

Marcin W. Staniewski

**Organisational and Psychological Predictors of Entrepreneurial
Success**

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Pursuit of Success

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PREDICTORS OF ENTREPRENEURIAL SUCCESS.
PURSUIT OF SUCCESS**

by

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Introduction

The fact that so many newly established companies are both emerging and failing has resulted in a search for (empirical) clarification of the term entrepreneurial success or in other words, successful entrepreneurship. This task has proven difficult and the first obstacles were encountered (which is typical for theoretical constructs) when attempting to specify the definitional scope of the term entrepreneurial success. It turned out that this term may be approached from a long- or short-term, an objective or subjective, an organizational or psychological perspective. Similar confusion surrounded the factors that could potentially influence entrepreneurial success. Thus, predictor combinations have emerged, starting from psychological, experiential, knowledge-related, and technological predictors and ending with social and cultural ones.

Consequently, this monograph compiles various (organizational and psychological) approaches and its theme can be expressed using the following words: interdisciplinarity, comprehensiveness (i.e., gaining insight into the issue from various time perspectives), and innovation. The above-mentioned interdisciplinarity and comprehensiveness manifest themselves beginning with the title and continuing on to the illustration of the results:

their traces are particularly noticeable in Chapter I, which arduously arranges theoretical knowledge about commercial entrepreneurship, entrepreneurial success, and its determinants. To make this systematization as clear as possible, lengthy descriptions were discarded in favor of tabular juxtapositions. Therefore, tables have been created in an attempt to systematize knowledge created over the past few decades of research (thus ensuring comprehensiveness) along with, on the one hand, highlighting the differences in various approaches while on the other hand, demonstrating numerous similarities. One example of such an approach is specification of the definitional scope of the term commercial entrepreneurship, which since 1921 has offered such a variety of definitions that the process of compilation may be essentially boiled down to the skillful “juggling” of a set of five psychological definitional components (thus the need for an interdisciplinary approach) presented in this monograph. Innovation, or perhaps “freshness”, is particularly observable in the presentation of the general indicator of entrepreneurial success, which was estimated in a way that allowed entrepreneurial success to be viewed through the prism of intensification instead of the presence or absence of this phenomenon.

This paper has been divided into three chapters. In Chapter I (as illustrated above), the theoretical basis for this research is presented. Thus, vast material related to entrepreneurship and psychology is elaborated upon, demonstrating not only the contribution of various approaches to the development of knowledge on entrepreneurial success but also its determinants. The predictors of entrepreneurial success are also presented in a manner that allows a sharp distinction between purely organizational, non-organizational (but not psychological), and strictly psychological determinants. The chapter closes with deliberations on the motivation the-

ory, with special attention paid to the start-up motivators whose significance is widely reported in the relevant literature.

In Chapter II, the concept underlying this research is presented in the most comprehensive manner possible. Therefore, the whole chapter is devoted to a discussion of the formulated research questions and hypotheses and includes a schematic and descriptive presentation of the variables used in this research. The chapter finishes with a detailed description of questionnaire tools and the profiles of the research samples.

Chapter III comprises a discussion about the results obtained in this research. It has been divided so that the first part only contains the results that illustrate the dependencies between psychological variables (such as personality dispositions and start-up motivators) and entrepreneurial success. The second part contains analyses of the correlations between organizational factors (such as knowledge-related and experiential variables) and entrepreneurial success. Finally, in the third part of the chapter, a compilation of organizational and psychological variables in a regression model was developed and their predictive value for entrepreneurial success was assessed. The chapter closes with a presentation of the personality and motivation profiles of entrepreneurs who decided to participate in the replication study and while maintaining their own business activity.

The monograph ends with a discussion of the study's most important results, which are confronted with up-to-date research findings while simultaneously highlighting the interdisciplinarity and comprehensive approaches to entrepreneurial success.

CHAPTER I

Entrepreneurship: the organizational and psychological context

1.1. The definitional scope of the business entrepreneurship concept

Deliberations on the construct of entrepreneurship (in *French: entreprendre, in German: unternehmen*) (Gümüşay, 2015) should begin with a specification of the definitional scope of the term “entrepreneurship”. One inseparable element of this process is the precise systematization of the definitions of the construct, including a simple differentiation among the components of particular definitions of the term. One positive implication of such a juxtaposition is a concise presentation of the multidimensionality of this construct with a simultaneous selection of the definitional components that often recur in both older and new approaches to the term, which is quite succinctly provided in table 1.

Specification of the definitional scope of entrepreneurship by creating a homogeneous set of definitions (especially a set that contains specific definitional components) is not an innovative approach in the literature. Similar juxtapositions were made by, among others, Cunningham and Lischeron (1991), Davidsson, Delmar and Wiklund (2006), and Abu-Saifan (2012). Nevertheless, the manner of arranging the structure of this juxtaposition requires a short commentary.

Because the topic of this paper is entrepreneurial success, the juxtaposition in question contains a concise set of 12 definitions of commercial entrepreneurship (which are representatives of 42 definitions selected based on a review of more than 200 works on entrepreneurship published between 1921 and 2015), excluding the definitions of social and institutional entrepreneurship. Although this measure constitutes a partial reduction (because it does not show the overall complexity of the entrepreneurship construct), it seems to be a good solution because “confusion” of definitions is avoided; and it could emerge, if constructs that were separate in definitional terms—i.e., commercial, social, and institutional entrepreneurship—were juxtaposed. This juxtaposition includes the definitional “representatives” of each of the three “schools” of theories of commercial entrepreneurship postulated by Hebert and Link (1989). Thus, the Austrian school stressing the importance of seizing opportunities (Gümüşay, 2015) is represented by the definitions of Kao and Stevenson (1985), Stevenson and Jarillo (1990), Timmons (1994), Janasz (2004), Timmons and Spinelli (2008), Kopycińska, Bernat and Korpysa (2009) (table 1). The Chicago school advocating the significance of taking risk and coping with uncertainty (Gümüşay, 2015) is represented by the definitions of Knight (1921), Mises (1949), Kopycińska, Bernat and Korpysa (2009), and Foss

1.1. The definitional scope of the business entrepreneurship concept

Table 1. Definition scope of entrepreneurship concept with key components of a given definition

Definition	Authors	Year	Key components
Entrepreneurship is conceptualized as judgmental decision-making that takes place in a market setting under uncertainty	Knight Mises	1921 1949	Cognitive
Entrepreneurship is a purposeful activity to initiate, maintain and grow (“aggrandize”) a profit-oriented business	Cole	1949	Intentional and behavioral
Entrepreneurship is an attempt to create value through the recognition of business opportunities	Kao and Stevenson	1985	Cognitive and conceptual
Entrepreneurship is the process of creating something different with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving the resulting rewards of monetary and personal satisfaction	Hisrich	1990	Conceptual and process
Entrepreneurship is the process by which individuals—either on their own or inside organizations—pursue opportunities	Stevenson and Jarillo	1990	Process
Entrepreneurship is the process of creating or seeking an opportunity and pursuing it regardless of one’s resources	Timmons	1994	Process
Entrepreneurship is a new and innovative activities that have the goal of value creation and growth in business organizations	McDougall and Oviatt	1997	Behavioral, intentional and conceptual

Table 1. Definition scope of entrepreneurship concept with key components of a given definition (continued)

Definition	Authors	Year	Key components
Entrepreneurship is a feature and behavior of an entrepreneur or enterprise characterized by readiness and an aptitude for making decisions and solving new problems in a creative way	Drucker	1999	Behavioral and cognitive
Entrepreneurship is defined as a feature: a set of behavioral models enabling one to create and conduct business undertakings that are designed to achieve a particular purpose; a process : the creation of something new and valuable; a type of human activity : one that consists of taking advantage of opportunities that occur in a particular environment by implementing undertakings that generate economic or non-economic benefits	Janasz	2004	Behavioral, conceptual, process
Entrepreneurship is a way of thinking, reasoning and acting that is opportunity-obsessed, holistic in approach and leadership-balanced	Timmons and Spinelli	2008	Behavioral and cognitive
Entrepreneurship is reflected in various actions undertaken by an individual to introduce innovations, seek and make the most of emerging opportunities, take risks and create new realities by translating ideas into action	Kopycińska, Bernat and Korpysa	2009	Behavioral and conceptual

Table 1. Definition scope of entrepreneurship concept with key components of a given definition (continued)

Definition	Authors	Year	Key components
Entrepreneurship is thus not merely a perceptive behavior such as idea generation or creative thinking , but the act of taking responsibility for real assets, investing them in anticipation of uncertain future rewards	Foss and Klein	2015	Behavioral and cognitive

Source: own work

and Klein (2015) (table 1). Finally, the German school highlighting the important role of new connections and creative “destruction” (Gümüsay, 2015) is represented by the definitions of Kao and Stevenson (1985), Hisrich (1999), Timmons (1994), McDougall and Oviatt (1997), Janasz (2004), and Kopycińska, Bernat and Korpysa (2009) (table 1).

The process of selection was focused on definitions that are varied in terms of their content and accompanied by the identification of definitional components. Interestingly, these definitional components are often represented by strictly psychological components, seen as the elements of the content of a definition, which highlight the significance of cognitive processes, behavior, or intentions for entrepreneurship understood in broad terms. Thus, 5 psychological definitional components were identified: behavioral, cognitive, intentional, conceptual, and processual. The behavioral component is an element of the content of a definition of entrepreneurship that stresses entrepreneurial “movement”, i.e., broadly understood behavior, activity, or

actions (among others: Cole, 1949). The cognitive component highlights the importance of the definitional element that stresses the role of cognitive processes. In the tradition of psychology, the following cognitive processes are usually elaborated on: perception, attention, memory (Maruszewski, 2011) language, thinking, learning, decision making, and problem solving (Dobrołowicz, 2006). In the classification presented in this paper, it has been assumed that all of the definitions that stress the importance of the processes of perception (Kao & Stevenson, 1985), thinking (Timmons & Spinelli, 2008), decision making (Knight, 1921; Mises, 1949), problem solving (Drucker, 1999), and anticipation (Foss & Klein, 2015) possess this component. Conversely, all of the definitions that highlight the magnitude of the purpose/purposes underlying a given business activity include the intentional component (McDougall & Oviatt, 1997). The conceptual element is present in definitions that emphasize the significance of activity that a certain concept / thought / idea of creating new “quality” underlies – something valuable and innovative (Hisrich, 1999; Janasz, 2004; Kao & Stevenson, 1985; Kopycińska, Bernat & Korpysa, 2009). Finally, definitions that treat entrepreneurship as a process, e.g., a process of looking for opportunities / possibilities, comprise the process component (Timmons, 1994).

An analysis of the structure of various definitions of commercial entrepreneurship shows that the abundance of concepts seems to be a consequence of mutual interactions among various elements of the definitions instead of the creation of new “definitional qualities”. This may find confirmation in, for instance, the difficulty of making one-way, precise classifications of particular definitions into a single school/tradition. For example, in the “compilation of definitions” presented in table 1, the definitions developed by Kao and Stevenson (1985) and Kopycińska, Bernat,

and Korpysa (2009) are difficult to unambiguously categorize as included in either the Austrian or the German school. Some of the elements of these definitions are characteristic of the first school (because they stress the importance of seizing opportunities) and other elements (such as innovation or creation) are characteristic of the other.

A similar difficulty is encountered when considering the definitional components. Few definitions would reduce their multidimensionality to the development of a given definitional component. Usually the multifaceted quality in question oscillates around adding new definitional components to the existing repertoire of elements. Thus, from the psychological perspective, the definitional scope of the term “commercial entrepreneurship: seems to pivot around five definitional components (i.e., the cognitive, behavioral, intentional, conceptual, and processual). Therefore, the multidimensionality of definitions of commercial entrepreneurship in this sense may be metaphorically boiled down to adequate “juggling” with a set of five general psychological components of definitions.

1.2. The practical implications of business entrepreneurship

The previous section emphasized both that numerous definitions of business entrepreneurship have been developed and that we possess different approaches to business entrepreneurship (i.e., the Austrian, Chicago, and German traditions). This fact is closely linked to the importance of business entrepreneurship. Therefore, this section will be completely devoted to the issues of practical implications of entrepreneurship, particularly with respect to Polish entrepreneurship.

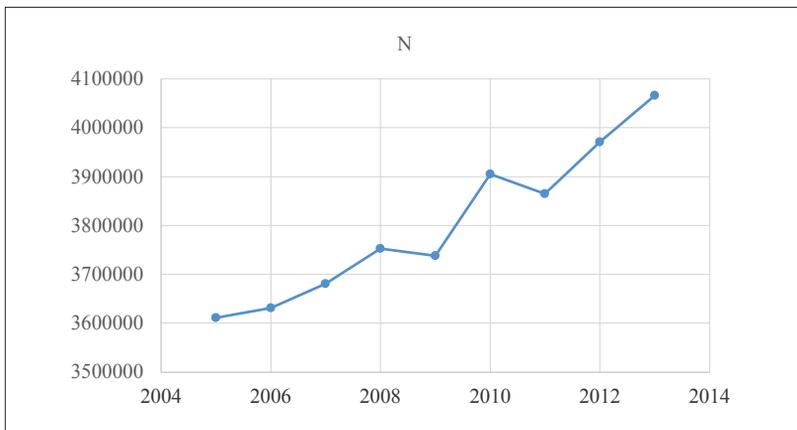
First, one conclusion about business entrepreneurship should be drawn. Entrepreneurship undoubtedly has been a hot topic in recent years, and some authors have claimed that the generation coming of age in the early 21st century was the “E Generation” because it displayed the most intense entrepreneurial behavior since the Industrial Revolution (Kuratko, 2003). The reasons that entrepreneurship is becoming so essential initially can be found in statistical reports on unemployment rates and self-employment indices.

Analyzing the reports mentioned above, we can see two parallel tendencies (especially with respect to Poland): 1) self-employment growth; and (simultaneously) 2) unemployment decrease. In accordance with data from the Report on the Condition of Small and Medium-Sized Enterprises in Poland between 2012 and 2013, the number of newly established enterprises in Poland is constantly increasing. In 2005, for example in 2005, the number of newly formed firms in the SME sector was 3,610,929, a number that increased to 4,065,748 in 2013 (Chart 1). In comparison, during the same years the percentage of unemployment was 17.9% in 2005 and 10.3% in 2013 (Chart 2).

The situation in the European Union is a little bit different from Poland. Self-employment rates have been falling in most EU countries (excepting the Czech Republic, Denmark, Germany, Finland, Greece, the Netherlands, Slovak Republic, Sweden, the United Kingdom, Estonia, and Slovenia), whereas unemployment rates have been increasing from 9% (2005) to 10.8% (2013) (Chart 3). Chart 4 shows Poland among the European countries with the highest self-employment rates in 2012.

