursuing higher levels of education and training throughout their careers. A rather low index of business training before starting entrepreneurship and also a low index of ongoing training in business areas, especially in the area of business strategies and management, may mean that this is one of the weak points of female entrepreneurship in our country. Based on the findings of this research we also suggest that educating and promoting entrepreneurship among highly educated female professionals is a challenge to policymakers.

***Keywords*:** woman entrepreneurs, female entrepreneurship, life stages, human capital, woman education

***JEL classification codes*:** M13, J16

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Izobraževanje podjetnic

***Povzetek*:** V prispevku obravnavamo izobraževanje podjetnic v njihovih različnih življenjskih fazah. Izobrazba je eden najbolj razširjenih kazalnikov človeškega kapitala. Predvidevamo, da obstajajo pomembne razlike med podjetnicami v njihovih različnih življenjskih fazah, oziroma v Zgodnji karieri ali fazi idealističnih dosežkov, Srednji karieri ali fazi pragmatične vzdržljivosti in tretjič, Napredni karieri ali fazi ponovnega odkrivanja (izumljanja) in ponovnega prispevanja. Podjetnice se dobro zavedajo pomena svojega poslovnega znanja in ga zelo cenijo v svojih podjetjih. Precejšen del podjetnic si v svoji karieri prizadeva za višjo stopnjo izobrazbe in usposabljanja. Precej nizek indeks poslovnega usposabljanja pred vstopom v podjetništvo in tudi nizek indeks sprotnega usposabljanja na poslovnih področjih, predvsem na področju poslovnih strategij in vodenja, lahko pomeni, da je to ena izmed šibkih točk ženskega podjetništva pri nas. Na podlagi ugotovitev raziskave tudi menimo, da izobraževanje in spodbujanje podjetništva med visoko izobraženimi strokovnjakinjami predstavljata izziv za oblikovalce politik.

***Ključne besede*:** podjetnice, žensko podjetništvo, življenjske faze, človeški kapital, izobrazba žensk

1 Introduction

In the introduction chapter, we discuss two important elements of the research construct which are (i) the theory of women entrepreneurs' life stages and (ii) the dimensions of measuring human capital

1.1 Women entrepreneurs' life stages

Given the research (e.g. Bennett & Dann, 2000; Davis & Shaver, 2012), we assume that there are significant differences between women entrepreneurs at different stages of their lives. This is also the finding of O'Neil & Bilimoria (2005). In their research on women's career development. Career orientation, pattern and beliefs manifest themselves differently in three stages, which we will also use in our study:

Early Career and Idealistic Achievement phase between the ages of 24 and 35; Mid-Career phase between the ages of 36 and 45, women are driven by pragmatic resilience; and Advanced Career phase between the ages of 46 and 60, women are driven by re-contributing to the community, family, or organization.

Education and knowledge are the basic elements of human capital, which increases an individual's cognitive capacity and enables him or her to function more effectively and productively (Becker, 1975; Mincer, 1985; Schultz, 1959). When defining human capital, it is not only the level of education that is important but also its product, i.e. knowledge and skills (Unger et al., 2011). The degree of development and the importance of a particular type of human capital in an organisation determines the extent to which a firm will outsource (Mayer et al., 2012), as well as the likelihood that employees will choose to become entrepreneurs after a certain period of time (Amaral et al., 2011). The ability to identify entrepreneurial opportunities is related to education, work experience and entrepreneurial experience (Stuetzer et al., 2013; Davidsson & Honig, 2003; Ucbasaran et al., 2010). Entrepreneurs with higher levels of human capital identify many more entrepreneurial opportunities (Ucbasaran et al., 2010) and exploit them more effectively (Ravasi & Turati, 2005). The human capital of an entrepreneur is an important prerequisite for the further acquisition of other resources for the organisation, such as physical and financial capital (Brush et al., 2009). The impact of traditionally measured human capital in the form of education and prior entrepreneurial experience is greater at the beginning of the entrepreneurial journey, but its impact on firm development and performance is smaller or more difficult to determine at later stages (Unger et al., 2011; Davidsson & Honig, 2003). The highest level of education is shown to be important for success in developing innovative ideas in high-tech sectors (Obschonka et al., 2011). Samuelsson & Davidsson (2009), in a comparison of innovative and imitative firms, find that the highest level of education, i.e. a science degree, is extremely important in the pursuit of innovative entrepreneurial ideas and in obtaining all kinds of resources for the growth of technology firms. Unger et al. (2011) suggest that entrepreneurs should invest in targeted knowledge acquisition, which is more important than prior experience for the success of the venture. Research on human capital outflows to new ventures (Campbell et al., 2012) shows a higher propensity to entrepreneurship among employees with higher levels of human capital. Employees with a high level of knowledge and experience decide to pursue an independent path after some time in an existing organisation, despite high incomes, because they are driven by motives such as a desire for autonomy and independence, or because they see an opportunity that they cannot exploit in their existing organisation. However, Koellinger et al (2013) point out that age, work experience and education influence attitudes towards entrepreneurship through their impact on individuals' perceptions. Millan et al. (2014), studying the impact of human capital in society on entrepreneurial performance, show a marked positive impact of the population's tertiary education enrolment on entrepreneurial success, employment and persistence. In societies with higher educational attainment, self-employed individuals are

