

**Doctorate (PhD) Thesis**

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**Relation To Entrepreneurial Risks  
Among College Students of Economics and Small Business Owners**

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## **1. On the Choice of Subject**

In Hungary, economic indicators lag behind those of the Western countries, and also behind those of numerous socialist countries. Not only is it important to explore the underlying political and social causes that resulted in this situation, but it is also an impending task to find answers to the question of whether the society is ready to achieve economic success on the level of individuals, in the aspects of practices, attitudes and skills. An important element of the path to success is the proper exercise of entrepreneurial behavior. This behavior entails a proactive and creative way of thinking as well as the definition of new values through the re-organization of social and financial resources and constructive management of risks and failures (Hisrich, 2007).

Frese (1995) listed the obstacles of entrepreneurial behavior that are typical of Eastern Europe on social, organizational and individual levels. Based on this list it is evident that the main inhibitory factor is the effect of excessive *uncertainty tolerance* and *inadequate risk management*. During my daily contact with college students while teaching economics, I have also come to realize that - among other things – it is the fear of risks that holds today's youth back from entering into entrepreneurship.

Thus, the attitude towards risks and uncertainties that are associated with entrepreneurship play a central element in entrepreneurial behavior. This is why it is worth to examine how this process can be defined among small business owners and students. What role could the combination of entrepreneurial attitude, personality traits associated with entrepreneurial existence, cognitive processes, emotions and experience fulfill in this whole effect? What is the importance of these factors and how are they related to each other? The practical consequences of answering theoretical questions is that through these answers, some guidelines can be outlined in the aspect of possible trainings and support that are crucial to the successful formation of one of the key elements of entrepreneurial behavior, that is, adaptive risk management.

## **2. Goals and Hypotheses**

### **GOALS**

The *primary* and *theoretical aim* of this research is to grasp the specific characteristics of the relation to entrepreneurial risk and to explore its factors along with the interrelationship between these factors among small business owners and economics students.

'Relation to entrepreneurial risk' refers here to the actual attitude towards risk-taking, with a special emphasis on behavioral intention. In this paper I intend to grasp the relation

towards risk (in this case, a given activity that is considered to involve risk) along the below components, based on the relevant psychological factors described in detail according to literature:

- A) risk-taking propensity: one's conception about how likely one would be to take part in an activity involving risk;
- B) perceived riskiness: whether the given activity would be perceived risky, if yes, to what extent;
- C) expected benefit: whether the given activity is considered useful and desirable, if yes, to what extent;
- D) associated emotions: whether the feelings linked to the given activity would be positive, negative or neutral (what thoughts and emotions would be perceived if one was to decide whether to take part in the activity or not).

A) stands for the behavioral component, B) and C) for the cognitive component and D) represents the emotional part. The stronger the willingness and the expected benefits are, along with associated positive emotions, the more tolerant I consider the relation. Obviously, the lower the willingness and the expected benefits are, along with associated negative emotions, the more rejective I consider the relation.

The *secondary, practical* purpose of this thesis is to attempt to define one of the essential components of entrepreneurial behaviour, namely the developmental options regarding the relation towards risk, based on the (mainly entrepreneurial) assessment of the risk-taking or risk attitude of *small business owners* and *students* of the Budapest College of Economics.

## HYPOTHESES

In my paper, I draw up my assumptions related to the thesis first on a general basis. Then, after introducing the methodology of the research, I elaborate on the general hypotheses in the form of more specific, statistically verifiable and method-specific hypotheses. Below are the general hypotheses as follows.

### Hypotheses Concerning the Theoretical Objective of the Research

*H1: Relation to risk is domain-specific: the extent of risk-taking propensity, perceived riskiness, expected benefits and emotional pattern shows differences on the given domains.*

According to several authors (Weber, 2002, Nicholson, 2002, Soane és Chmiel, 2005), risk-taking is dependent on context, meaning that individuals do not have a general tendency towards risk-taking regardless of the given situation; Hanoch (2006) showed that individuals

with a risky occupation will only come up with a high risk-taking propensity on their own field of expertise, not necessarily doing the same in other areas of life.