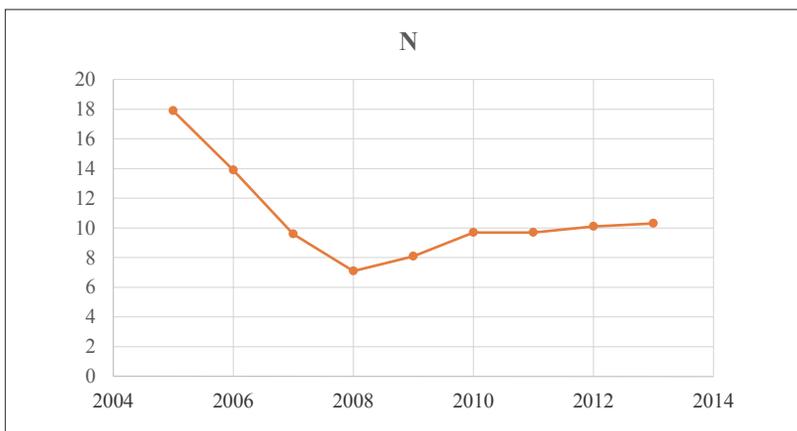
Data compilations from various statistical reports allow us to conclude that the first important implication of entrepreneurship is that business activity can positively influence unemployment by a large number of new-

Chart 1. Self-employment rates in Poland's SME sector between 2005 and 2013



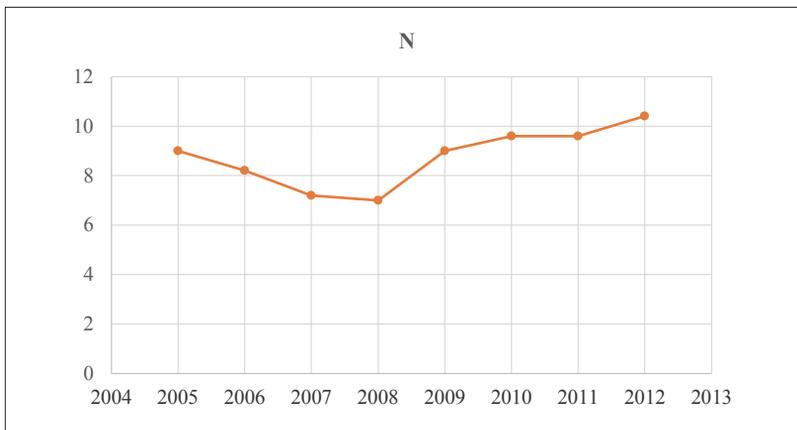
Source: own work, using the Report on the Condition of Small and Medium-Sized Enterprises in Poland between 2012 and 2013

Chart 2. Unemployment rates in Poland between 2005 and 2013



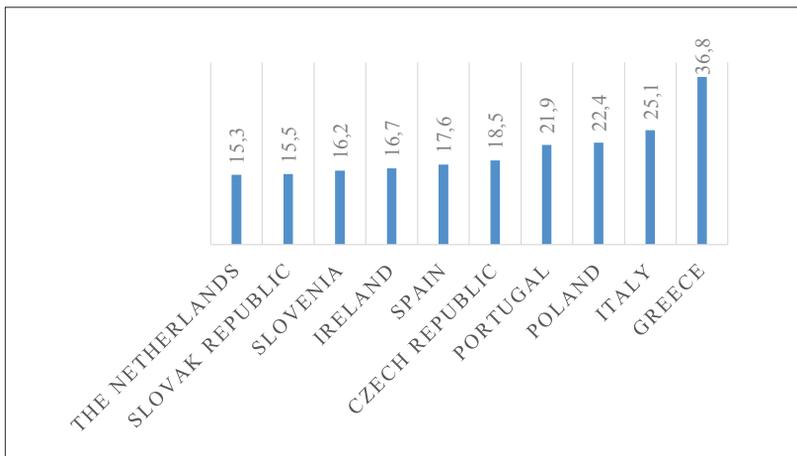
Source: own work by using Eurostat data

Chart 3. Unemployment rates in 28 EU countries between 2005 and 2012



Source: own work by using Eurostat data

Chart 4. The highest percentage of self-employment among EU countries in 2012



Source: own work by using Eurostat data

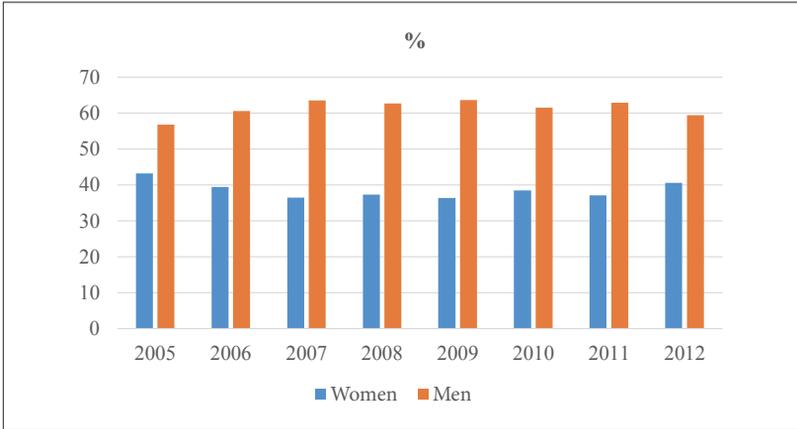
ly emerging or already established, often innovative enterprises (Acs & Audretsch, 1990; Birch, 1979; Storey & Tether, 1996). Therefore, entrepreneurship might be considered an important source of employment, especially for women (Ball, 2005; Cromie & Hayes, 1988). A significant increase in self-employment among women is observable on a global scale (Hisrich & Oztürk, 1999; Langan-Fox, 2005), as evidenced by data obtained from the Report on the Condition of Small and Medium-Sized Enterprises in Poland between 2012 and 2013, which shows that women play an increasingly important role on the labor market (Chart 5).

In Chart 5, we can see that the percentage of self-employed men is relatively high, a tendency that has remained steady since 2005. Among women, we can observe small oscillations with an inconsiderable decrease between 2006 and 2009. Since 2012, women's participation in self-employment has risen considerably.

Other practical consequences of entrepreneurship mentioned in the literature have been closely related to self-employment: many empirical studies have claimed that the advancement of entrepreneurship (especially enterprise development) is a key source of a country's economic growth (Rogerson, 2004; Wennekers & Thurik, 1999). This conclusion has been supported by Henry, Hill, and Leitch (2003, p. 3): "It is now widely recognised that the promotion of entrepreneurship is not only necessary for a healthy economy but also critical for sustaining prosperity and creating new jobs". In turn, Quadrini (1999) has noticed that entrepreneurs power a country's economy because there is a marked concentration of wealth in their hands because of high saving rates.

Other studies have also emphasized the relationship between entrepreneurship and a country's economic growth (Al-Mahrouq, 2010; De Soto,

Chart 5. Percentage of self-employed women and men in Poland between 2005 and 2012



Source: own work, using the *Report on the Condition of Small and Medium-Sized Enterprises in Poland between 2012 and 2013*

1989; Christie & Sjoquist 2012; Ekpe, 2011). For instance, Birch (1987) indicates that newly established companies have an overwhelming influence on the economy that manifests in the emergence of new jobs, whereas Dimitriadis (2008, p. 84) recognizes that entrepreneurship creates better workplaces, cements social unity and prevents social marginalization. Similarly, Ensari and Karabay (2014) state not only that the importance of entrepreneurship (especially SMEs) lies in its role in growth during various phases of economic development but also that a large majority of the firms categorized as SMEs play a significant role in the world economy.

Furthermore, numerous studies have stressed the importance of the second facet of entrepreneurship: the process of creation. According to

Janasz (2004), business activity plays an important role because it creates something new and valuable. Therefore, the third important contribution of entrepreneurship might be reduced to the implementation of innovation. For example, entrepreneurship contributes to the creation of new technologies, goods, and services, changes and revives competition in the marketplace (Brzeziński, 2007, p. 21), provides people with an opportunity to take chances (Dimitriadis, 2008, p. 85), solves new problems in a creative way, and secures flexible adaptation to changes in the environment (Drucker, 1999, p. 58).

1.3. Entrepreneurial success: the contribution of entrepreneurial factors

The previous sections demonstrate two approaches to the importance of entrepreneurship. The theoretical framework (section 1.1) manifested the number of definitions of entrepreneurship presented in the literature. Therefore, we could see various traditions of business entrepreneurship and determine the definitional scope of business entrepreneurship by identifying five psychological components of definitions. In turn, the “practical” framework (section 1.2) revealed several micro- and macro applications of entrepreneurship, e.g., creating better work places, cementing social unity and preventing social marginalization.

Although this section will be connected to the previous parts, we now begin to focus more closely on successful entrepreneurship. Thus, we will attempt to clarify the term “entrepreneurial success”, which will be used interchangeably with the term “successful entrepreneurship” in this paper.

Next, we will begin to identify the determinants of entrepreneurial success; however, a strict distinction between entrepreneurial and psychological factors will be maintained.

Deliberations on the term entrepreneurial success should start with the simple claim that entrepreneurial success is yet another theoretical construct (similar to the term commercial entrepreneurship itself) that is so complicated that the development of a uniform approach to it would pose immense difficulty. This issue is also noted by, e.g., Makhbul (2011); in his article entitled “*Entrepreneurial Success: an Exploratory Study among Entrepreneurs*”, he stresses that entrepreneurial success may be defined in various ways, including the definitions developed by Vesper (1990), Watson et al. (1998), and Taormina, Lao (2007) and Dafna (2008), all of whom claim that successful entrepreneurship is simply “a venture that has been operating for at least three years”. The same author also states that the term “entrepreneurial success” may be defined with the use of tangible elements (e.g., revenue or a firm’s growth, personal wealth creation, profitability, sustainability, and turnover (Amit et al., 2000; Makhbul, 2011; Perren, 1999, 2000).

Similar conclusions are drawn by van Praag (2003), who believes that the lack of a uniform definition of entrepreneurial success causes this construct to be examined differently by the fields of psychology, sociology, and business. Thus, an array of indicators for measuring entrepreneurial success has been developed, including, e.g., earnings, firm size, firm growth, and probability of survival (Fried & Tauer, 2015). The selected indicators of entrepreneurial success are provided in table 2.

Table 2 presents only the selected indicators of entrepreneurial success. This juxtaposition is not exhaustive in character or to be more precise, it

Table 2. Chosen indicators of entrepreneurial success

Indicator of entrepreneurial success	Authors	Year
Profitability, growth	Hall and Fulshaw	1993
Survival, growth	Watson, Hogarth-Scott and Wilson	1998
The annual rate of growth of the business: sales turnover since start-up	Basu	1998
Survival, employment growth, sales growth	Bruderl and Preisendorfer	1998
Employment growth, rate of return, productivity	Reid and Smith	2000
Profit, employment, duration	Bosma, van Praag and de Wit	2000
Profits	Fu et al.	2002
Employment creation, profits, turnover, creation of financial assets	McCartan-Quinn and Carson	2003
Number of employees	Caliendo and Kritikos	2008
Self-evaluation indicator of satisfaction with own enterprise	Kessler	2007
Growth rate, sales volume, business stability, customer acceptance, overall satisfaction of the entrepreneur	Sebora	2009
Profitability, growth, firm size	Unger, Rauch, Frese and Rosenbusch	2011

Table 2. Chosen indicators of entrepreneurial success (continued)

Indicator of entrepreneurial success	Authors	Year
Firm survival, growth in sales, growth in income, growth in number of employees	Sullivan and Meek	2012
Earnings, firm size, firm growth, probability of survival	Fried and Tauer	2015

Source: own work

does not contain all of the operationalizations of entrepreneurial success that are available in the literature. Four conclusions may be drawn from analysis of the above juxtaposition:

1. Over the past 20 years, the manner of operationalizing entrepreneurial success has not undergone marked change.
2. Two general approaches to the above-mentioned indicator are observable (i.e., an objective approach and a subjective approach). For the sake of clarification, it is worth accentuating that the objective approach to entrepreneurial success is more traditional (Walker & Brown, 2004), oriented toward measuring the business factors that indisputably point to successful entrepreneurship, i.e., number of employees, financial performance (profit, turnover, or return on investment) (Walker & Brown, 2004) or, in more general terms, focus on a company's survival (Bruderl & Preisendorfer, 1998; Dafna, 2008; Makhbul, 2011; Sullivan &

Meek, 2012; Taormina & Lao, 2007; Watson et al., 1998; Vesper, 1990). Conversely, the subjective approach to entrepreneurial success encompasses the indicators concerned with self-appraisal (by the entrepreneur) with respect to various areas of a company's operations, e.g., evaluation of the general level of satisfaction from running one's own business (Kessler, 2007), level of competitiveness, etc.

3. Two significant dimensions of entrepreneurial success reveal themselves (Chittithaworn, Islam, Keawchana & Yusuf, 2011):
 - financial versus other success; and
 - short- versus long-term success.
4. Comparison of the results of research on entrepreneurial success is problematic because the manner of operationalization of the term "success" is not uniform.

Therefore, presentation of the findings on the determinants of entrepreneurial success is accompanied by a detailed description of the manner of operationalization of the term entrepreneurial success. Because there are many such manners of operationalization of entrepreneurial success and thus an array of determinants, once again a juxtaposition arranged in a concise table (table 3) has been provided (for the sake of ease of exploration). As mentioned earlier in this section, we will concentrate only on **entrepreneurial** predictors of successful entrepreneurship.