more likely to become and remain employers, and educated personnel are also better able to provide appropriate services for the higher demands of highly educated customers. Some researchers (Davidsson & Honig, 2003; Delmar & Shane, 2006; Ployhart & Militerno, 2011) consider that educational attainment influences an individual's decision to become an entrepreneur, while Unger et al. (2011) find that human capital is not necessarily a determinant of entrepreneurial entry, but is generally an advantage for the individual who chooses to venture into entrepreneurship. Women entrepreneurs with higher levels of human capital are better able to identify new entrepreneurial opportunities, generate new ideas and demonstrate creativity in the areas of new product introductions, services, production processes and locations, all of which have an impact on the growth potential of their firms (Roomi, 2013). For women in transition countries, the importance of specific human capital for growth is evident (Manolova et al., 2007).

Measuring general educational attainment and prior experience is likely to be a good predictor of an entrepreneur's success over a lifetime, but entrepreneurial success is often measured in a specific context, so it is better to use targeted human capital for such assessments (Unger et al., 2011). The importance of knowledge and proactive learning is of great importance for the success of firms in developing and transition countries (Unger et al., 2011).

1.2 Dimensions for measuring human capital

Human capital theory (Becker, 1976; Mincer, 1975) assumes that individuals with more knowledge, skills and other competences outperform those with less knowledge, skills and competences (Ployhart & Moliterno, 2011). The probability of early entrepreneurial activity increases with each year of education (Davidsson & Honig, 2003). Entrepreneurial success is influenced by investments in general human capital (Unger et al., 2011), as well as investments in specific human capital, both in the form of academic entrepreneurship education and entrepreneurial skills training (Martin et al., 2013). The importance of the form of human capital changes with the evolution of entrepreneurial activity (Martin et al., 2013; Stuetzer et al., 2013).

Investing in human capital development helps the performance of women's firms more than men's firms (Bird et al., 2001). The process of discovering entrepreneurial opportunities for women is linked to learning and innovation, which means that women entrepreneurs are more likely to consider and develop their entrepreneurial idea towards specialisation. This approach may be due to different motives and also to different sets of entrepreneurial competences. In any case, the research contributes to the understanding of our differences, which all lead to successful and innovative outcomes, but shows that approaches to entrepreneurial training should be different for different groups (DeTienne & Chandler, 2007).

We conclude that different groups of women entrepreneurs also need different approaches to investing in human capital. As Samuelsson & Davidsson (2009) note, imitative firms are affected by different types of human capital than innovative firms.

2 Hypotheses

Based on the previous findings, we hypothesize that educational attainment is general human capital (DeTienne & Chandler, 2007) and specific human capital is specific knowledge acquired in school and specific training (DeTienne & Chandler, 2007; Kreiser et al., 2013; Bird et al., 2001).

Hypothesis H1: There are differences in levels of schooling attainment between groups of women entrepreneurs at different stages of life. GENERAL HUMAN CAPITAL

Hypothesis H2: There are differences in the business background acquired in school or specific training between groups of women entrepreneurs at different stages of life. SPECIFIC HUMAN CAPITAL

Hypothesis H1 refers to the educational attainment with which an individual invests in human capital that enables her to choose a job (Baker, 1995). In human capital theory, education is also used as a measure of entry into entrepreneurship (Bates, 1995), as it increases general knowledge and helps to integrate and acquire other types of knowledge and experience, to adapt to new situations and acquire tacit knowledge (Davidsson & Honig, 2003).