*H2: Regardless of the given area, the perceived relation to risk is rejective.*

A precise understanding of risky behavior and motives of exploration in any case must take into account the perceived riskiness. For a precise understanding of risky behavior and for the exploration of its key motives, the concept of perceived riskiness needs to be taken into account (Weber, 2002, Conchar, 2004). Since Weber (2002) found that in the case of *perceived risk* attitude – which is a very similar phenomenon to that of *perceived risk* relation –, the attitude is either negative or neutral regardless of the individual or the situation. This concept has driven me to assume that if an individual would be to perceive risk in a given activity, even to a smaller extent, it would result in a rejective relation, proving to have the same effect in all other areas.

*H3: The willingness to participate declines when perceived riskiness grows, whereas the willingness to participate keeps growing when the expected benefits are on the rise.*

The assumption that perceived risk results in a rejective relation (Hypothesis 2) is further refined by stating that the higher the risk the individual perceives in the activity, the less likely it becomes that the individual would intend to take part in it (Weber, 2002). In addition, several have emphasized (Weber, 2002, Conchar, 2004) that in the interpretation of the risk-return framework, willingness is not only affected by perceived riskiness but also by the expected benefit.

*H4: The more positive the associated emotions, the stronger the willingness. Also, the growth of perceived riskiness brings along more and more negative associated emotions.*

The significance of the impact that emotions have on risk-taking is assessed in a study summary written by Shiv, Loewenstein and their associates (2001). Johnson and Tversky (1983) found that negative emotions lead to a more accurate perception of riskiness. Grable (2008) stated that a positive mood would lead to higher risk-taking propensity, explaining his results with the concept of affect infusion.

*H5: Perceived riskiness and expected benefits are negatively correlated with each other.*

According to the risk-return framework (Weber, 2002, Conchar, 2004), individuals apply a cost-benefit analysis when making decisions in a risky situation. In this analysis, risks (costs) stand against expected benefits (material, emotional, social etc. advantages). The

essence of affect heuristic, introduced by Slovic and associates (2002) states that individuals, simplifying the reality they see, often decide that things involving high risks ('bad') cannot be useful ('good') at the same time. Also, when something turns out to be advantageous in the first place ('good'), they believe it could not possibly turn out to involve high risks ('cannot be bad').

*H6: The development of the relation towards risk is affected by personality factors (March, Shapira, 1987, Teoh, 1997, Grosh, 1997, Stewart, Roth, 2001, Bryant, Dunford, 2008).*

High values achieved in the personality constructs of entrepreneurial orientation, high promotion focus along with low uncertainty tolerance and low prevention focus result in a positive relation to risk-taking, whereas low values in the personality constructs of entrepreneurial orientation, low promotion focus along with high uncertainty tolerance and high prevention focus result in a more rejective relation to risk-taking.

#### Hypotheses Concerning the Practical Objective of the Research

*H7: The Entrepreneurial Orientation test is a proper method to measure entrepreneurial propensity (after Florin, 2007).*

*H8: In the matters of risk-taking propensity and perceived riskiness, there is no general, convergent difference that is not domain-specific between students and entrepreneurs.*

According to Xu and Ruef (2004) while also mentioning Miner and Raju's study summary (2004) based on meta-analysis, greater risk-taking is not typical of entrepreneurs more than it is of non-entrepreneurs. Brockhaus (1980), Weber (2002), O'Malia and Whistler (2003) all stated that it is not typical of entrepreneurs to look for risks in a general sense, regardless of a specific domain.

*H9: The relation to risk among small business owners is affected by personality factors much more than among students, while the effect of perceived risk is much less.*

In an earlier research (Faragó, Radnóti 2010) a stronger relation was found between personality factors involved in the research and risk-taking propensity among small business owners than among students.