As presented in tables 2 and 3, there are many ways to operationalize entrepreneurial success (Rodríguez-Gutiérrez, Moreno & Tejada, 2015). Although the relevant literature usually sees entrepreneurial success through the prism of profit, growth, or survival, some authors propose a different approach to the term success, namely, to see it as a general lev-

Table 3. Entrepreneurial determinants of entrepreneurial success

Entrepreneurial predictor	Success indicator	Authors	Year
Education level, apprenticeship, aims, ambitious aims and objectives in the development of businesses, managerial skills (employing people in the business, giving leadership/motivation)	Survival, growth	Watson, Hogarth-Scott and Wilson	1998
Human capital: age, educational level, experience (experience in the same sector, experience as an employee, experience in self-employment, financial experience), financial capital, social capital (entrepreneurs in a family), commercial relations	Profit making, generating employment, survival time	Bosma, van Praag and de Wit	2000
Financial criteria, non-financial criteria (personal satisfaction, achievement, pride in the job, a flexible lifestyle)	The success of the small business is likely to reflect a combination of the personal characteristics and attributes of the small business owners together with their reasons for starting the business.	Walker and Brown	2004

Table 3. Entrepreneurial determinants of entrepreneurial success (continued)

Entrepreneurial predictor	Success indicator	Authors	Year
Education, capital source, marketing, technology, legality, capital access	Items: "I am satisfied with the growth of net-income of the business"; I am satisfied with the time needed to reach the break-even point (payback period); "I consider my business successful"; "I consider my business growing"	Indarti and Langenberg	2004
Social network, government support, legality, innovative product, quality, cost, reliability, inter-firm cooperation, consultation, performance measurement, flexibility, customer, market, resources, finances, missionary zeal, willingness to be personally involved in one's own business, willingness to stick with the business, ability to define the market clearly, attention to details and proactiveness, manner doing business	Survival, profit, return on investment, sales growth, number employed, happiness, reputation	Chittithaworn, Islam, Keawchana and Yusuf	2011

Table 3. Entrepreneurial determinants of entrepreneurial success (continued)

Entrepreneurial predictor	Success indicator	Authors	Year
Conceptualizations of human capital (human capital investments versus outcomes of human capital investments, task-relatedness (e.g.), the context of the firm (high versus low technology; the moderator of developed versus less developed countries)	Profitability, growth, firm size	Unger, Rauch, Frese and Rosenbusch	2011
Access to information, communication skills, strong will, leadership styles, networking abilities, perseverance, good social skills, high self-efficacy, high internal locus of control, religious duty/ honesty factor	A venture that has been operating for at least three years	Makhbul	2011

Source: own work

el of satisfaction from the business or accomplishment of the objectives specified in advance, i.e., prior to setting up one's own business (Indarti & Langenberg, 2004; Walker & Brown, 2004). As a consequence of the existence of such a heterogeneous approach, an array of the determinants of entrepreneurial success may be identified, e.g., strong leadership on top, a strong management team (deHayes & Haeberle, 1990; Ghost et al., 2001; Wijewardena & Zoysa, 2005), good relationships with cus-

tomers, effective management and marketing, (Ghosh & Kwan, 1996), technical knowledge, customer relations (Huck & McEwen, 1991), managers' abilities (Lubatkin et al., 2006), personal connections (*guanxi*), education, experience in trade, finance experience (Kamitewoko, 2013), management team's international experience (Reuber & Fischer, 1997), product quality (Wijewardena & Zoysa, 2005), work, international experience, founders' capabilities, knowledge (Pepponi, Pisoni & Onetti, 2014), the ability to develop and sustain technological advantage, the ability to identify and focus on one or several market niches/regionalization (deHayes & Haeberle, 1990; Ghost et al., 2001), Internet use (Chittithaworn et al., 2010), an individual's intelligence, higher education in the family (Djankov, Qian, Roland & Zhuravskaya, 2007), previous work experience (Littunen, 2001), positions and numbers of staff members (Ha et al., 2014), customer satisfaction, external networks, internationalization strategies (Suh, Kim, 2014), ability to network (to obtain financing and information) (Reavley & Lithuchy, 2008), family support, social ties and internal motivation (Alam, Jani & Omar, 2011), and external factors such as government support programs (Rose et al., 2006). The table provided below (table 4) may complement this long list of predictors of entrepreneurial success. The determinants in question are classified into organizational and non-organizational determinants. Simultaneously, knowledge-related and experiential variables, which form another important group of predictors standing out against the remaining variables, are marked in gray.

The abundance of the determinants of entrepreneurial success has inspired some researchers to create still more groups of predictors of success. An example of such a categorization may be, for instance, a proposal of

Table 4. Chosen determinants of entrepreneurial success

Organizational determinants of entrepreneurial success	Authors	Year
Ability to develop and exploit the firm-specific assets	Wernerfelt	1984
	Barney	1991
	Burgelman	1994
	Bogner, Thomas and McGee	1996
	Chang	1996
Formal business plan, continual monitoring of the business environment, retaining a market orientation, developing a common value system, ensuring adequate capitalization, encouraging entrepreneurial thinking through all levels of the company	Schilit	1986
Written business plan, new product development, strong sales and marketing team	Foley	1987
Age, education, managerial know-how, industry experience and social skills of the owner/manager	Cragg and King	1988
People power, a business plan, a study of the competition, performance measurement, avoiding complacence	Gaskill and Hyland	1989
Thorough planning	Mraz	1989
Skills, attitudes, gathering marketing information	Barkham	1989
	Pollock	1989

Table 4. Chosen determinants of entrepreneurial success (continued)

Organizational determinants of entrepreneurial success	Authors	Year
Commitment to quality	McCormack	1989
Work experience	Evans and Leighton Pfeiffer and Reize	1989 2000
Company age and size	Dunne, Roberts and Samuelson Audretsch and Mahmood Mata and Portugal Mitchell Haveman Sharma and Kesner McMahon Agarwal and Audretsch Manjon-Antolin and Arauzo-Carod	1989 1994 1994 1994 1995 1996 2001 2001 2008
Managerial skills and competences, experience	Haswell and Holmes Wood Brazell Saridakis, Mole and Storey	1989 1989 1991 2008
Entrepreneurial parents	Duchesneau and Gartner	1990
Ability to identify and focus on one or a few market niches	DeHayes and Haeberle	1990
Capital, revenue-generating ability	Smallbone	1990
Technical knowledge and customer relations	Huck and McEwen	1991

Table 4. Chosen determinants of entrepreneurial success (continued)

Organizational determinants of entrepreneurial success	Authors	Year
Clear mission statement and a corporate value system, a customer-oriented policy, a competitive strategy, personal commitment from top management	Campbell	1991
The allocation of enterprise resources to perform their activities and those pertaining to the ability to properly manage these resources for a competitive advantage	Grant	1991
Technical skills	Hodgetts and Kuratko	1992
Flexibility	Bhaskar and Jamaluddin	1993
Diversification	Colin et al.	1993
Ownership structure	Audretsch and Mahmood Mata and Portugal	1994 1994
Initial stocks of financial and human capital	Cooper, Gimeno-Gascon and Woo	1994
Simplicity in the company's operations (narrow range of products, few customers and suppliers)	Gunter et al.	1995
Education and prior experience in business	Yusuf Wijewardena and Cooray	1995 1996
Good customer relationship, effective management and marketing	Ghosh and Kwan	1996

Table 4. Chosen determinants of entrepreneurial success (continued)

Organizational determinants of entrepreneurial success	Authors	Year
Interfirm co-operation	Ibielski	1996
Human capital	Youndt et al.	1996
	Gimeno et al.	1997
	Mata and Portugal	2002
Entrepreneur's management skills, customer focus, resources creation, soft attitudes, skills and operating methods	Lin	1998
Management leadership, measuring result, progress and performance, appropriate training for employees, adopting a quality assurance system	Yusof and Aspinwall	1999
Community-based networks	Levent et al.	2003
Financial flexibility	Kristiansen, Furuholt and Wahid	2003
Support from others (financial, technology, strategic partnerships, industrial contacts)	Carrier et al.	2004
Customer orientation, product quality, efficient management, supportive environment, capital accessibility, marketing strategy	Wijewardena and Zoysa	2005
Managerial experience, ownership structure and capital constraints	Thompson	2005
	Jensen, Webster and Buddelmeyer	2008

Table 4. Chosen determinants of entrepreneurial success (continued)

Organizational determinants of entrepreneurial success	Authors	Year
Entrepreneur's education level, working experience, parents' own business	Rose et al.	2006
Explicit and implicit knowledge, experience, managerial skills, human capital, knowledge management	Staniewski	2006
Leadership	Jong and Hartog Dafna	2007 2008
Knowledge	Makhbul	2011
Innovation capabilities, intellectual property, human resources, organizational capital	Rodriguez-Gutierrez, Moreno and Tejada	2015
Non-organizational determinants of entrepreneurial success	Authors	Year
Technology, scale economies, entry rates and sector growth rates	Audretsch Agarwal and Audretsch	1995 2001
Business cycle	Geroski Caves	1995 1998
Multiple birth cohorts of firms	Mata, Portugal and Guimaraes Box	1995 2008
Industry growth	Mahmood Disney, Haskel and Heden	2000 2003

Table 4. Chosen determinants of entrepreneurial success (continued)

Non-organizational determinants of entrepreneurial success	Authors	Year
Spatial and geographical factors	Fotopoulos and Louri	2000
	Fritsch, Brixy and Falck	2006
	Falck	2007
Government policies (government grant provision)	Girma, Gorg and Strobl	2007
Marginal tax rates	Gurley-Calvez and Bruce	2008
Government policies (direct government assistance)	Hansen, Rand and Tarp	2009
Macroeconomic and social factors related to the general business environment (for example, infrastructure, technology, human and social capital, etc.). Market structure or the number of companies of which it is comprised, their size, the size of their demand, the degree of product differentiation, the level of concentration or the existence of barriers to entry	Rodriguez-Gutierrez, Moreno and Tejada	2015
Overall state of the economy, competitive environment (market concentration and entry)	Geroski, Mata and Portugal	2010

Ensari and Karabay (2014) that arranges the factors contributing to entrepreneurial success into 10 groups:

1. Entrepreneur characteristics;
2. Characteristics of SME;
3. Management and know-how;
4. Products and services;
5. Customers and markets;
6. Way of doing business and cooperation;
7. Resources and finance;
8. Strategy;
9. External environment; and
10. Internet.

An analysis of table 3 may lead to an observation that entrepreneurial success is the product of mutual interactions between entrepreneurial and strictly psychological variables. This is noticeable in Makhbul's proposal (2011), which places entrepreneurial factors (e.g., access to information, communication skills, leadership styles, and networking abilities) next to psychological variables (e.g., high self-efficacy, high internal locus of control); and in the dichotomous proposal of Gaddam (2007), who divides the factors influencing entrepreneurship into external factors (trade policies, taxation levels, patents, government intervention, regulations, and monetary policies) and internal factors (need for achievement, locus of control, risk bearing capacity). It is also illustrated by the study of Walker and Brown, who demonstrate that both financial and non-financial lifestyle criteria are important for experiencing entrepreneurial success, with the latter (i.e., the non-financial lifestyle criteria understood as personal affective feelings expressed by the entrepreneurs) being even

more significant. According to those authors, personal satisfaction and achievement, pride in the job, and a flexible lifestyle are generally valued more highly by entrepreneurs than is wealth creation. Similarly, the fact that mutual interactions between entrepreneurial and psychological variables account for variances in entrepreneurial success is also indicated by studies that simultaneously use entrepreneurial and psychological factors as predictors of success (Alam, Jani & Omar, 2011; Djankov, Qian, Roland & Zhuravskaya, 2007; Makhbul, 2011; Watson, Hogarth-Scott & Wilson, 1998).

Simultaneously, a relatively small number of publications considering exclusively the “purely” entrepreneurial predictors (i.e., paying no regard to the psychological variables such as personality dispositions, support networks, or motives) also testify to this fact.

Moreover, analyzing the determinants of entrepreneurial success, it is worth paying attention to the issue of the aspect / dimension of entrepreneurial success for which the predictive value of individual variables has been tested. This is perfectly illustrated by the findings of Bosma, van Praag, and de Wit (2000) (table 3), who present an array of determinants of entrepreneurial success and clearly distinguish between the predictors of entrepreneurial success, which are perceived as 1) duration, 2) profit, and 3) employment. Accordingly, it turned out that human capital, social capital and strategies, age, experience in the same sector, experience as an employee, emotional support, and commercial relations were important determinants of success-duration. The predictors of success-profit were human capital, social capital and strategies, age, education level, experience in the same sector, experience in self-employment, financial capital, social capital, emotional support, and commercial relations. Conversely,

financial capital, social capital and strategies, age, financial experience, social capital, and commercial relations turned out to be the determinants of success-employment.

1.4. Entrepreneurial success: the contribution of psychological factors

This section is a continuation of the previous section, but concentrates on the psychological factors. In other words, in the previous section we could see various operationalizations of entrepreneurial success from profits and level of employment to survival. Furthermore, although the complexity of determinants of entrepreneurial success was presented, previously only entrepreneurial factors as potential predictors were considered.

As stressed above, it has been very difficult to find papers that concentrate only on entrepreneurial determinants of entrepreneurial success. One reason for this is that psychological context (personality, social networks, and motives) is even more important for entrepreneurial success than is entrepreneurial context.

Thus, this section will be divided into two separate parts. The first part will be completely devoted to the issue of personality predictors of entrepreneurial success. Therefore, the set of psychological features described in the literature will be presented. With respect to extraversion (one of the most important psychological predictors of successful entrepreneurship), the importance of social networks will also be emphasized. In the second part, although the role of motivation will be discussed, the strict distinction between pull and push factors will be retained.

Deliberations about the significance of psychological traits for successful entrepreneurial behavior were initiated in 1961 when McClelland suggested that an individual's involvement in the field of entrepreneurship is determined by a person's psychological traits. Since that time, numerous international papers have been devoted to identifying an entrepreneur's set of psychological traits in view of desired traits that positively contribute to conducting one's own business activity/running an enterprise versus the ones that hinder or even make this activity impossible. For instance, McClelland (1987) has identified several competences that distinguish between effective and less-effective entrepreneurs. These competencies include assertiveness, engagement in work, being oriented toward efficiency, effectiveness, enterprise, and systematic planning. Other studies also identify an array of attributes that constitute the rationale behind an entrepreneur's success: Need for Achievement, extraversion, innovativeness, and readiness to take risk (Rauch & Frese, 2007; Stewart & Roth, 2001; Zhang & Arvey, 2009). Table 5 contains the presentation of psychological predictors of successful entrepreneurship presented in papers from 1961 to 2009.

Table 5 shows several psychological predictors of entrepreneurial success presented in literature during the last fifty years. The table shows that it is likely that almost all psychological features can be reduced to three groups (cognitive, clinical and personality oriented approach). In other words, some authors have attempted to describe a successful entrepreneurs by emphasizing the importance of **cognitive processes** such as alertness (Gaglio & Katz, 2001; Kirzner, 1973), seeking possibilities (Caird, 1991) and making decisions (Göring & Rehn, 2008), whereas other authors have attempted to stress the **clinical approach** to entrepreneurial success

Table 5. Psychological predictors of successful entrepreneurship

Psychological predictor	Authors	Year
Need for achievement	McClelland	1961
Inherent alertness to market opportunities that were previously impossible to find	Kirzner	1973
Extraversion	Costa, McCrae and Holland	1984
Strong obsession	Kets de Vries	1985
Final obligation; determination; persistence; need for achievements and development; being oriented toward achieving goals and using available opportunities; showing initiative; accepting personal responsibility; self-confidence; sense of humor; seeking and using feedback; inner sense of control; tolerance for ambiguity, stress, and uncertainty; acceptance of calculated risk; low desire for an official position and power, respect, reliability, resolution, immediacy, patience; learning from one's mistakes; teambuilding; nurturing personality	Timmons, Smollen and Dingee	1985
Mild sociopathy	Winslow and Solomon	1988
Active searching	Gilad, Kaish and Ronen	1989
A strong need for achievements, a desire to increase responsibility, seeking possibilities, and using various resources to achieve success	Caird	1991

Table 5. Psychological predictors of successful entrepreneurship (continued)

Psychological predictor	Authors	Year
Need for control, feelings of distrust, desire for applause, and a defense mechanism such as going to extremes	Kets de Vries	1996
Independence, emotional stability, assertiveness, self-reliance, openness (person, ready to try their new ideas in practice), flexibility	Brandstötter	1997
High extraversion, conscientiousness, openness, low agreeableness, and neuroticism	Engle, Mah and Sadri	1997
Effectiveness, purposefulness	Hostager, Neil, Docker and Lorentz	1998
Social skills	Baron	2000
Alertness, "noticing without seeking"	Gaglio and Katz	2001
Ambition, self-confidence, high energy level, being less emotional	Mahmood, Idris and Amin	2003
Low level of neuroticism, high level of extraversion and building positive relationships with other people	Klein, Lim, Saltz and Mayer	2004
Self-efficacy	Zhao, Seibert and Hills	2005
Ability to address uncertain situations	McMullen and Shepherd	2006
Seeing the relationships and connections between facts/elements/events which are seemingly unrelated	Baron	2006

Table 5. Psychological predictors of successful entrepreneurship (continued)

Psychological predictor	Authors	Year
A bold risk-taker and a visionary balancing between the unpleasant risk and the one which offers possibilities	Hisrich, Langan-Fix and Grant	2007
Making decisions sensitive to discovering new market opportunities	Görling and Rehn	2008
Personality, abilities of the entrepreneurs	Majumdar	2008
Strategic planning	Reavley and Lithuchy	2008
Low neuroticism, self-confidence, persistence	Zhang et al.	2009

Source: own work

(e.g., strong obsession (Kets de Vries, 1985); mild sociopathy (Winslow & Solomon, 1988), need for control, feeling of distrust, desire for applause, a defense mechanism such as going to the extremes (Kets de Vries, 1996)). In the third **personality-oriented approach**, researchers have attempted to identify personality dispositions useful in successful business activity e.g., extraversion (Costa, McCrae & Holland, 1984), emotional stability, openness (Brandstötter, 1997), high conscientiousness, low agreeableness (Engle, Mah & Sadri, 1997), low neuroticism, self-confidence and persistence (Zhang et al., 2009). The studies from the personality-oriented approach also describe an entrepreneur as an individual marked by a higher tolerance for ambiguity, an inner sense of control, a proactive personality, effectiveness, and a need for achievement (Cools & Van Den Broeck,

2008; Crant, 1996; D'Intino, Goldsby, Houghton & Neck, 2007; Ong & Ismail, 2008; Rauch & Frese, 2007).