As a measure of schooling attainment, we use the level and direction of current education and the level and direction of education attained when the first firm was founded to test hypothesis H1. We summarize the questions from previously conducted studies (Koellinger et al., 2013; Manolova et al., 2007;). When asking for possible answers for the level of education completed, we take into account the possibility that the women entrepreneurs completed their education in the years before the introduction of the Bologna system, so the possible answers are as follows: primary school, vocational school, secondary school, college, college or university degree, specialization, master's degree, doctorate (Davidsson & Honig, 2003; Manolova et al., 2007; De Carolis et al., 2009). We measure specific human capital in the form of education major in line with findings that educational major is an important factor in women's entry into entrepreneurship (Bird et al., 2001). The measure is set up in line with Manolova et al. (2007) and Davidsson & Honig (2003) as a binary variable, namely technical/natural science education or business education.

There are several types of training for budding entrepreneurs to prepare them for their entry into entrepreneurship and their first steps. Some programmes offer a broad range of skills, while others are more narrowly focused. To test hypothesis H2, which refers to differences in business knowledge acquired at school or in specific training, we ask women entrepreneurs whether they have ever attended any seminars or workshops related to starting a business. The answer is binary.

We are also interested in human capital in the form of knowledge that women entrepreneurs acquire while running their businesses. We, therefore, ask women entrepreneurs about the frequency of their training in specific areas. The areas of training are divided into seven groups: leadership, communication and relationships; planning and organization; specific skills (finance and accounting, law, technology, HR); computer tools; languages; occupational safety and ecology; teamwork. The frequency of training is measured on a scale of 1 to 5, where 1 means 'never' and 5 means 'very often'.

3 Methods, population and sample

Slovenia does not have a data collection system in place that would allow for the immediate identification of women-owned enterprises. For the survey, we collected the companies that we assessed as women-owned enterprises from the set of the basic database of the Business Register of Slovenia. The data was provided to us for research purposes by Bisnode. The questionnaire was fully completed by 340 women entrepreneurs, giving us a response rate of 3.4%.

In our study, we test the null hypothesis that the social and human capital of women entrepreneurs of all age groups is equal. The null hypothesis, therefore, assumes that the arithmetic means of the selected variables are the same for all groups. The groups of women entrepreneurs are compared and stratified according to their age. Our dependent variable

is therefore categorical or nominal, while the independent variables are numerical. A statistical technique that is suitable for dealing with such cases is multiple discriminant analysis (Hair et al., 2010, 236). Before we perform multivariate analysis, we use univariate or bivariate techniques to analyse the variables.

In the first stage, we used the chi-square test and analysis of variance to test for differences in the identified dimensions of human and social capital. The first method is used to measure the association of categorical variables. From the contingency table, it is possible to see whether the proportions of respondents differ by age group. To test our hypotheses, we used analysis of variance to test for differences in index values by age group. Each index was derived from the average of a different number of variables that make up a given construct.

4 Results and discussion

Each construct consists of a different number of variables. To finally test the hypotheses, we transformed them into composite variables, resulting in nine composite variables, which were further analysed. To test the hypotheses, an analysis of variance was used to test for differences in the values of these nine composite variables according to age groups.

In the next stage, a discriminant analysis was carried out to check whether the selected criteria represented by the composite variables explained the differences between the predefined groups of women entrepreneurs.

4.1 Educational view of human capital

To test for differences in human capital, we developed two constructs: (i) educational attainment and (ii) business knowledge acquired through education. Each of these constructs is tested with a different number of variables. The criteria for these constructs are taken from previous studies and the scales of their answers are not uniform. While the criteria have been widely used in previous studies for analyses and comparisons of performance, our research aims to compare human and social capital among women entrepreneurs, and here we analyse the differences between each group of women entrepreneurs. In the first step, we compare each variable separately using a chi-square test or analysis of variance, and only in the next step do we unify and combine the variables into nine constructs, i.e. five constructs of human capital and four constructs of social capital.