*H10: The relation to risk among small business owners is more accepting on the entrepreneurial field than that of students. This is due to lower perceived risk and a more positive emotional attitude.*

Several authors (Weber, 2002, O'Malia, Whistler, 2003) state that the seemingly higher risk-taking among small business owners is due to the risk they perceive to be lower on the entrepreneurial field. Xu and Ruef (2004) ended their research with the result that the primary motivations of first-time entrepreneurs are stemming from the need for self-realization and independency rather than from the need to achieve high profit. This means that these individuals enter into the entrepreneurial occupation gladly and associate positive emotions with this activity.

*H11: In the area of entrepreneurial risks, the concept of affect heuristic can be detected among students but not among small business owners.*

Through their experiences, entrepreneurs learn to know the fact that during the management of an enterprise, benefits go hand-in-hand with risks. Because of this, the attitude of entrepreneurs is less heuristic and emotionally controlled than that of students. Evaluability also has a lesser effect on entrepreneurs because for them, the usefulness of a certain sum of money can be valued on its own, thus entrepreneurs have less need for a benchmark.

### **3. Preceding Research**

On the one hand, to develop the methodology required for the analysis of the hypotheses, it was necessary to define the characteristics of the risks associated with entrepreneurial activity. To this end, during an interview with entrepreneurs in 2008 (N = 64) we asked the participants to recall an event when they took a high risk in their entrepreneurial activities. Then we also asked about certain aspects of that event.

On the other hand, to compile the methodology of present research, a proper tool needed to be set up to measure the extent of relation towards entrepreneurial risks. To fulfill this purpose, the Domain-Specific Risk-taking Scale (DOSPERT, introduced by Weber, Blais and Blatz in 2002) seemed the most suitable. The design of the Hungarian version of the questionnaire along with the insertion of supplementary questions regarding entrepreneurial areas and emotional responses was completed during four tests between 2007 and 2011, while interviewing a total of 803 individuals. We performed reliability tests (item-total analysis, Cronbach's alpha calculations, factorial analysis) as well as validity analyses (comparison with personality indicators and with other tests designed to measure risk-taking) using the raw data. Although the series of tests were not represented on a national level, the high number of respondents ensured that a wide range of testing was carried out, which made it possible for us to be able to interpret the survey results in the later research.

#### 4. Method

##### RESOURCES

I attempted to capture the entrepreneurial propensity of the subjects through the use of questionnaires. This way I would also get a picture about their attitude towards other types of risks as well as the cognitive, emotional and personal factors that affect their attitude. I completed the comparison between the test groups with the use of two-sample t-tests while the relations between the individual factors were analyzed by doing correlation and regression calculations.

The applied questionnaires as follow:

- to measure entrepreneurial propensity:  
*Entrepreneurial Orientation test* (Florin, 2007)
- to measure the attitude towards risks:  
*DOSPERT, supplemented with emotional responses* (Weber, 2002)  
*determining the desirability of a gambling* (Slovic, 2002)
- to measure personality factors:  
*Entrepreneurial Orientation test* (Florin, 2007)  
*Uncertainty Tolerance test* (Buhr, Dugas, 2002)  
*Regulatory Focus test* (Lockwood, 2002)

The entrepreneurs also answered questions regarding their enterprise (such as legal status, activity, headquarters, number of employees, annual turnover).

##### SAMPLE AND PROCEDURE

A total of 593 individuals participated in the research.

Out of these 593, 541 (aged between 18 and 50, 91.2 %) individuals are students of the General College of Entrepreneurship at the economics and management department. 51 individuals (aged between 21 and 65, 8.6%) are small business owners and there was one individual I could not categorize in this respect.

Students participated from all three classes of the college. 446 full-time students (82.4%) and 92 correspondence students (17.6%) filled out the questionnaire (3 students did not state what their status was). Compared to the total number of the students at the GM department of the College (ca. 1500 individuals), this rate can be considered as a representative sample.