The list of psychological predictors of entrepreneurial success is relatively long and appears not to be exhaustive. For instance, Timmons, Smollen, and Dingee (1985) suggest that this is the case; those authors propose a vast collection of 14 traits of a successful entrepreneur but conclude that this proposition is not an exhaustive list. Thus, it seems interesting to consider whether it is useful to generate a list of single traits whose final compilation is likely unknown. In recent years, as a response to the “accusation” concerning the questionable usefulness of such a list of traits, an idea of compiling certain constellations of personality dispositions has emerged. Repeatedly, the Theory of the Big Five traits by Costa and McCrae (1992) is employed for that purpose (Schmitt-Rodermund, 2004, 2007), and the results of such research shows that entrepreneurial effectiveness is generated by high extraversion, conscientiousness, openness, low agreeableness, and neuroticism (Engle, Mah & Sadri, 1997; Furnham & Fudge, 2008; Schmitt-Rodermund, 2004 and 2007; Schmitt-Rodermund & Vondracek, 2002; Zhao & Seibert, 2006; Zhao, Seibert & Lumpkin, 2010). This is also confirmed by studies that indicate that an entrepreneurship-prone personality profile (an entrepreneurial constellation of the Big Five traits within a person) is a particularly robust predictor of entrepreneurial characteristics (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling & Potter, 2013; Schmitt-Rodermund, 2004, 2007). Conversely, other studies have shown that the enterprising interest type was positively related to the indicators of extraversion, conscientiousness, and openness and negatively related to the indicators of agreeableness and neuroticism (Costa, McCrae & Holland, 1984; De Fruyt & Mervielde, 1999).

It seems, however, that the issue of generation and specification of the constellation of personality traits that are relevant to entrepreneurial success is further complicated by the fact that the notion of success is multifaceted and operationalized in a variety of ways. This issue is highlighted by Staniewski, Janowski, and Awruk (2016), who have demonstrated that the variables diversifying entrepreneurial success are dependent on the “aspect” of entrepreneurial success that undergoes examination. For instance, when the “aspect” of maintaining *financial liquidity* was analyzed, the following 6 traits showed the power of diversification: *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, and *Innovativeness*. Conversely, when the *Level of Innovation* was analyzed, eight traits assumed the power to diversify: *Autonomy*, *Disagreeableness*, *Openness to Experience*, *Emotional Stability*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, and *Authoritative Parenting*.

During analysis of the constellations of personality traits based on the Big Five theory, it is worth examining emotional stability and extraversion, both of whose significance has been stressed in the relevant literature on multiple occasions (Costa, McCrae & Holland, 1984; De Fruyt & Mervielde, 1999; Engle, Mah & Sadri, 1997; Furnham & Fudge, 2008; Klein, Lim, Saltz & Mayer, 2004; Schmitt-Rodermund, 2004, 2007; Schmitt-Rodermund & Vondracek, 2002; Zhao & Seibert, 2006; Zhao, Seibert & Lumpkin, 2010). In the simplest terms, this significance involves the generation of a social support network in the case of extraversion (Aldrich & Zimmer, 1986; Busenitz, 1996; Johansson, 2000; Klein, Lim, Saltz & Mayer, 2004) and greater self-confidence and persistence (Zhang at al., 2009, p. 96) in the case of emotional stability. In detail, it seems that it is easier for more open (outgoing) and flexible people, and thus more extroverted ones, to build relationships with other people or to

better use offered support/aid/information (e.g., by one's family, one's acquaintances, or the state/government). In this sense, extraversion may lead to displaying behavior (e.g., development of relationships or interaction with prospective clients) whose predictive value for entrepreneurship is also postulated in the relevant literature (Katre & Salipante, 2012). Extraversion also assumes wider significance in view of Kader's findings, which show that external factors (e.g., government assistance in training and extension services) are more dominant than the internal ones (entrepreneurial quality) for entrepreneurial success (Kader et al., 2009), and when the importance of social networks for the development of a company (Pirolo & Presutti, 2010) or the role of support from the family (Liang et al., 2013; Poon, Thai & Naybor, 2012) are taken into account. In this sense, extraversion is a personality trait that facilitates and stimulates the process of using government offers or opportunities provided by non-governmental organizations that support entrepreneurs.

Conversely, the role of emotional stability manifests itself in situations marked by uncertainty and risk, in which fear, nervousness, worrying, and emotional instability (dysregulation) put the entrepreneur in an extraordinarily "uncomfortable position".

1.5. Entrepreneurial success: the contribution of motivations for establishing a business

In the previous section, numerous psychological factors that affect entrepreneurial success were shown and three approaches to psychological predictors of successful entrepreneurship (cognitive, clinical, and per-

sonality-oriented approaches) were mentioned. In this section, we will focus on motivation, which is considered one of the psychological determinants of entrepreneurial success (Alam, Jani & Omar, 2011; Ekpe, 2011; Mitchell, 2004; Porter & Nagarajan, 2005; Sullivan & Meck, 2012). The keynote of this subsection was derived from the following words found in “*Entrepreneurial motivation*” (Shane, Locke & Collins, 2003, p. 257): “[...] *a person cannot win a game that they do not play*”. In the context of successful entrepreneurship, this means that only those who manifest the readiness to become an entrepreneur are destined to achieve entrepreneurial success. The results of numerous studies appear to confirm this simple conclusion. For instance, Porter and Nagarajan (2005) indicate that need for business growth and social advancement are vital motives for successful entrepreneurship, especially for women. Similarly and Mitchell (2004) state that one’s true motive should be recognized as the first determinant before entering into a small business, both for male- and female-run enterprises. According to Tata and Prasad (2008), the performance of female-run micro-enterprises might be predicted by motivation, social capital and opportunity to engage in collaborative exchange. Other studies are consistent with these findings, stating that independence and motivations such as a need for achievement and a willingness to take risks are crucial for entrepreneurial success (Humphreys & McClung, 1981; Pellegrino & Reece, 1982, Schwartz, 1976). Motivation as the psychological determinant for entrepreneurial success is also recognized by other authors (Collins, Hanges & Locke, 2004; Hostager, Neil, Docker & Lorentz, 1998; Kontos, 2003; McClelland & Winter, 1969; Miron & McClelland, 1979; Segal, Borgia & Schoenfeld, 2005).

Taking into account the abovementioned results of previous studies, in this section we will concentrate exclusively on entrepreneurial motivation. Therefore, we will begin to see various definitions of motivation, and various motives for establishing a business will be presented.

Numerous definitions of motivation have been proposed. One definition says that motivation is an intra- and interindividual variability in behavior not exclusively caused by individual differences in ability or overwhelming environmental demands that coerce or force action (Kanfer, 1990; Vroom, 1964). Others have defined motivation as the energization (i.e., instigation) and direction of behavior (Elliot & Covington, 2001) or as a mixture of an individual's social interactions, technical skills, and emotional enthusiasm (Goss, 2008).

With respect to entrepreneurship, entrepreneurial motives are grouped into two groups of theories: drive theory and incentive theory (Carsrud & Brännback, 2009). Drive theory suggests there is an internal need (for example, for achievement or autonomy) that has the power to motivate an individual to start a new venture, thereby reducing the resulting tension. Conversely, incentive theory suggests that people are motivated to act because of external rewards. For example, entrepreneurs may be motivated by a combination of incentives such as flexibility, income, or prestige (Fayolle, Liñán & Moriano, 2014). A similar approach to entrepreneurial motives is represented by the proposition of pull factors (*I do it because I see an opportunity*) and push factors (*I do it because it is necessary*) (Williams, Rounds & Rodgers, 2009; Verheul, Thurik, Hessels & van der Zwan, 2010). In other words, pull factors (e.g., self-realization, personal satisfaction (Staniewski, 2009)) are consistent with drive theory and push factors (e.g., risk of unemployment, family pressure, dissatisfaction with

one's present situation (Verheul et al., 2010)) are consistent with incentive theory. Also noteworthy is the arbitrariness of the aforementioned division of motivation theory into drive theory (pull factors/motives) and incentive theory (push factors/motives). This arbitrariness of boundaries between the two groups of theories relates to the difficulty in identifying the purely internal or purely external motives that inspire people (or more specifically, entrepreneurs). Most commonly, people are "pushed" toward action by a complex configuration of external and internal motives. This is well illustrated by the results of research carried out by Dubini (1989), who identifies three classes of entrepreneurs driven by different sets of motives. The first type of entrepreneur is the self-actualizer. These entrepreneurs are driven by a thirst for achievement and a sense of independence and autonomy. The second type is the discontented entrepreneur. These people are dissatisfied and unhappy with their present working conditions. The third type of entrepreneur follows traditional role models in his/her family. Various configurations of motives are also well illustrated by the results of research on a person's motives for establishing a business, which are provided in table 6.

As illustrated in table 6, people have various motivations for deciding to start a business. Generally, however, they do not have a single motive; instead, they are inspired by a complex combination of pull and push factors. It is worth noting that although it is traditionally believed that people establish businesses exclusively for economic reasons, research shows that even though these motives are important (Casrud & Brännback; 2009; Kirkwood, 2009; Parker, 2004; Robichaud, McGraw & Roger, 2001; Schumpeter, 1952; Staniewski, 2009; Wagner & Ziltener, 2008; Wang, Walker & Redmond, 2006; Van Gelderen & Jansen, 2006), they

Table 6. Motives for establishing a business

Motives	Authors	Year
Self-realization and independence, enhanced status and income, economic contribution and impact, upholding tradition and securing income	Schumpeter Parker Wagner and Ziltener	1952 2004 2008
Extrinsic rewards (economic reasons); independence/autonomy; intrinsic rewards motivation for self-fulfillment and growth; family security	Robichaud, McGraw and Roger	2001
Need for autonomy/independence, accumulation of wealth	Van Gelderen and Jansen	2006
Personal development motivations, financial motivations; motivations related to work and family; flexible lifestyle motivations	Wang, Walker and Redmond	2006
Work core: job satisfaction, utilize keen business sense, explore inner talent, doing something creative, do something that others cannot do, use skills to profit in business, compete with others	Raman and Jayasingam	2008
A bad situation in the labour market, a lack of interesting offers and job positions, creativity, knowledge about business, willingness to attempt to be one's own boss, the acquisition of priceless experience, the opportunity to realize one's potential, satisfaction with one's work	Bernat, Korpysa and Kunasz Czyżewska et al.	2008 2009

Table 6. Motives for establishing a business (continued)

Motives	Authors	Year
Affirmation of one's own values, acquiring a higher social status, the idea of developing new technology, accumulation of wealth	Staniewski	2009
Desire to be independent, monetary gain; unemployment, redundancy, lack of job prospects, family-related factors such as a desire for work-family balance	Kirkwood	2009
Economic reasons	Carsrud and Brännback	2009
Need for achievement, risk of unemployment, family pressure, dissatisfaction with one's present situation	Verheul, Thurik, Hessels and van der Zwan	2010
Economic independence, dissatisfaction with existing job, unemployment, seeking challenge, self-interest, self-prestige, traditional/hereditary, employment opportunities, financial assistance, technical knowledge, encouragement from family members, use of idle funds, infrastructural facilities, entrepreneurial experience, market potentials, family members interest, social status and family background	Jesurajan and Gnanadhas	2011
To be my own boss; to use my past experience and training, to prove that I can do it; to increase my income; to provide jobs to family members; for my own satisfaction and growth; so I will always have job security; to build a business to pass on; to maintain my personal freedom; to be closer to my family; to have fun	Stefanović, Ranković and Prokić	2011

Table 6. Motives for establishing a business (continued)

Motives	Authors	Year
Intrinsic and extrinsic rewards, the need for independence	Malebana	2014
self-realization and self-satisfaction, the possibility of higher earnings, independence in decision-making	Staniewski and Awruk	2015

Source: own work

do not always play the key role in motivating people to establish their own companies (DeMartino & Barbato, 2003).

In this chapter, we learned about definitional scope of business entrepreneurship and entrepreneurial success, and the practical applications of entrepreneurship were mentioned. Furthermore, various groups of predictors (i.e., the entrepreneurial versus the psychological approach) of entrepreneurial success were recognized. Finally, personality dispositions and motives for establishing a business were considered as factors affecting entrepreneurial success.

CHAPTER II

Conception and methodology

2.1. Research problem: research questions and hypothesis

In the previous section, a broad literature review about entrepreneurial success was presented and two approaches (organizational and psychological context) to successful entrepreneurship were stressed. Based on previous findings (see Chapter I), the conception of this study was designed and developed, and the complexity of successful entrepreneurship and the multidimensionality of determinants of entrepreneurial success were explored. Therefore, this section will be organized around three goals:

1. Presentation of the main conception of this study;
2. Presentation of an argument about why the topic “*Organizational and Psychological Predictors of Entrepreneurial Success*” is so crucial; and
3. Formulation of research questions and clarification of the research hypothesis.

The primary reason for writing this monograph was the current state of knowledge on the micro- and macrosocial implications of successful entrepreneurship (see Section 1.2); this study also considers the percentage of companies that fail (especially in the small and medium-sized

enterprises (*SMEs*) sector), which is referred to in the relevant literature as “Death Valley”.

The existence of Death Valley is supported by an array of studies; numerous international publications show that the most challenging period for a new enterprise is its first four years of activity (Backes-Gellner & Werner, 2003; Knaup & Piazza, 2007, pp. 3-10). Similar information is provided in the “Report on the Condition of Small and Medium-sized Enterprises in Poland, 2007-2008” issued by the Polish Agency for Enterprise Development (PARP) in 2009, which reports that approximately 35% of the enterprises established in 2003 survived until 2007 (PARP, 2009).