First, we present the cross-tabulations of the variables by life stage. For the individual variables, we had to aggregate some categories to satisfy the condition for using chi-square statistics as a measure of association, according to which the theoretical frequency should have at least five units in each cell of the contingency table.

4.2 School education achieved

Educational attainment is one of the most common and widely used indicators of general human capital (Becker 1964; Boden and Nucci 2000). Higher general human capital is thought to better prepare entrepreneurs to adapt to external changes in their entrepreneurial path (Welter and Smallbone 2010). We construct school attainment from four variables relating to educational attainment: (i) educational attainment at the time of business start-up, (ii) educational attainment today, (iii) technical education today, and (iv) business education today.

First, we compare the educational attainment of women entrepreneurs at the time of their business start-up. Just under 40 % of female entrepreneurs had completed either secondary or less than secondary education (132) or higher education (134) at the start-up of their business. Almost half of the youngest female entrepreneurs (40) had already completed

higher education at the start-up of their business, and this proportion decreases with age. Among female entrepreneurs aged 45 and over, 32% (48) are such. However, this group has the highest proportion of those with higher education at the start of the business, with 18% (27) of the oldest female entrepreneurs, 13% (14) of those in the middle group and only 8.5% (10) of the youngest female entrepreneurs having such qualifications. 27% (10) of the oldest female entrepreneurs have higher education at the start of the business.

Based on the chi-square statistic, we cannot confirm that there are statistically significant differences in education at the start of the business between female entrepreneurs at different stages of life ($p = 0.137$; $df = 6$; $x^2 = 9.721$).

The higher share of university graduates among younger women entrepreneurs and the lowest share among older women entrepreneurs at the time of business start-up could be explained by the reasoning that older women entrepreneurs are more likely to be those who were driven into entrepreneurship out of necessity due to job losses during the economic transition. On the other hand, there are more younger and more educated women entrepreneurs, perhaps because the recruitment of young educated people has become more complex in the last years or decade.

Women entrepreneurs have increased their level of education since starting their businesses. The share of all women entrepreneurs who have attained tertiary education or more has increased to 43.8% (149), while the share of women entrepreneurs with secondary education or less (27.6%, 94) is lower compared to the time when they started their business, and the share of women entrepreneurs with postgraduate education is higher, increasing from 7.6% (26) to 12.1% (41). More than half of female entrepreneurs aged 45 and under (120) now have a university degree or higher. The statistically significant proportion of the oldest entrepreneurs with a university degree is probably due to changes in the education system. The oldest female entrepreneurs have the statistically significantly lowest share of those with higher education (35.3%, 53) and the statistically significantly highest share of those with completed secondary education (33.3%, 50). Based on the chi-square statistic, we can confirm that there are differences in the level of educational attainment between female entrepreneurs at different stages of life ($p = 0.021$, $df = 6$; $x^2 = 14.92$).

It is also interesting to note that the proportions of all but the lowest level of education of the surveyed female entrepreneurs (secondary and below) have significantly improved over the observed periods, indicating that a significant proportion of female entrepreneurs are pursuing higher levels of education and training throughout their careers and therefore understand and value the importance of knowledge for their business success.

Just over a third of women entrepreneurs (124) have a degree in a technical or natural science discipline. The proportion is slightly higher among the youngest (39%, 32) and oldest (37.8%, 56) female entrepreneurs, while in the middle group the proportion is 33.3% (36), but there are no statistically significant differences between them. Based on the chi-square statistic, we cannot confirm that there are statistically significant differences between the proportions of female entrepreneurs at each life stage who have obtained a science and technology degree ($p = 0.67$, $df = 2$; $x^2 = 0.800$).

Half of the women entrepreneurs (165) answered that they had attained any level of business education. Among them, the share of older women entrepreneurs is predominant. As many as 60% (90) of female entrepreneurs aged 45 and over and 43% (46) of female entrepreneurs aged 35-45 have attained a business degree. Among the youngest, the proportion is reversed, with only 38.3% (31) of female entrepreneurs aged 35 and under having attained some type of business qualification. In contrast to Slovenian women entrepreneurs, for example, British women entrepreneurs are less educated in business, with 83% having no business degree.