To be eligible to take the survey as an entrepreneur, one had to have an ownership of at least 50% of a profit-oriented organization (so as an owner, being responsible for the property

of the firm) and also to take part actively in the management of the firm. The latter condition ensured that the subjects taking the survey are individuals making real business decisions on a daily basis. Another condition was that the firm, of which the entrepreneur is an owner and a manager, had to have operated for at least 3 years by the time of taking the survey. I used this as an indicator of success. The sample cannot be considered as representative because of the inadequate number of the subjects, range of their age and the division between the areas of their activities. The inadequate number of subjects is due to the fact that engaging the entrepreneurs into taking the survey was met with more difficulties than expected (primarily because of the lack of motivation and trust that we often experienced among them). Considering all this, the participants met all criteria of entrepreneurship that were outlined for this research, making it possible to fulfill the objectives of the test.

The questionnaires were being filled out between September 2010 and April 2014, partly in a printed version and partly online. Students completed the surveys during college class hours. The entrepreneurs entered into the survey through a snowball effect, involving students too (during their classes, they had a chance to be an ‘interviewer’ and get bonus points) and also with the help from certain entrepreneurial societies such as the National Society of Young Entrepreneurs or the Society of Entrepreneurs of Solymár.

## **5. Results**

### **RESULTS RELATED TO HYPOTHESES**

#### **The Relation Towards Risks As Analyzed On the Full Sample**

1. Based on the responses given on the questionnaires, the individuals would take part in the activities involving different types of risks with a varied probability because they perceive them to be risky and useful to a varied extent, also associating them with a whole set of different emotions. This supports the 1<sup>st</sup> Hypothesis, meaning that risk-taking does not generally characterize a person but gets realized on a specific domain.

2. *Perceived risks* – rather to the contrary of my assumption – are not rejected by the individuals on every domain. Although I discovered the rejection of *perceived risk* on 5 domains out of 7, the subjects still tended to take risks that are social in nature. The subjects had a neutral neutral towards financial investments.

3. Based on correlation calculations, risk-taking propensity grows higher on each domain when expected benefit rises and perceived riskiness falls. This supports the 3<sup>rd</sup> Hypothesis.

4. The 4<sup>th</sup> Hypothesis was meant to show risk-taking propensity associated and positively related to positive emotions. The results confirm that the more positive emotions one associates with a risky activity, the more likely it is that one would take part in it.

5. The significance of affect heuristic in the matter of relation to risk is supported by the result that shows how – except in the case of financial gambling – at each type of risk-taking, perceived riskiness and expected benefit were negatively correlated with each other.

6. In Hypothesis 6 I assumed a relationship between personality and the attitude towards risk-taking. The significant extent of correlation between personality indicators used in the research, risk-taking propensity and perceived riskiness supports this assumption.

#### An Indicator of Entrepreneurial Drive

7. As stated in my Hypothesis, the Entrepreneurial Orientation test is, in all probability, a valid indicator of entrepreneurial drive: the entrepreneurs reached a higher average score than the students. At the same time, quite to the contrary of my hypothesis, the personality indicators that have a major role in entrepreneurial behavior show no match between those of the students with a high entrepreneurial orientation (EO) and those of the entrepreneurs. The uncertainty tolerance of these students was lower (at the same time, higher than that of their fellow students with a lower EO), their prevention focus was higher (also lower than that of students with a low EO) and their promotion focus was also higher (similarly to that of students with a lower EO) than that of the entrepreneurs.

#### Relation to Risk Among Entrepreneurs and Students

8. Supporting my hypothesis, I have not found a convergent difference extending to all domains regarding the relation to risk-taking among entrepreneurs and students: on certain domains (social and financial investments) students had the more accepting relation, on other domains (gambling and entrepreneurial risk-taking) entrepreneurs proved to have the positive attitude. *Perceived risks* were decidedly rejected by both groups (so there is no difference between them in that respect either). Acceptance or *intentional risk-seeking* was only discovered among the students and solely in the case of social risks.

9. Considering all types of risks, correlation and regression calculations showed that in the case of entrepreneurs, personality indicators were closely related to the extent of risk-taking propensity while among the students, perceived riskiness and expected benefits had the stronger relation to it. These results meet my expectations regarding this hypothesis.