The juxtaposition of data on the significance of entrepreneurship for a country’s economy (De Soto, 1989; Dimitriadis, 2008; Ekpe, 2011; Ensari & Karabay, 2014; Janas, 2004; Rogerson, 2004; Wennekers & Thurik, 1999) with data on the failure rate of newly established enterprises (Sandner, Block & Lutz, 2008, pp. 753-777; Storey, 1994, pp. 139-150) has initiated the process of first designing and then developing this research project. The process was based on capturing the multidimensionality of the construct of entrepreneurial success, which is manifested in the manner of both operationalizing entrepreneurial success and preparing the juxtaposition of organizational and psychological factors that may potentially influence entrepreneurial success. The first step was to develop an indicator of entrepreneurial success that would encompass the complexity of the means of measuring success that is presented in the literature (see tables 2 and 3, Section 1.3). The general indicator of entrepreneurial success that had been developed constituted a compilation of 4 objective “indicators” (i.e., *Survival of Enterprise on the Market*, *Annual Turnover*, *Profitability*, and *Maintaining Liquidity*) and 3 subjective ones (i.e., *Level of Competitiveness*,

Level of Innovativeness, and *Self-Assessed Chances for Future Development of a Company*). A similar approach was adopted to preparing a juxtaposition of factors that might potentially influence entrepreneurial success. The factors were dichotomized (in accordance with the relevant literature) into two groups of variables (i.e., organizational/entrepreneurial versus psychological ones). The choice of this type of classification (into organizational versus psychological variables) was dictated by both a desire to simplify the overview of the juxtaposition and the fact that it was possible to classify an unlimited number of variables into the above-mentioned categories. Based on the results of previous research, the following organizational variables were included in the juxtaposition: *financial capital* (Bosma, van Praag & de Wit, 2000), *capital source* (Indarti & Langenberg, 2004), *age*, *management experience* (Bosma, van Praag & de Wit, 2000), *education* (Kamitewoko, 2013), *training* (Kader et al., 2009), *knowledge* (Bernat, Korpysa & Kunasz; 2008; Czyżewska et al., 2009; Ghosh & Kwan, 1996; Huck & McEwen, 1991; Pepponi, Pisoni & Onetti, 2014), and *social networks/customer relationships* (Chittithaworn, Islam, Keawchana & Yusuf, 2011; Makhbul, 2011; Reavley & Lithuchy, 2008; Suh & Kim, 2014). The manner of operationalizing the individual organizational/entrepreneurial variables is presented in table 7.

A similar manner of incorporating variables was adopted with respect to psychological factors. In that case, incorporation of the variables (into a group of potential psychological predictors) was preceded by an in-depth review of the relevant literature; therefore, only the variables whose predictive value had been indicated in the literature on multiple occasions were selected. Thus, two subgroups of psychological variables were created: personality and motivational variables. The subgroup of psychological-personality variables is composed of 14 items: *Risk-Taking Propensity*, *Autonomy*, *Disagreeableness*, *Open-*

Table 7. Operationalization of entrepreneurial/organizational factors

Organizational Variable	Samples of items
Financial capital	<i>"State the financial capital needed to start your business."</i>
Capital source	<i>"What sources of capital have you used to start your business activity?"</i>
Age	<i>"How old were you when you established (started) your business?"</i>
Management experience	<i>"Did you have (prior to establishing the business) professional experience in managing a company (e.g., as a director or a manager)?"</i> <i>"Did you have professional experience specific to the business that you currently run before you started it?"</i> <i>"Did you already have experience in running your own business prior to setting up the company that you currently run?"</i> <i>"Do your employees have specific professional experience/education (acquired, e.g., from previous employers) that is useful in your current business activity?"</i>
Enterprise owner	<i>"Are you the sole owner of the enterprise?"</i>
Education	<i>"Have you completed a postgraduate course that is useful from the perspective of the business activity that you currently conduct?"</i> <i>"Do your employees have specific professional experience/education (acquired, e.g., from previous employers) that is useful in your current business activity?"</i>
Training	<i>"Did you participate in expert training that were useful from the perspective of your business activity?"</i>

Table 7. Operationalization of entrepreneurial/organizational factors (continued)

Organizational Variable	Samples of items
Knowledge	<p><i>“Do you believe you have valuable, precious/unique knowledge/skills (that is/are unusual on the market and difficult (or even impossible) for the competition to copy) that is/are useful in running your business?”</i></p> <p><i>“Do your employees have valuable, precious/unique knowledge/skills (that is/are unusual on the market and difficult or impossible for the competition to copy) that is/are useful in running a business?”</i></p>
Social networks	<p><i>“Did you have contacts with clients before starting your business that you can currently use in your business activity?”</i></p> <p><i>“Do you have a family member that you may consider a successful entrepreneur (i.e., a person who has succeeded in running his or her own business)?”</i></p>

Source: own work

ness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Extraversion, Self-Efficacy, Resistance to Stress, Internal Locus of Control, Passion, and Authoritative Parenting. Conversely, the group of psychological-motivational variables included both economic motivators (e.g., *Possibility of Higher Earnings*) and non-economic motivators (e.g., *Self-realization and satisfaction*). Table 8 illustrates the manner of operationalizing psychological variables that was adopted in this study, along with examples of studies that empirically confirm the predictive value of a given variable. For the sake of providing a better overview of organizational and psychological variables employed in the present study, they are also presented in chart 6.

Table 8. Operationalization of psychological factors

Group	Factor	Samples of items	Empirical evidence
PERSONALITY	Risk-Taking Propensity	<i>"I am prone to taking even considerable risk, if only I believe that I might benefit"</i>	Rauch and Frese, 2007; Stewart and Roth, 2001; Zhang and Arvey, 2009
	Autonomy	<i>"I prefer the type of work in which no one is giving me orders"</i>	Van Gelderen and Jansen, 2006
	Disagreeableness	<i>"I am ready to fight for my own interest, even if that could hurt or offend someone"</i>	Engle, Mah, and Sadri, 1997
	Openness to Experience	<i>"I am interested in new scientific discoveries"</i>	Engle, Mah and Sadri, 1997
	Emotional Stability	<i>"I am often depressed or downhearted"</i>	Klein, Lim, Saltz and Mayer, 2004
	Conscientiousness	<i>"I postpone tasks too often"</i>	Costa, McCrae and Holland, 1984; De Fruyt and Mervielde, 1999
	Need for Achievement	<i>"I have no problem imposing discipline on myself, if it is needed to achieve the objective that is important to me"</i>	Caird, 1991
	Innovativeness	<i>"When I have an idea, I try to put it into practice to see if it translates into success"</i>	Rauch and Frese, 2007; Stewart and Roth, 2001; Zhang and Arvey, 2009

Table 8. Operationalization of psychological factors (continued)

Group	Factor	Samples of items	Empirical evidence
PERSONALITY	Extraversion	<i>"I often feel that I am full of energy to act"</i>	Klein, Lim, Saltz and Mayer, 2004
	Self-Efficacy	<i>"If I am faced with an unexpected situation, the first thought that comes to mind is: "You will certainly fail"</i>	Zhao, Seibert and Hills, 2005
	Resistance to Stress	<i>During exams or tests, I was so nervous that I forgot what I had actually learned"</i>	Timmons, Smollen, and Dingee, 1985
	Internal Locus of Control	<i>"I believe that success is achieved through hard work, and luck or bad luck play no major role"</i>	Makhbul, 2011
	Passion	<i>"I become almost completely involved in the ventures that I embark on"</i>	Frese and Gielnik, 2014; Cardon, Wincent, Singh and Drnovsek, 2009
	Authoritative Parenting	<i>"I think my parents were more demanding than the majority of my friends and colleagues' parents"</i>	Schmitt-Rodermund, 2004
MOTIVATIONAL	Economy	<i>Possibility of Higher Earnings</i>	Schumpeter, 1952; Parker, 2004; Wagner and Ziltener, 2008
		<i>Higher social status</i>	Wang, Walker and Redmond, 2006

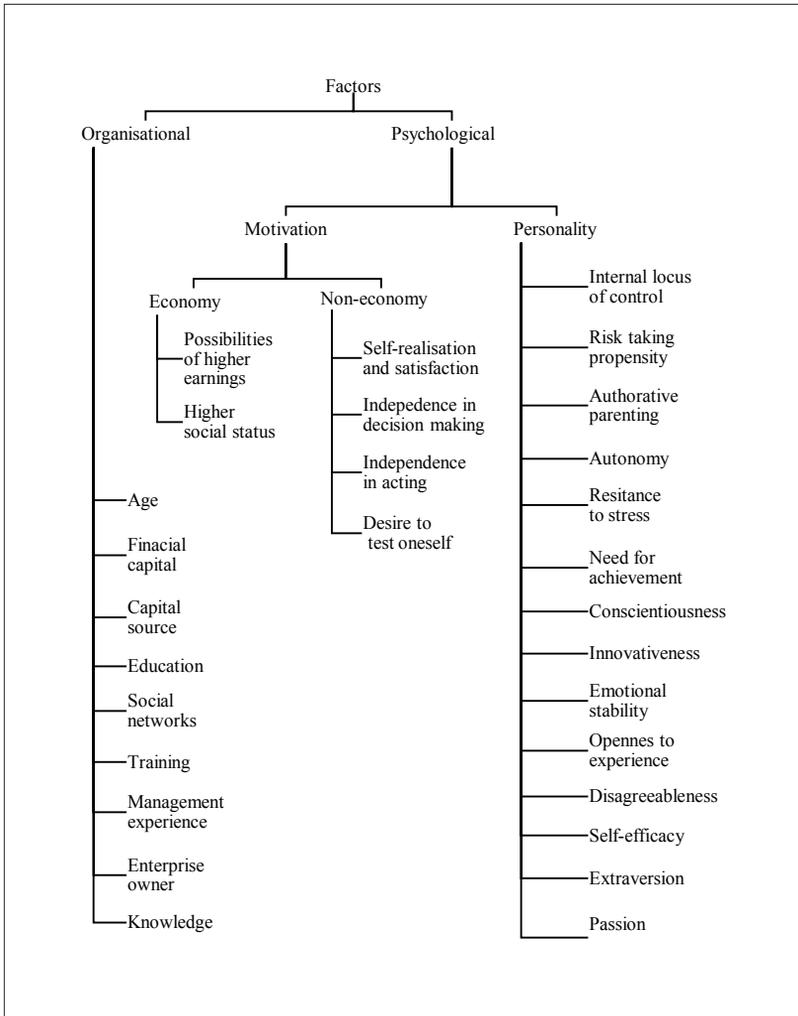
Table 8. Operationalization of psychological factors (continued)

Group	Factor	Samples of items	Empirical evidence
MOTIVATIONAL	Non-economy	<i>Self-realization and satisfaction</i>	Walker and Brown, 2004
		<i>Independence in decision making</i>	Staniewski and Awruk, 2015
		<i>Independence in Acting</i>	Kirkwood, 2009
		<i>Desire to test oneself</i>	Stefanović, Ranković, and Prokić, 2011

Source: own work

Another reason for developing the concept of this research project (besides the aforementioned significance of entrepreneurship and high failure rate of newly established companies) was the relatively small number of publications concerned with the objectives, scope and means of operation of enterprises in the initial stage of their development. There are also no papers that comprehensively analyze the factors that influence entrepreneurial success. The majority of studies have either focused on economic aspects and ignored psychological aspects (Indarti & Langenberg, 2004; Kamitewoko, 2013; Littunen, 2001; Wijewardena & Zoysa, 2005) or vice versa; i.e., they analyzed the traits of a “successful enterpriser” and disregarded the economic circumstances surrounding the business that this entrepreneur conducted, his or her resources, and his or her economic-political situation (Engle, Mah & Sadri, 1997; Görling & Rehn, 2008; Hisrich, Langan-Fix & Grant, 2007; Hostager, Neil, Docker & Lo-

Chart 6. Organizational and psychological factors used in this study



Source: own work

rentz, 1998; Klein, Lim, Saltz & Mayer, 2004). Certainly, there is a smaller number of studies that examine the issue, taking into consideration its multidimensionality and thus the role that both organizational/entrepreneurial and psychological factors play in achieving entrepreneurial success (Makhbul, 2011; Walker & Brown, 2004). Moreover, quantitative analyses are also lacking, especially those that result in the creation of certain statistical-econometric models that facilitate and improve the processes of making decisions about establishing, funding, and ongoing management of economic entities of this type, along with analyses that devote attention to the key success factors and crucial risk factors that might threaten the development and growth of newly established companies.

It is also noteworthy that entrepreneurial success among newly established companies has not been thoroughly examined in Poland. Numerous studies investigating Polish companies from the SME sector are concerned with the whole sector, not the development phases of such enterprises. Such studies concentrate almost exclusively on the economic aspects/factors and disregard the psychological factors that influence the entrepreneur. Within past few years, studies on the SME sector have been published that contain information and fundamental factual material about the following issues:

- The factors determining the operation, growth, and development of this group of companies and assessment of the general situation in this sector in particular periods of economic development in Poland (e.g., Dominiak, 2005; Skowronek-Mielczarek, 2003; Steinerowska-Streb, 2006; Wach & Wielgus, 2004; Wasilczuk, 2005; Zalewska, 1999);
- Motives for and barriers to the development of entrepreneurship (e.g., Kuszowiec, 2006; Łuczka, 2007; Poznańska, 2004; Stopczyński, 2003; Szarucki, 2007);

- SMEs' financing sources, including funds from the EU and support for entrepreneurship through financial institutions (e.g., Skowronek-Mielczarek, 2003; Zygierewicz, 2008);
- The influence of state economic and financial policies on SME development and the SME sector's impact on economic development (e.g., Gołębiowski, 2009; Janiuk, 2004; Woźniak, 2006; Wyszkowski, 2003);
- Innovation in the SME sector (e.g., Bojewska, 2006; Mazgajska, 2004; Nowacki & Staniewski, 2009; Szara, 2004; Szulakowski, 2004); and
- The dynamics and structure of companies' bankruptcies (Antonowicz, 2010a, 2010b).

There are several post-doctoral (inter alia, Gawęł, 2007; Wasilczuk, 2006) and doctoral theses on the economic determinants of entrepreneurship and the factors that contribute to SME growth. In addition, many statistics related to the SME sector have been periodically published in Poland; those statistics include, e.g., factual and empirical material from the Polish Agency for Enterprise Development, the Polish Foundation for Promotion and Development of SMEs, and the Central Statistical Office (e.g., periodic reports collectively titled "*Warunki powstania i działania oraz perspektywy rozwojowe polskich przedsiębiorstw powstałych w latach ...*" ["Perspectives on the Development and Conditions of Establishment and Operation of Polish Enterprises Set up in the Period..."]). The situation is similar in Europe, where a report titled "The European Observatory for SMEs" is published on a periodic basis (once a year).