Based on the chi-square statistic, we can confirm that there are differences between female entrepreneurs of different ages who have obtained a business degree ($p = 0.002$; $df = 2$; $x^2 = 12.678$).

The common variable or education attainment index was created by first transforming the scale for each of the variables to an interval between 1 and 5. The new variable was calculated as the average of these four variables. The educational attainment index is 3.01 for the youngest age group, 2.91 for the 36-45 age group and 3.04 for the over-45 age group, which is higher than the average of 2.99. Based on the chi-square statistic, we cannot confirm that there is a statistically significant difference in educational attainment between women entrepreneurs at different stages of life ($p = 0.469$, $F = 0.758$)

4.3 Business knowledge acquired through training

For our research, the next construct that constitutes human capital is the business knowledge acquired by women entrepreneurs at school or in specific training courses. We constructed it from three sets of variables.

The first set of variables relates to the frequency of participation in training and education in eight areas. The possible answers were given on a Likert scale from 1 to 5 (never, rarely, sometimes, often, very often). To compare the answers between the different age groups, we used analysis of variance and Tukey's post hoc test if the assumption of the equality of variances held, which was tested using Levene's test. Otherwise, we performed the Tanhane post hoc test, which does not require the assumption of the equality of variances. The next set of variables relates to the attendance of a seminar on setting up and running a business, where two answers were possible (yes, no). The last set of variables relates to pre-founding training in nine different areas, where two answers were possible (yes, no). The association of these variables with the age of the women entrepreneurs was tested with a chi-square test.

Women entrepreneurs rarely attend different training courses and seminars. In the last year, they have most often attended training in specific skills, but the average score of 2.53, which ranges between rarely (score 2) and sometimes (score 3), is still low. On average, all respondents say that they rarely attend the other training courses listed. Analysis of variance shows that there are no specific differences between women entrepreneurs at different ages in the frequency of attending seminars and training in the areas of management (mean score 1.91), communication and relationships (mean score 1.96), planning and organisation (mean score 1.93), languages (mean score 2.2) and teamwork (mean score 1.91). The post hoc analysis showed that there is a difference between the oldest and the youngest female entrepreneurs in the frequency of attending training courses on specific skills such as finance and accounting, legal aspects, technology, and human resources ($p = 0.001$; $F = 6.716$), and seminars on occupational safety and environmental protection (ecology) ($p = 0.027$; $F = 3.639$) and computer science ($p = 0.041$; $F = 3.216$). Older women entrepreneurs are more likely than younger women entrepreneurs to receive training in all areas, which is probably due to the difference in the activities carried out by women entrepreneurs from the different groups, as these seminars are more of a compulsory nature to meet the legal criteria for carrying out a certain activity.

Less than one-third of the respondents (100) had attended a seminar on setting up and running a business before setting up their own business. The proportion decreases with the age of the women entrepreneurs. 46.3% (37) of the youngest respondents and only 22.3% (33) of the women entrepreneurs over 45 years of age had received such training. Based on the chi-square statistic, we can confirm that there is a statistically significant difference ($p = 0.001$; $x^2 = 14.272$; $df = 2$) between the female entrepreneurs of different ages who have received initial entrepreneurship training. This difference may be attributed to the fact that

younger women entrepreneurs attend such seminars and training, as they have recently become very accessible, even free of charge, by various institutions with project funding. A large amount of this type of content is also available online.

When asked about the different forms of training before setting up a business, the answers of women entrepreneurs of different years do not differ statistically significantly. Before starting a business, 32.8% of all female entrepreneurs (108) had received training on legal aspects of the business ($p = 2.143$; $df = 2$; $x^2 = 0.343$), 30.7% (101) had received training on marketing ($p = 5.383$; $df = 2$; $x^2 = 0.068$), 26.5% (86) in sales ($p = 3.208$; $df = 2$; $x^2 = 0.201$), 49.7% (164) in accounting and finance ($p = 3.411$; $df = 2$; $x^2 = 0.128$), 33% (107) in management ($p = 1.312$; $df = 2$; $x^2 = 0.519$), 16.6% (53) in international business ($p = 0.250$; $df = 2$; $x^2 = 0.883$), 29% (94) in business strategy ($p = 2.836$; $df = 2$; $x^2 = 0.242$), only 7.1% (23) in the field of e-commerce ($p = 1.415$; $df = 2$; $x^2 = 0.493$) and 12.1% (39) in the field of management information systems ($p = 4.474$; $df = 2$; $x^2 = 0.107$).