10. Examining solely the entrepreneurial domain, the entrepreneurs clearly showed a more accepting relation to risk-taking than the students: they would take part in these activities in more probability, they perceived the riskiness to be lower and associated the activities with more positive emotions.

11. In my final hypothesis I drew up an assumption regarding the role of emotions in the relation to risk within the two groups. Based on the results it can be stated that

- in general, among entrepreneurs there are less significant correlations between risk-taking propensity, perceived riskiness and emotions.
- the concept of affect heuristic on the entrepreneurial domain could not be discovered among entrepreneurs but among students.
- evaluability as an emotional mediation process was discovered within both groups.

In summary, it can be stated that my hypotheses were fully or partly verified by the results of the tests.

## OTHER RESULTS

### Relation Towards Risk Among Men and Women

My results support a view outlined in international subject-specific literature. According to this view, men take higher risks and more often than women. However, I managed to refine this general statement by discovering that:

- this phenomenon is not necessarily true for each type of risks. My research showed no differences between the risk-taking propensity of men and women on the social and investment domains,

- women tend to associate stronger emotions with activities involving risks more often than men,

- however, present research did not show the effect of evaluability (emotional mediation process) among women but among men,

- among men, personality and risk-taking propensity proved to be more closely related than among women.

### Domain-Specific Indicators Among Students and Entrepreneurs

The results draw attention to the fact that in the case of entrepreneurs, domain does not determine risk-taking propensity as much as it does among students: the related variables were less scattered in the entrepreneurs' group.

### The Effect of Entrepreneurial Orientation

Based on the above mentioned results of personality indicators, two sub-groups can be formed from the students' group: students having a high and a low EO. The samples formed this way provide a suitable frame to analyze their relation to risk.

It is shown through this analysis that in the case of students with a high EO, personality was more closely related to their attitude towards risk, regardless of the domain, than in the case of students with a lower EO.

With regards to the relation to entrepreneurial risks it can be stated that entrepreneurs accepted it, students with a low EO rejected it and students with a high EO had an ambivalent relation to the subject (while they are the ones expecting the most profit from entrepreneurial risks, deeming these risks much higher than entrepreneurs do; also, they describe the feeling of fear and joy simultaneously.)

## **6. Discussion**

### CONCLUSIONS

These are the components I managed to capture regarding the relation to risk-taking:

- risk-taking propensity (willingness to participate),
- risk perception (perception of riskiness and expected benefits – cognitive factors),
- emotions.

The components are related to each other in the following manner.

Relation to risk is best discussed in a domain-specific aspect. This confirms the thesis of researchers that point out that the same individual can show different levels of risk-taking propensity depending on the situation (Renn, 1998, Weber, 2002, Nicholson, 2002) as opposed to those that consider risk-taking propensity a general preference regardless of situation (Sitkin, Pablo, 1992).

Meanwhile, the results must be taken into account to recognize the fact emphasized by several authors in subject-specific literature (Weber, Hsee, 1998, Weber, 2002, Hanoch, 2006, Weber, 2006): it is crucial that a difference is made between the relation to *perceived risk* and risk-taking propensity avoiding risk perception as well as between *intentional* risk-seeking and risky behavior. The results of present research will support the fact that while the extent of risk-taking propensity and risky behavior are specific of situation and domain, in the case of the relation towards *perceived risks* and *intentional* risk-seeking the individuals tend to behave in an analogous manner (rejecting and avoiding perceived risks), regardless of domain and situation.

The inversely proportional relationship between perceived riskiness and expected benefits highlights not only the role of the concept of affect heuristic, but also the fact that *perceived risk* does not necessarily mean avoiding risk: when an individual decides – similarly to a cost-benefit analysis – that the benefits are sufficiently high (keeping in mind that ‘sufficiently high’ is a strongly subjective conception) then the individual might participate in it, *no matter the perceived risk*.