Worldwide publications that are concerned with the sector of newly established companies, especially in the SME sector, contain the results

of research, analyses, and theoretical deliberations regarding the following topics and problems:

- The determinants of success of newly established companies (e.g., Sander, Block & Lutz, 2007);
- The methodology of valuating newly established enterprises and the determinants of their value or economic effectiveness (e.g., Damodaran, 2009);
- The funding of newly established companies, especially the importance of venture capital and private equity (e.g., Backes-Gellner & Werner, 2003; Block & Sandner, 2009; Hvide & Moen, 2007; Keuschnigg & Nielsen, 2002; Van de Gucht & Huyghebaert, 2002);
- The survival period of newly established enterprises (e.g., Knaup & Piazza, 2005, 2007);
- The significance of newly established enterprises for economic development (e.g., Jolanda, Hessels, von Gelderen & Thurik, 2006; Julien, 1998; Salimath, 2006);
- The innovativeness of newly established companies, primarily those in the new-technologies sector (e.g., Hampe & Steininger, 2001; Mann & Sager, 2005; Vermeulen, 2001); and
- Newly established companies' influence on employment (e.g., Baptista & Torres-Preto, 2006; Storey, 1988).

Taking into account all of the arguments presented above, this research project's primary objective was established as the **determination of the key organizational and psychological factors ensuring the survival of newly established companies operating in the SME sector and that started their business activity in Poland within the last four years**

(2008-2012). Because we specified our goals in this way, we adopted the following detailed objectives:

1. To develop appropriate research tools that would allow us to identify and monitor the factors that ensure the survival of newly established companies (namely, compilation of an initial group of test items, conducting pilot studies to construe the final versions of psychometric tools, conducting a study validating the psychometric tools (i.e., determining accuracy rates and reliability).

With the use of the developed research tools, we aim to do the following:

2. To determine the correlations between psychological traits (i.e., personality dispositions, motivation) and entrepreneurial success;
3. To identify the economic and psychological determinants of entrepreneurial success; and
4. To create motivational and psychological profiles of entrepreneurs that managed to keep their business running (throughout the replication study).

Based on the objectives provided above, the following research questions were formulated:

1. *Is there a correlation between personality traits and entrepreneurial success?*
2. *Are there correlations between personality traits and selected indicators of entrepreneurial success (i.e., maintaining financial liquidity, self-assessed chances for a company's future development, level of competitiveness, and level of innovativeness)?*
3. *What motives inspired the studied entrepreneurs to establish their own businesses? Is there a relationship between the types of motivation (i.e.,*

the economic, non-economic, and electric type) that inspires one to start a business and entrepreneurial success?

4. *Is there a correlation between organizational variables (i.e., knowledge-related and experiential factors) and entrepreneurial success?*
5. *What are the organizational and psychological predictors of entrepreneurial success and (based on the replication study) are these factors characterized by a “constant predictive power”?*

A review of the relevant literature allowed to formulate the following research hypotheses:

H1: Positive correlations are expected to be found between the personality dispositions of Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Extraversion, Self-Efficacy, Resistance to Stress, Internal Locus of Control, Passion, and Authoritative Parenting and entrepreneurial success (Caird, 1991; Costa, McCrae & Holland, 1984; De Fruyt & Mervielde, 1999; Engle, Mah & Sadri, 1997; Frese & Gielnik, 2014; Klein, Lim, Saltz & Mayer, 2004; Makhbul, 2011; Rauch & Frese, 2007; Schmitt-Rodermund, 2004; Stewart & Roth, 2001; Timmons, Smollen & Dingee, 1985; Van Gelderen & Jansen, 2006; Zhang & Arvey, 2009; Zhao, Seibert & Hills, 2005).

H2: It is expected that the personality dispositions of Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Extraversion, Self-Efficacy, Resistance to Stress, Internal Locus of Control, Passion, and Au-

thoritative Parenting **will considerably differentiate between groups of entrepreneurs**

1. Maintaining versus not maintaining financial liquidity;
2. Self-assessing low versus high chances for their companies' future development;
3. Low versus high level of competitiveness; and
4. Low versus high level of innovativeness.

(Caird, 1991; Costa, McCrae & Holland, 1984; De Fruyt & Mervielde, 1999; Engle, Mah & Sadri, 1997; Frese & Gielnik, 2014; Klein, Lim, Saltz & Mayer, 2004; Makhbul, 2011; Rauch & Frese, 2007; Schmitt-Rodermund, 2004; Stewart & Roth, 2001; Timmons, Smollen & Dinglee, 1985; Van Gelderen & Jansen, 2006; Zhang & Arvey, 2009; Zhao, Seibert & Hills, 2005).

H3: It is expected that in the majority of cases, entrepreneurs will be inspired to start their own business by **both** types of motives: i.e., the ***pull factors*** and the ***push factors*** (the so-called **electric type of factors**). It is assumed that ***self-realization and satisfaction*** together with ***independence*** will be the most commonly declared pull factors, whereas ***possibilities of higher earnings*** will be the most commonly declared push factor (Malebana, 2014; Robichaud, McGraw & Roger, 2001; Staniewski & Awruk, 2015; Van Gelderen & Jansen, 2006). Moreover, **positive correlations between the type of non-economic motivation and entrepreneurial success** are expected (DeMartino & Barbato, 2003; Humphreys & McClung, 1981; Pellegrino & Reece, 1982; Schwartz, 1976).

H4: It is expected that organizational variables such as **knowledge, experience, contacts with clients, and a successful entrepreneur in the fami-**

ly will considerably “differentiate” entrepreneurial success, namely, entrepreneurs with unique knowledge (or employees with such knowledge), professional experience, contacts with clients (prior to setting up their own businesses), and a successful entrepreneur in the family will achieve higher mean scores on the general indicator of entrepreneurial success compared to entrepreneurs who do not have such knowledge, experience, contacts, or a successful entrepreneur in the family (Ployhart & Moliterno, 2011; Rose et al., 2006).

H5: It is expected that among the psychological variables, the following are especially likely to be **the predictors of entrepreneurial success: *Extraversion, Conscientiousness, Openness, Disagreeableness, Emotional Stability, Need for Achievement, Self-Efficacy, Autonomy, and Resistance to Stress*** (Costa, McCrae & Holland, 1984; Engle, Mah & Sadri, 1997; McClelland, 1961; Timmons, Smollen & Dingee, 1985; Zhao, Seibert & Hills, 2005). Conversely, ***experience, unique knowledge (including employees’ knowledge), previous contacts with clients, and a successful entrepreneur in the family*** will be the **organizational predictors of entrepreneurial success** (Bosma, van Praag & de Wit, 2000; Katre & Salipante, 2012; Littunen, 2001; Pepponi, Pisoni & Onetti, 2014; Reuber & Fischer, 1997). **It is expected that two psychological variables—*Extraversion*** (generation of a support network (Aldrich & Zimmer, 1986; Busenitz, 1996; Johansson, 2000; Klein, Lim, Saltz & Mayer, 2004)) and ***Emotional Stability*** (greater self-confidence and persistence (Zhang at al., 2009, p. 96)—along with all of the organizational factors (provided above) (i.e., experience, knowledge, contacts with clients, and an entrepreneur in the family) will achieve “constancy of predictive power”.

2.2. Research method

In the previous section, we focused on the main conception of this study, which was placed in a theoretical framework. We presented a robust argument about why the topic of this research project is so essential, and we formulated research questions and research hypotheses in a clear way.

In this section three methods designed, developed and validated in this study will be described. Therefore, this section will be organized as follows:

- The *Multidimensional Business Data Sheet*, which serves to evaluate the first group of dependent variables (organizational factors) that will be presented to see how organizational/entrepreneurial factors were operationalized;
- The *Entrepreneurial Dispositions Personality Inventory* are used to assess the second group of dependent variables (psychological factors), which will be shown to see the manner in which this questionnaire was designed and developed; and
- The *Successful Entrepreneurship Scale*, which serves to determine the entrepreneurial success (independent variable) that will be described to see which indicators of successful entrepreneurship (presented in literature) were used.

The *Multidimensional Business Data Sheet (MBDS)* is a 31-item measure developed by Staniewski for the purpose of this study. This questionnaire was initially designed to evaluate the first group of dependent variables (organizational factors) and therefore the questionnaire contains items that generally referred to the commencement date of one's own business activity; voivodeship (headquarters of firm); owner status before com-

mencing the business; type of business, according to the Central Statistical Office; financial capital; operating range; financial sources used before the commencement of one's business activity; current financial sources; changes in a company; owner age when starting a business; management experience; experience running a business; motivating factors in the commencement of one's own business (*Possibility of Higher Earnings, Higher social status, Self-realization and satisfaction, Independence in decision making; Independence in Acting, Desire to test oneself*); education; post-graduate courses; professional training; valuable, unique knowledge; education of employees; experience of employees; valuable, unique knowledge of employees; relations with customers, successful entrepreneur in a family. The questionnaire serves also to determine some socio-demographic data such as sex, age and place of residence. Some items are open questions (e.g., *What professional training did you take? Which are the most valuable? What post-graduate courses did you take? Which are the most valuable?*) and others are closed questions (e.g., *Have you had any experience running a business before you started your own business? What changes do you want to make in your business in 2-3 years?*).

The ***Entrepreneurial Dispositions Personality Inventory (EDPI)*** is a 86-item instrument designed and developed by Janowski, Staniewski and Awruk to measure personality predictors of entrepreneurial behavior or more precisely to predict success in entrepreneurial activity, such as starting and successfully maintaining one's own business. This questionnaire is a self-reported measure serving to evaluate 14 psychological dispositions conceptualized as psychological characteristics (personality traits, beliefs, behavioral characteristics) that increase the likelihood of successful entrepreneurial ac-

tivity. In this place, it is worth to stress the term “*dispositions*”. Because some of these dispositions cannot be arguably called “traits” in a strict sense, we decided to term them personality dispositions because they are conceptualized as “predisposing” to or increasing the likelihood of entrepreneurial behavior. These 14 psychological dispositions are as follows:

1. *Risk-Taking propensity* is defined in the literature as “a tendency to take bold actions such as venturing into unknown new markets” (Lumpkin, Dess, 2001, 431). In the questionnaire, risk-taking propensity is understood as the readiness to take on a certain amount of risk to achieve one’s goal.
2. *Autonomy* is defined in the literature as “an independent action by an individual or a team aimed at bringing forth a business concept or a vision, and carrying it through to completion” (Islam, Khan, Obaidullah & Alam, 2011, p. 292). The meaning in the questionnaire is the ability to act and work on one’s own, without the supervision of others.
3. *Disagreeableness* is the opposite pole of Agreeableness. In the literature, Agreeableness is defined as “an inclination to go along with others and to comply with group norms and should capture one of the determinants of the implementation of an affiliation need” (Graziano & Eisenberg, 1997). The meaning used in the questionnaire is that Disagreeableness measures the ability to assertively confront and oppose others in the pursuit of one’s own goals.
4. *Openness to Experience* is the broadest domain in the literature, including a mix of traits relating to intellectual curiosity, intellectual interests, perceived intelligence, imagination, creativity, artistic and aesthetic interests, emotional and fantasy richness, and unconven-

tionality (Kaufman, 2013). In *EDPI*, openness to experience is understood as the trait responsible both for the need to try new things in life and for a creative attitude towards reality.

5. *Emotional Stability* is the opposite pole of neuroticism, which is understood in the literature as “[...] traits [that] predispose one to suffer more acutely from one’s misfortunes, but they do not necessarily diminish one’s joy or pleasures” (Costa & McCrae, 1980, p.674). The meaning of emotional stability used in the questionnaire is the personality trait responsible for retaining low levels of anxiety and maintaining high emotional control.
6. *Conscientiousness* is described in the literature as a broad domain of traits that subsumes multiple lower-order facets: industriousness, orderliness, impulse control, reliability, and conventionality. Conscientiousness is also associated with numerous behaviors such as finishing a task on time, arriving to a meeting on time, etc. (Jackson et al., 2010). In the questionnaire, conscientiousness is understood as the trait responsible for perseverance in pursuing one’s goals, concentration on achievements and preserving one’s own rules and standards.
7. *Need for Achievement* is defined in the literature as “[...] an intense, prolonged and repeated efforts to accomplish something difficult; to work with singleness of purpose towards a high and distant goal; to have the determination to win” (Kołodziej, 2010, p. 42; Murray, 1938). In the questionnaire, need for achievement represents high aspirations to successfully achieve social and personally valuable goals.
8. *Innovativeness* is defined in the literature as “the willingness to support creativity and experimentation (Islam, Khan, Obaidullah & Alam, 2011, p. 292). It was understood as the ability to think and

operate creatively and to search for original and novel solutions in the questionnaire.

9. *Extroversion* is described in the literature in terms of its traits, which “[...] contribute to one’s positive enjoyment . . . , although they do not generally appear to reduce the unpleasantness of adverse circumstances” (Cost & McCrae, 1980, p. 674). Its meaning in the questionnaire is as the trait responsible for high levels of energy that is reflected in social interactions and the preference for being with other people
10. *Self-Efficacy* is defined in the literature as “[...] a person’s belief in his or her capability to perform a given task” (Bandura, 1977; Islam, Khan, Obaidullah & Alam, 2011, 293). In *EDPI*, it is understood as a generalized belief that one is able to successfully confront different problems and tasks.
11. *Resistance to Stress* – in literature it is defined as “[...] people’s responses to stressful situations and their consequences for adaptation” (Mikolajczak, Luminet & Menil, 2006, p. 79). *EDPI* authors consider resistance to stress as the ability to maintain emotional stability and highly organized behavior when experiencing strong external or internal pressures.
12. *Internal Locus of Control* is referred to in the literature as attribution. It examines people’s control beliefs: i.e., the extent to which they perceive they are or are not in control of what happens to them (Daum & Wiebe, 2003, p. 7). The meaning used in the questionnaire is that locus of control is a generalized belief both that one is responsible for what happens in one’s life and that one’s own efforts bring about the desired effects.

13. *Passion* is understood in the literature as an intense, positive feeling toward entrepreneurial tasks and activities that are relevant to the entrepreneur's self-identity (Cardon et al. 2009; Frese & Gielnik, 2014, p. 426). The meaning of passion applied in the *EDPI* is the ability to generate high levels of enthusiasm and dedication when performing tasks.
14. *Authoritative Parenting* is characterized in the literature by monitoring, authority, warmth and autonomy (Zhao, Lim & Teo, 2012). *EDPI* authors' understanding of authoritative parenting is as a belief that one was raised by parents in an atmosphere of self-discipline and a focus on rule preservation¹.

The *EDPI* was developed in a series of prior studies. In Study 1 (211 participants), the pilot version of the *EDPI* (131 items) was tested and its basic psychometric properties were determined. In Study 1, two criteria for maintaining or deleting items from the subscale were used: item-total correlations and Cronbach's alpha for the subscale. Study 1 allows us to reduce the pool of items from the initial 131 to 86.

Study 2 (724 participants) was conducted to verify the convergent validity of the 14 subscales of the *EDPI*. The convergent validity was tested by assessing the relationships between the scores on the *EDPI* and similar constructs related to entrepreneurial personality dispositions as measured by independent instruments. Therefore, the correlations were calculated between scores for the *EDPI* subscales and scores were obtained using such measures as the NEO-FFI, Rotter's Locus of Control Scale, the State-Trait Anxiety In-

1 Samples of questions are available in Table 8.

ventory, the Generalized Self-Efficacy Scale, the Questionnaire of Achievement Motivation, the Questionnaire of Parenting Styles in a Family, and the Test of Risky Behaviors. Findings revealed that almost all of the subscales (with the exception of *Authoritative Parenting*) showed the expected pattern of correlation with similar concepts, as measured by independent tools.