Although the proportions of female entrepreneurs at different stages of life do not differ statistically significantly according to their training before starting their entrepreneurial career, some differences can be observed between younger and older women. For example, younger women entrepreneurs were more likely to have received training related to new technologies, marketing and sales, while older women entrepreneurs were more likely to have received training in legal aspects of business and accounting. However, we do not know whether the difference is due to different offerings or different interests of women entrepreneurs from different age groups.

4.4 Overview of the composite human capital variables

The two constructs of human capital are composed of different numbers of variables. Each of these variables has so far been analysed using chi-square statistics or analysis of variance to see how they differ between women entrepreneurs at different stages of their lives.

For each group of women entrepreneurs, we have created a composite variable or a total index of each construct of human and social capital. This common variable was constructed by first transforming the response scale for each of the variables to an interval between 1 and 5. The composite variable or index of each factor was calculated as the average of these individual variables. In the following, we show once again all the calculated composite variables based on which the individual hypotheses were accepted in the first stage. They are always denoted by the hypothesis being tested with a particular composite variable.

Table 1 summarises the composite variables or indices of all the constructs that were used to compare the level of the human capital of women entrepreneurs in the three age groups. For all women entrepreneurs, the highest index is that of educational attainment, with a score of 2.99 on a five-point scale. This score is also consistent with findings on the relatively high educational attainment of women entrepreneurs in transition countries (Manolova et al.; Manev, 2007). The composite variable for prior industry experience follows with a score of 2.33, the index of business background reaches 2.11, the index of prior entrepreneurial experience reaches 1.89, and the index of prior managerial experience reaches the lowest value with a value of 1.65.

Our study aims to compare the differences in human capital levels between women entrepreneurs of different age groups. The value of the composite variable of prior entrepreneurial experience is 2.02 for the youngest age group, 1.93 for the 36-45 age group and 1.80 for the over-45 age group. According to the composite variables, younger female entrepreneurs have gained more entrepreneurial experience before setting up their businesses than older female entrepreneurs. The higher index of prior entrepreneurial experience for the youngest entrepreneurs may indicate that these entrepreneurs are more deliberate in embarking on their entrepreneurial journey, but it would also be worth

comparing differences in motives for entrepreneurship. For women entrepreneurs of the younger generation, entrepreneurship may in many cases be a solution to their employment status rather than an entrepreneurial ambition.

Based on the analysis of variance and the post hoc test carried out for the composite variables, it can be argued that there are statistically significant differences in the levels of prior entrepreneurial experience between women entrepreneurs of different ages (p = 0.037; F = 3.328), namely between the group aged up to 35 and the group aged over 45. On this basis, we can confirm hypothesis H1.

The value of the composite variable for educational attainment for all women entrepreneurs is 2.99. The lowest index of 2.91 is achieved by female entrepreneurs aged between 35 and 45. The index of educational attainment for female entrepreneurs in the youngest group is 3.01, while the index for the oldest group is only slightly higher at 3.04. Based on the analysis of variance and the post hoc test of the composite variables, we cannot confirm hypothesis H2, as the differences in the indices are not statistically significant (F = 0.758; p = 0.469).

Table 1: Composite variables (indices) of the individual human capital constructs

		N	Mean	St. D	Leven's F	p	F	p
Level of education (H1)	up to 35 years	82	3,01	0,89	1,03	0,358	0,758	0,469
	36 to 45 years	108	2,91	0,88				
	over 45 years	150	3,04	0,81				
	Total	340	2,99	0,85				
Business skills (H1c)	up to 35 years	82	2,15	0,87	3,059	0,048	1,001	0,369
	36 to 45 years	108	2,02	0,74				
	over 45 years	150	2,15	0,81				
	Total	340	2,11	0,80				

The index of business knowledge for all female entrepreneurs is 2.11, which is also the lowest for the middle-aged group with a value of 2.02, while the oldest and the youngest groups have an index of 2.15. Based on the analysis of variance and the post hoc test of the composite variables, we cannot claim that there are statistically significant differences between them (F = 1.001; p = 0.369). Based on the analysis so far, we can accept hypotheses H1a and H1e.