Relation to risks and risk-taking behavior are affected by individual personality factors as well. In my present research I managed to discover the connection between several personality traits and risk-taking propensity as well as risk perception.

Using the results that were calculated by comparing risk-taking relations among entrepreneurs to those among students, I managed to approach the second objective of my research.

It has been proven that the Entrepreneurial Orientation test can be and should be used as a resource to measure entrepreneurial drive, finding the individuals that have the necessary attitude and motivation towards successful entrepreneurial behavior.

In present research it is shown that in general, regardless of the type of risk, the entrepreneurs did not prove to be more intended to taking risks, nor avoiding them, than the students would have done. In certain domains the students were the more accepting towards risks while in other domains the entrepreneurs turned out to have a positive attitude.

However, it seems like a generally valid statement to point out that among entrepreneurs, the relation to risks is more closely related to personality factors and more loosely related to emotions than in the case of students. To carry out a clear research to explore the cause of this phenomenon, an extended sample and a more precisely suited test group would be necessary. The results of present research still allow some possibilities for explanation: since the results show that the personality factors are the primary indicators that define the relation to risks among students and entrepreneurs with a high Entrepreneurial Orientation, it might mean that a number of personality factors stand in the background of this process, resulting in a stronger entrepreneurial drive and a more consistent, emotionally less affected relation to risks.

Regarding the entrepreneurial domain, the entrepreneurs showed a more accepting and emotionally less affected relation than either the students, or the rest of the domains. It is possible that the basis of adaptive risk management practiced by entrepreneurs comes from the high level of sense of control built by experience and routine on the given field and gets

realized by the effect of a realistic perception that is free of the impacts of the given situation and emotions.

#### FURTHER FIELDS OF RESEARCH

The entrepreneurs working within the economy of a country cannot be considered good subjects for a homogeneous sample. The entrepreneurs of present research take up only a narrow layer of Hungarian entrepreneurs, that is why it would be worth extending the research to different entrepreneurs with different characteristics. Some interesting questions could be raised regarding their relation to risks:

- larger organisations or
- managing directors/owners of productive companies,
- entrepreneurs with a lower educational degree,
- first-time entrepreneurs or experienced ones with an experience of decades of company management behind them

It may become a subject of further questions and analyses to explore those remaining personality factors that also affect the relation to risks. It would be specifically exciting to find an answer to the question of what are the indicators and personality factors that work in the background simultaneously, affecting entrepreneurial drive and individual relation to risk.

#### PRACTICAL OUTCOMES

By exploring the relation to risks among the students of ÁVF and a group of small business owners, comes the opportunity to be able to select and properly train the students in such a way that would hopefully help them face entrepreneurial risks more effectively in the future.

The first step would be to use the Entrepreneurial Orientation test to select the students with a high level of entrepreneurial drive and attitude towards entrepreneurial activities. Based on the results this is also necessary because of the diversity between the relation to risk of the students with a high EO and those of a lower EO:

- students with lower entrepreneurial orientation would consider **the enterprise too risky and not worth it;**
- students with a high entrepreneurial orientation would consider **the enterprise risky but worth it**

Additionally, entrepreneurs would consider **the enterprise not (or slightly) risky and worth it.**

To those having entrepreneurial drive, I suggest taking part in a practice within the framework of college classes, in a safe training environment with no fatal consequences (e.g. simulated decisions related business, investment, management of enterprise) where it is not so much the achieved success or the avoided failure that is important (although both are excellent methods for learning) but rather the process of constructive feedback and realization. Having the necessary experience, students could strengthen their sense of control in these situations and their motivations would develop along with a realistic perception of risks.

#### SUMMARY

The relation to entrepreneurial risks as a type of risk categories can be captured through the examination of personality, perception, emotions and experience. The correct relation to risk results in achieving adaptive risk management. This provides possibilities to be able to count on more entrepreneurs in the future by selecting and training students within the institutional framework of college education, providing students with a practice that helps develop proper relation to risk, thus ensuring successful entrepreneurial behavior contributing to the development of economy and society through newly created values.

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