Study 3 (192 participants: 92 entrepreneurs and 100 non-entrepreneurs) was conducted to test the construct validity of the *EDPI* by comparing the *EDPI* scores of entrepreneurs and those of non-entrepreneurs. Comparison of the scores on the *EDPI* between the entrepreneurs and the control group revealed significant differences for the majority of the *EDPI* subscales: *Risk-Taking Propensity*, *Autonomy*, *Openness to Experience*, *Emotional Stability*, *Conscientiousness*, *Innovativeness*, *Extraversion*, *Self-Efficacy*, *Need for Achievement*, *Resistance to Stress*, and *Passion*. Only three *EDPI* subscales (*Disagreeableness*, *Internal Locus of Control*, and *Authoritative Parenting*) did not differentiate between the two above-mentioned groups (entrepreneurs/non-entrepreneurs). Study 3 also confirmed the expected direction of differences between these groups for the majority of the subscales.

In a study of the development of the *EDPI*, reliability coefficients were found to be satisfactory or high for the majority of subscales, with Cronbach's alphas ranging from .48 for *Internal Locus of Control* to .87 for *Authoritative Parenting*. In this study, Cronbach's alpha varies from .55 for *Openness to Experience* to .87 for *Authoritative Parenting*.

The task of each participant is to voice his or her opinion about each statement by choosing from among 5 possible answers from 1 – *Definitely not true* to 5 – *Definitely true*. Although the general score in the questionnaire is calculated by summing up all of the results obtained for each of the 86 items, in the case of 23 test items, the scale needs to be reversed. The

general score ranges from 86 to 430 points. It is also important to calculate the results for each subscale separately. They are calculated similar to how the general score is counted by summing up the points for each test item that belongs to a given subscale. Higher scores in the subscales indicate greater intensification of the adequate construct.

The Successful Entrepreneurship Scale (SES) is a 7-item measure developed by Staniewski for the purpose of this study. This measure serves to evaluate entrepreneurial success, which is understood as a compilation of various indices of successful entrepreneurship presented in the literature (please see Table 2, section 1.3.). *SES* allows an assessment of the general indicator of entrepreneurial success that contains both subjective questions (e.g., level of innovativeness, level of competitiveness) and objective questions (e.g., survival, turnover, profitability). Samples of questions are as follows: “*Do you maintain financial liquidity?*”; “*How do you evaluate the level of competitiveness of your company compared to other firms?*” The general score is calculated by summing up the points obtained for individual test items. The non-diagnostic responses (i.e., *I do not know*, or *I do not have such information*) are awarded no points. The possible score ranges between 6 and 30 and the higher the score, the greater the intensity of entrepreneurial success.

2.3. Study procedure and study sample

In the previous section, three methods (*the Multidimensional Business Data Sheet*, *the Entrepreneurial Dispositions Personality Inventory* and *the Successful Entrepreneurship Scale*) used in the present study were shown. Thus, de-

tailed information about pilot studies, items, reliability and validity were described.

In this section, we will obtain information about study procedure and study sample from Study 1 and Study 2 (replication study). Therefore, this section will be divided into 4 parts:

1. The first part gives information about participants from Study 1. In this part, the reader will find information about respondents' sociodemographic data (e.g., sex, origin, education) along with information about post-graduate courses, employment status, etc.
2. The second part gives information about enterprises from Study 1. In this part, the reader will obtain information about operating range, annual turnover, sales performance, number of employees, level of innovation, etc.
3. The third part gives information about respondents from Study 2 (replication study). Similar to part 1, in this part the reader obtains information such as sex, origin, education, experience, employment status etc.
4. The fourth part gives information about enterprises from Study 2. Similar to part 2, in this part the reader obtains company data such as number of employees, level of innovation, sales performance, etc.

2.3.1. Study procedure and study sample (entrepreneurs) from Study 1

The study was carried out among entrepreneurs throughout Poland who established their companies between 2008 and 2012. While recruiting the

entrepreneurs for the study, various regional and nationwide databases of registered companies established between 2008 and 2012 were employed. Information that enabled us to make contact with entrepreneurs was obtained from the databases and contact was made by telephone, e-mail, or a letter to invite entrepreneurs to participate in the study. Overall, 1,262 entrepreneurs were effectively contacted and invited to participate in the study. Out of this number, 345 entrepreneurs agreed to participate and returned completed questionnaires. The remaining entrepreneurs either did not consent to participate or failed to return the questionnaires. Responses provided by 294 respondents were used in the analysis. The responses provided by the remaining 51 respondents were rejected because of incomplete data in the questionnaires.

The study was carried out between (2012-2015) by trained professionals; their tasks included the following: contacting entrepreneurs, giving them instructions about filling in the questionnaires, and collecting the completed sheets.

Finally, data were gathered from **294** entrepreneurs who established their business between 2008 and 2012 (2008, 46 persons; 2009, 46 persons; 2010, 84 persons; 2011, 78 persons; 2012, 40 persons). The sample was comprised of 108 women (37%) and 186 men (63%) between the age of 21 and 70 ($M= 34.48$, $SD= 9.19$). The majority of the participants of the study (52%) were residents of large cities (with a population of more than 100,000). The remaining persons lived in towns with a population of less than 100,000 (22.5%) or in the country (25.5%). Among the respondents, 53% received higher education, 37% received secondary education and 9% received vocational education. A preponderance of entrepreneurs declared that they did not take any post-graduate courses (81%) or under-

go professional training (67%). The sample of the surveyed entrepreneurs comprised 15% who established their business before the age of 23, 38% who established their business when they were 24-29 years old, 32% who established their business when they were 30-39 years old, 11% who established their business when they were 40-49 years old and 3% who established their business when they were more than 50 years old.

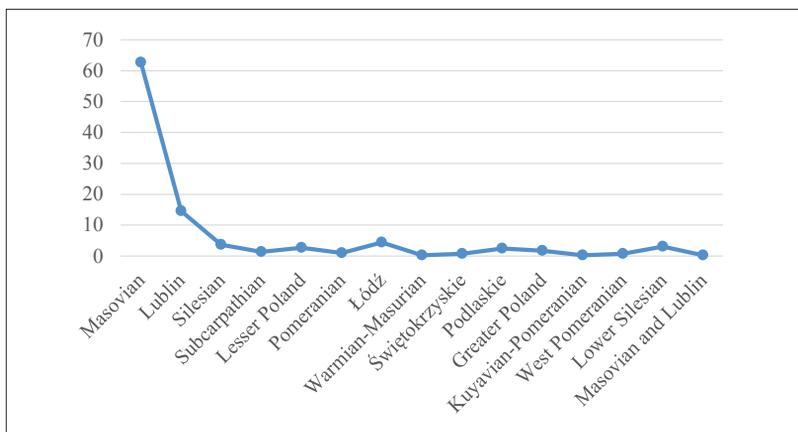
The employment status of these people varied before the establishment of their companies. The sample encompassed both persons who were previously active on the labour market (employed as a salary-earning worker, 28%; employed on the basis of a civil-law contract, 25%) and persons who had been unemployed (30%). The overwhelming majority of the respondents (87%) were the sole owners of the business activity they conducted; they also lacked experience in running a business (78%) or managing a company (66%) at the moment that they established their companies.

2.3.2. Study sample (enterprises) from Study 1

Among 294 participants, the majority of the respondents of the study run their business in the Mazowieckie (62.6%), Lubelskie (14.6%) and Łódzkie Voivodeships (4.4%) (see chart 7).

More than half of the surveyed enterprises (53%) were locally operating companies. The remaining companies conducted Poland-wide activity (21%), operated regionally (18%), or operated on an international scale (8%). The amount of registered capital required to start a business was usually low. Sixty percent of the enterprises had to provide no more than

Chart 7. Distribution of voivodeships in study sample from Study 1 (N=294)



Source: own work

PLN 20,000². The remaining companies needed more financial outlays (PLN 20,001-50,000, 22%; PLN 50,001-100,000, 11%; PLN 100,001-500,000, 5%; and more than PLN 100,000, 2%). There was an increase in annual turnover (compared to the turnover recorded in the previous year) enjoyed by 41% of the companies (a 7-10% increase was indicated by 24%; a 0-3% increase was indicated by 17%). Loss in annual turnover was suffered by 38% of the enterprises under analysis (a 7-10% loss was indicated by 20%; a 0-6% loss was indicated by 11%; a loss of more than 10% loss was indicated by 7%). Approximately 21% of entrepreneurs did not have

² Central Bank of the Republic of Poland currency exchange rate 1 USD=3.9200 PLN. Table of 2015-12-21.

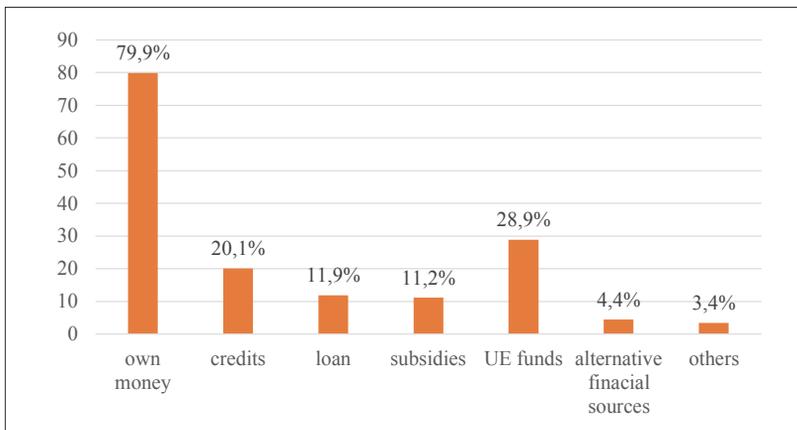
information about their companies' annual turnover. Sales performance in the previous year usually ranged between 0-10% (as indicated by 45%; 11-20% was indicated by 15%; over 20% was indicated by 9%). Eleven per cent of the analyzed businesses were losing money, although 20% of the entrepreneurs did not have information regarding this issue.

With respect to financial sources, the majority of the participants of the study used their own money (79.9%) and EU funds (28.9%) to start their businesses (see chart 8). They have also used their own money (89%) and credits (22%) to run a business (see Chart 9).

The level of employment in the successive years was as follows: 13.9% of the companies employed between 1 and 10 workers in 2008 (0.7% employed between 11 and 20; 0.3% employed over 20); 26.9% of the companies employed between 1 and 10 workers in 2009 (0.6% employed between 11 and 20; 0.6% employed over 20); 49% of the companies employed between 1 and 10 workers in 2010 (2.7% employed between 11 and 20; 0.9% employed over 20); 68.8% of the companies employed between 1 and 10 workers in 2011 (4.3% employed between 11 and 20; 0.9% employed over 20); and 74.8% of the companies employed between 1 and 10 workers in 2012 (3.6% employed between 11 and 20; 0.9% employed over 20). In 2008, eighty-five per cent of the surveyed respondents did not hire employees; in 2009, 71.8% did not hire employees; in 2010, 47.3% did not hire employees; in 2011, 25.9% did not hire employees; and in 2012, 20.4% did not hire employees.

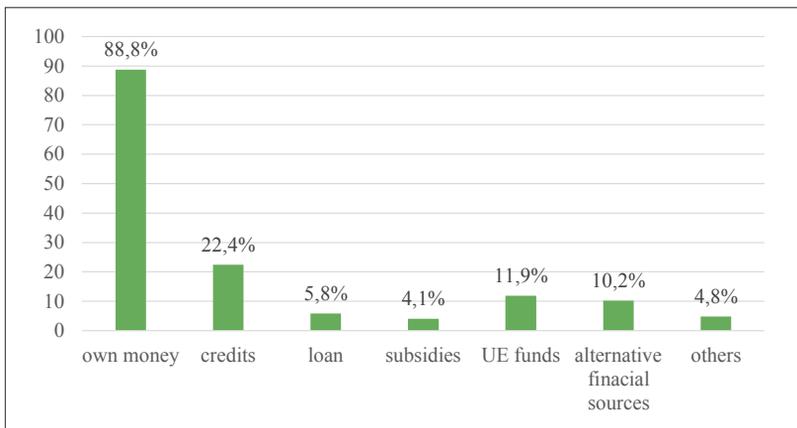
Mostly, the entrepreneurs perceived the level of innovativeness of their company as average (60%). However, many of them also evaluated this level to be high (27%) or very high (6%). In other cases, the level of innovativeness in a company was perceived as low (5%) or very low (3%). Regarding self-assessed chances for the company's future development of

Chart 8. Financial sources used to start a business (N=294)



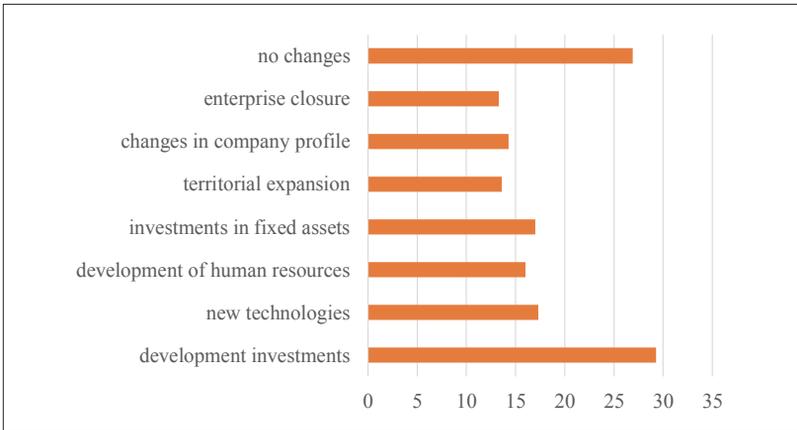
Source: own work

Chart 9. Financial sources used to run a business (N=294)



Source: own work

Chart 10. Development changes in the company in the next 2-3 years (N=294)



Source: own work

a company, 51.7% of the respondents declared their chances as average. Most respondents declared that they had have contacts with customers before they started a business (70.4%) and that they have an successful entrepreneur in the family (58.5%).

Most of the participants think about making changes in their own company (in the next 2-3 years); only 26.9% do not think about it (Chart 10).

2.3.3. Study sample (entrepreneurs) from Study 2

Study 2 (i.e., the replication study) was conducted 18 months after the first round of the study. All of the participants in study 1, i.e., 294 people

who set up a business in Poland between 2008 and 2012, were invited to take part in study 2. Ultimately, eighty-three people agreed to participate in the replication study; however, further analysis was based on the results obtained from 49 people (year of establishment: 2008, 9 companies; 2009, 11 companies; 2010, 15 companies; 2011, 14 companies), who had managed to “maintain” their business activity³.