5 Discussion

We created two constructs—educational attainment and business knowledge gained through education—to test for variations in human capital. The number of variables used to test each of these notions varies. The scales of their responses are not uniform, and the criteria for these notions are drawn from earlier studies. While performance measurements have been extensively employed in prior research for analyses and comparisons, the goal of our study is to compare human and social capital among women entrepreneurs. In this section, we examine the variations among the various categories of women entrepreneurs. We compare each variable individually in the first section using a chi-square test or analysis of variance, and only then do we unify and combine the variables into nine constructs, five of which are related to human capital and four of which are related to social capital.

The fact that older women entrepreneurs are more likely to have been forced into entrepreneurship out of necessity due to job losses during the economic transition may account for the higher share of university graduates among younger women entrepreneurs and the lower share among older women entrepreneurs at the time of business start-up. On the other side, there are younger and more educated women entrepreneurs, maybe as a result of the recent complexity in the hiring of young educated individuals.

Since they first launched their businesses till the present, female entrepreneurs have expanded their level of education. The percentage of all female entrepreneurs who hold a bachelor's degree or more has increased to 43.8%. Today, just 27.6% of women entrepreneurs have a secondary degree or less, a lower percentage than it was when the business was first established. With an increase from 7.6% to 12.1%, the proportion of female entrepreneurs with postgraduate degrees is higher. Today, more than half of female entrepreneurs who are 45 years old or younger have a higher degree.

Intriguingly, all but the lowest level of education (secondary and below) among the surveyed female entrepreneurs have seen a significant increase throughout their entrepreneurial careers, suggesting that a sizable portion of female entrepreneurs are pursuing higher levels of education and training throughout their careers. Entrepreneurial women are well aware of and value the value of knowledge to their businesses.

Younger women entrepreneurs are more likely to be able to utilize a variety of different sources for business growth and development given their high educational attainment, which could result in the formation of profitable, innovative businesses. Our study compares the variations in levels of human capital among female business owners in various age groups. The composite variable's value for those under the age of 35 is 2.02, 1.93 for those between the ages of 36 and 45, and 1.80 for those beyond 45. The composite variables show that younger female entrepreneurs had more business experience before starting their own company than older female entrepreneurs. Younger entrepreneurs may be more thoughtful in starting their businesses, as evidenced by their greater index of past entrepreneurial experience, but it would also be worthwhile to compare different entrepreneurial motivations. For women entrepreneurs of the younger generation, entrepreneurship may in many cases be a solution to their employment status rather than an entrepreneurial ambition.

Bibliography

1. Allen, I. E., A. Elam, A., Langowitz, N., and Dean, M. (2008). Global entrepreneurship monitor. 2007 report on women and entrepreneurship. Http://zsbapp.baruch.cuny.edu/download/centers/field/global-entrepreneurship-monitor/Women's_Full_GEM_Report_081a.pdf (16. 11. 2016).

2. Amaral, A. M.,Baptista, R., and Lima, F. (2011). Serial entrepreneurship: impact of human capital on time to re-entry. Small Business Economics 37 (1): 1–21.

3. Baker, E. T. (1995). The effects of inclusion on learning. Educational Leadership 52 (4): 33–35.

4. Bates, T. (1995). Why do minority business development programs generate so little minority business development? Economic Development Quarterly 9 (1): 3–14.

5. Becker, G. S. 1975. Human capital: a theoretical and empirical analysis, with special reference to education. New York: National Bureau of Economic Research.

6. Bennett, R., Dann., S. (2000). The changing experience of Australian female entrepreneurs. Gender, Work & Organization 7 (2): 75–83.

7. Bird, S. R., Sapp, S. G., and Lee, M. Y. (2001). Small business success in rural communities: explaining the sex gap. Rural Sociology 66 (4): 507–531.

8. Campbell, B. A., Ganco, N., Franco, A. M., and Agarwal, R. (2012). Who leaves, where to, and why worry? Employee mobility, entrepreneurship and effects on source firm performance. Strategic Management Journal 33 (1): 65–87.

9. Davidsson, P., Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. Journal of Business Venturing, 18(3), 301–331.

10. Davis, A.E., Shaver, K. G. (2012). Understanding Gendered Variations in Business growth Intentions Across the Life Course. Entrepreneurship Theory and Practice. Special Issue: Extending Women's Entrepreneurship in New Directions, 36(3), 495–512.

11. De Carolis, D. M., Litzky, B. E., and Eddleston, K. A. (2009). Why networks enhance the progress of new venture creation: the influence of social capital and cognition. Entrepreneurship Theory and Practice 33 (2): 527–545.

12. Delmar, F. D. R.; Shane, S. (2006). Does experience matter? The effect of founding team experience on the survival and sales of newly founded ventures. Strategic Organization 4 (3): 215–247.

13. DeTienne, D. R., Chandler, G. N. (2007). The role of gender in opportunity identification. Entrepreneurship theory and practice, 31(3): 365-386.

14. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2010). Multivariate data analysis. Harlow: Pearson.

15. Koellinger, P., Minniti, M., Schade, C. (2013). Gender differences in entrepreneurial propensity.« Oxford bulletin of economics and statistics, 75(2), 213-234.

16. Kreiser, P. M., Patel, P. C., Fiet, J. O. (2013). The Influence of Changes in Social Capital on Firm-Founding Activities. Entrepreneurship Theory and Practice, 37(3), 539-568.

17. Manolova, T. S., Gyoshev, B. S., and Manev, I. M. (2007). The role of interpersonal trust for entrepreneurial exchange in a transition economy. International Journal of Emerging Markets 2 (2): 107–122.

18. Martin, B., McNally, J. J., Kay, M. (2013). Examining the Formation of Human Capital in Entrepreneurship: A Meta-Analysis of Entrepreneurship Education Outcomes. Journal of Business Venturing, 28(2), 211-224.

19. Mayer, K. J., Somaya, D., and Williamson, I. O. (2012). Firm-specific, industry-specific, and occupational human capital and the sourcing of knowledge work. Organization Science 23 (5): 1311–1329.

20. Millan, J. M., E. Congregado, C. Roman, M. van Praag in A. van Stel. (2014). The value of an educated population for an individual's entrepreneurship success. Journal of Business Venturing 29 (5): 612–632.

21. Mincer, J. (1975). Education, experience, and the distribution of earnings and employment: an overview. V Education, income, and human behavior, ur. F. T. Juster, 71–94. New York: McGraw-Hill.

22. O'Neil, D. A., Bilimoria, D. (2005). Women's Career development phases: Idealism, endurance, and reinvention. Career Development International, 10 (3), 168-193.

23. Obschonka, M., Silbereisen, R. K., Schmitt-Rodermund, E., and M. Stuetzer, M. (2011). Nascent entrepreneurship and the developing individual: early entrepreneurial competence in adolescence and venture creation success during the career. Journal of Vocational Behavior 79 (1): 121–133.

24. Ployhart, R. E., Moliterno, T. P. (2011). Emergence of the human capital resource: a multilevel model. Academy of Management Review 36 (1): 127–150.

25. Ravasi, D., Turati, C. (2005). Exploring entrepreneurial learning: a comparative study of technology development projects. Journal of Business Venturing 20 (1): 137–164.

26. Roomi, M. A. (2013). The Role of Social Capital and Human Capital in the Growth of Women-owned Enterprises in the United Kingdom (Doctoral dissertation). London: University of London.

27. Samuelsson, M., Davidsson, P. (2009). Does venture opportunity variation matter? Investigating systematic process differences between innovative and imitative new ventures. Small Business Economics, 33 (2), 229-255.

28. Schultz, T. W. (1959). Investment in man: An economist's view. Social Service Review 33 (2): 109–117.

29. Stuetzer, M., Obschonka, M., Davidsson, P., and E. Schmitt-Rodermund, E. (2013). Where do entrepreneurial skills come from? Applied Economics Letters 20 (12): 1183–1186.

30. Ucbasaran, D., Westhead, P., Wright, M., and Flores, M. (2010). The nature of entrepreneurial experience, business failure and comparative optimism. Journal of Business Venturing 25 (6): 541–555.

31. Unger, J.M., Rauch, A., Frese, M., Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review., Journal of Business Venturing, 26(3): 341–358.