The participants included 21 women (42.9%) and 28 men (57.1%) aged between 23 and 55 ($M=35.47$, $SD=8.07$), who mostly came from large cities (with a population of more than 100,000) (34.7%) and had a master’s degree (36.7%). A smaller percentage of people came from small towns (up to 100 residents) (26.5%) and villages (38.8%). Similarly, there were a smaller percentage of people with vocational education (18.4%), secondary general education (14.3%), secondary technical education (14.3%), bachelor’s degrees (14.3%), and a higher education degree in engineering (2%). As far as trainings, courses, and postgraduate studies are concerned, the majority of the respondents declared that they did not take part in any specialist trainings/courses (75.5%) or postgraduate studies (73.5%) and that they had no unique/precious knowledge (85.7%). The respondents mostly had no professional experience in running an enterprise (e.g., as a manager) (71.4%) or experience in running their own business (77.6%). However, the respondents had experience specific to running their businesses (53.1%), contacts with clients prior to establishing the business (61.2%), and a successful entrepreneur in the family (65.3%).

3 All of the entrepreneurs whose individual business activity status during the second round of the study was either “*suspended*” or “*de-registered*” were excluded from the analyses.

Most of the participants in the study declared that their status before setting up their own business as unemployed (28.6%), working based on civil-law contracts (i.e., to do specific work or under an agency contract) (24.5%), employed (24.5%), a graduate (16.3%), or conducting a different business activity (6.1%). Most of the respondents (i.e., 95.9%) declared that they were the sole owners of their company and started it aged between 24 and 29 (38.8%). A smaller percentage of people started a company aged between 30 and 39 (32.7%), up to 23 (14.3%), 40-49 (10.2%), or over 50 (4.1%).

2.3.4. Study sample (enterprises) from Study 2

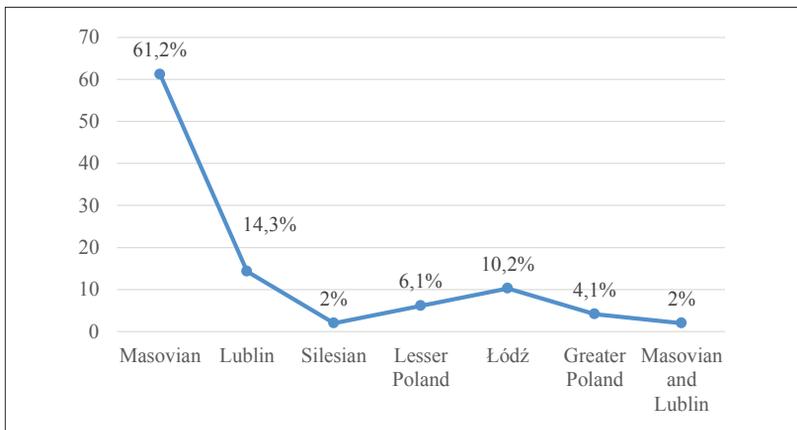
The replication study was conducted on a group of 49 companies operating all over Poland; the majority was situated in the Mazowieckie Voivodeship (61.2%), Lubelskie Voivodeship (14.3%), and Łódzkie Voivodeship (10.2%) (chart 11) and operated locally (51%), regionally (24.5%), nationally (18.4%), or globally (6.1%).

The largest proportion of companies needed the financial capital to start a company of up to PLN 4,000 (24.5%); PLN 4,001-10,000 (22.4%), PLN 10,001-20,000 (22.4%), PLN 20,001-50,000 (14.3%), PLN 50,001-100,000 (10.2%), or PLN 100,001-500,000 (6.1%).

With respect to the sources of funding (required to set up one's own business activity), the majority of the entrepreneurs used their own funds (79.6%), EU funds (24.5%), and/or loans (18.4%) (chart 12).

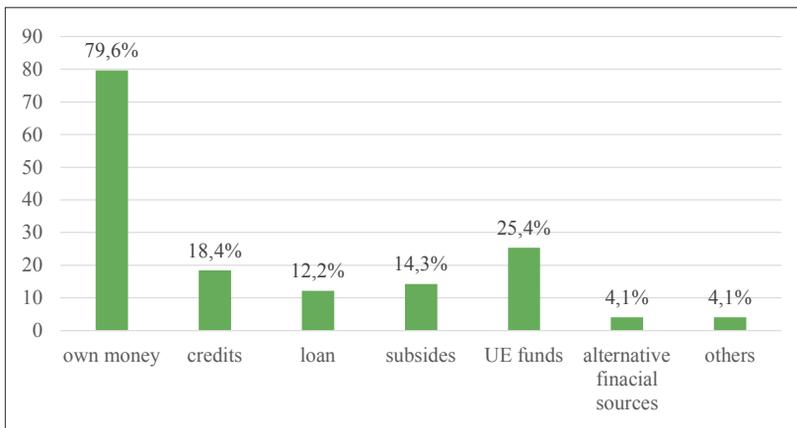
The entrepreneurs' current sources of financing are mainly their own funds (79.6%), loans (38.7%), alternative funding sources (e.g., leasing) (22.4%), and/or EU funds (14.3%) (chart 13).

Chart 11. Distribution of voivodeships in study sample from Study 1 (N=49)



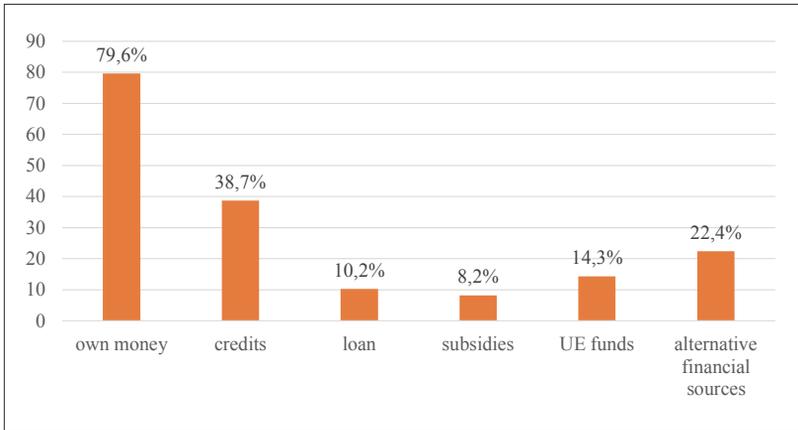
Source: own work

Chart 12. Financial sources used to start a business (N=49)



Source: own work

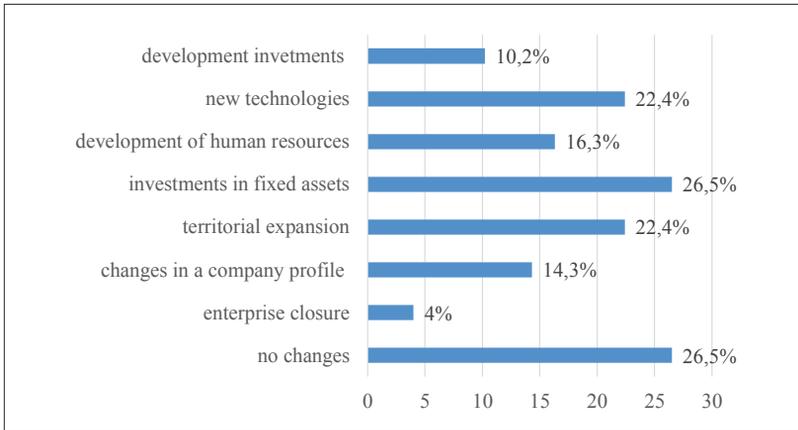
Chart 13. Financial sources used to run a business (N=49)



Source: own work

Among the respondents, 20.4% registered an increase in turnover (in relation to the previous year) by 7-10%, 18.4% registered an increase of above 10% per annum, 16.3% registered an increase of 0-3% per annum, and 14.3% registered an increase of 4-6% per annum, whereas 4.1% registered a loss of 0-3% per annum, 4.1% registered a loss of over 10% per annum, 2% registered a loss of 4-6% per annum, and 20.4% declined to respond. The study participants reported sales profitability during the previous year of 6-10% (32.7%), 0-5% (22.4%), 11-15% (6.1%), a deficit (8.2%), 16-20% (4.1%), or over 20% (4.1%). However, 22.4% of people claimed they had no such information. Liquidity (i.e., the ability to pay ongoing bills/liabilities) was maintained by 89.8% of the respondents.

Chart 14. Development changes of company in the next 2-3 years (N=49)



Source: own work

The level of the companies' competitiveness was evaluated by the majority of the participants in the study as average (55.1%), high (22.4%), very high (10.2%), low (6.1%), or very low (6.1%). The level of innovativeness was assessed similarly. Predominantly, the respondents declared that the level of innovativeness in their firm was average (49%), high (30.6%), low (14.3%), very high (2%), or very low (2%). One person (2%) declined to respond to this question. The respondents reported the chances for future development were average (57.1%), high (24.5%), or small (18.4%). The chances for the development of the industry were assessed as average (57.1%), high (30.6%), or low (12.2%).

The respondents also planned to introduce changes into their business activity (within the coming 2-3 years). The most common chang-

es that the participants in the study mentioned were most investment in fixed assets (26.5%), new technologies (22.4%), or territorial expansion (22.4%). A high percentage of the respondents decided not to implement any changes (26.5%). The level of planned change with respect to developing human resources was similar to that of study 1 (16.3%). Chart 14 presents the changes that the respondents intended to implement within the coming 2-3 years.

CHAPTER III

Results and conclusions

In chapter II, we learned about this study's main goals, research questions and hypotheses . We also learned about three instruments (the *Multidimensional Business Data Sheet*, the *Entrepreneurial Dispositions Personality Inventory* and the *Successful Entrepreneurship Scale*) used in this study. In chapter II, we also obtained detailed data about the two study samples (from Study 1 and Study 2).

In this chapter, we will see the results of Study 1 and Study 2 (replication study). Therefore, this chapter will be organized into approximately 6 sections.

From Study 1:

1. In section 3.1, we will talk about the personality dispositions profile of the entrepreneurs. Moreover, the relationship between 14 personality dispositions and entrepreneurial success will be discussed.
2. Section 3.2 will be a continuation of section 3.1 and the relationship between personality dispositions and selected indicators of entrepreneurial success will be presented.

3. In section 3.3, we will learn about entrepreneurial motivation. Therefore, both motives for establishing a business and types of motives (economic, non-economic and eclectic) will be presented. This section will close with information about the associations between types of motivation and entrepreneurial success.
4. In section 3.4, the relationships between selected organizational variables and entrepreneurial success will be presented.
5. Section 3.5 will be completely devoted to the issue of predictors of entrepreneurial success. Thus, the findings received from regression analysis will be exhaustively discussed.

From Study 2 (replication study):

6. In section 3.5, the personality and motivation profile of entrepreneurs who remained in business 1.5 years after Study 1 will be shown.
7. Finally, a lengthy discussion with some practical recommendations received from these two studies will close this paper.

3.1. Relationships between personality dispositions and entrepreneurial success

The first stage of analysis was to check the distribution of the results in each subscale of the *Entrepreneurial Dispositions Personality Inventory* (i.e., *Risk-Taking Propensity*, *Autonomy*, *Disagreeableness*, *Openness to Experience*, *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, *Innovativeness*, *Extroversion*, *Self-Efficacy Resistance to Stress*, *Internal Locus of Control*, *Passion*, and *Authoritative Parenting*) and the distribution of the general score in

the *Successful Entrepreneurship Scale*. Thus descriptive statistics were estimated, such as arithmetic mean, standard deviation, median, kurtosis, skewness, the minimum, and the maximum. As table 9 demonstrates, the distributions of the scores in both questionnaires were close to the normal one, which is indicated by the values of skewness and kurtosis that did not exceed 1.

An analysis of the descriptive statistics (in addition to the above-mentioned verification of the distribution of the scores) also enabled the creation of a personality profile of entrepreneurs conducting their own business activity (round 1 of the study). The mean scores obtained by the entrepreneurs under examination in each personality disposition, *EDPI*, are noted in chart 15.

With median as the criterion for particular personality dispositions, high scores were considered to be those whose median was higher or equal to (Table 9)

- 19 for *Risk-Taking Propensity*;
- 24 for *Autonomy*;
- 19 for *Disagreeableness*;
- 20 for *Openness to Experience*;
- 22 for *Emotional Stability*;
- 26 for *Conscientiousness*;
- 24 for *Need for Achievement*;
- 24 for *Innovativeness*;
- 26 for *Extraversion*;
- 24 for *Self-Efficacy*;
- 26 for *Resistance to Stress*;
- 19 for *Internal Locus of Control*;
- 23 for *Passion*; and
- 16 for *Authoritative Parenting*.

Table 9. Descriptive statistics for the EDPI and the SES scores

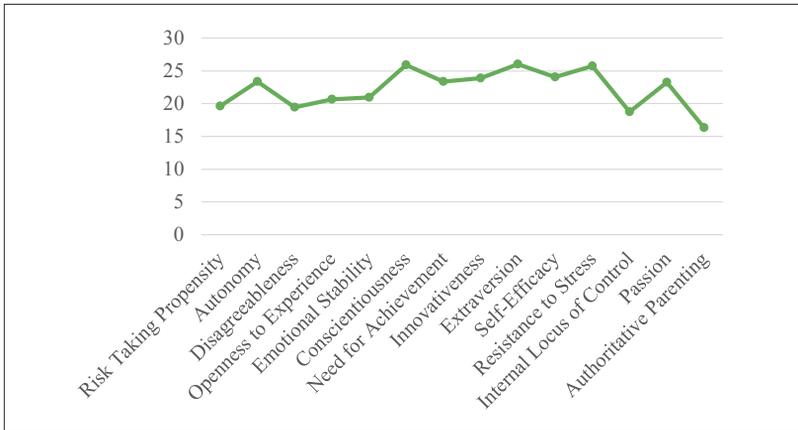
	M	SD	Me	Skew-ness	Kurto-sis	Mini-mum	Maxi-mum
Risk Taking Propensity_EDPI	19.63	3.84	19	-0.06	-0.30	9	28
Autonomy_EDPI	23.35	3.67	24	-0.38	0.04	10	30
Disagreeableness_EDPI	19.42	4.37	19	-0.07	-0.39	7	29
Openness to Experience_EDPI	20.64	3.61	20	-0,03	0.21	8	30
Emotional Stability_EDPI	20.93	4.99	22	-0.34	-0.44	6	30
Conscientiousness_EDPI	25.89	4.26	26	-0.15	-0.73	16	35
Need for Achievement_EDPI	23.36	3.59	24	-0.40	-0.43	14	30
Innovativeness_EDPI	23.87	3.14	24	-0.35	-0.18	15	30
Extraversion_EDPI	26.00	4.30	26	-0.12	-0.50	14	35
Self-Efficacy_EDPI	24.03	3.23	24	-0.40	0.20	12	30
Resistance to Stress_EDPI	25.70	4.33	26	-0.15	-0.08	11	35
Internal Locus of Control_EDPI	18.77	3.62	19	0.05	-0.30	8	28
Passion_EDPI	23.27	3.79	23	-0.23	0.01	11	30
Authoritative Parenting_EDPI	16.30	4.89	16	-0.19	-0.37	5	25
Entrepreneurial success_SES	18.11	4.45	18.5	-0.28	-0.68	7	27

Source: own work

*M – mean, SD – standard deviation; Me – median

**EDPI – Entrepreneurial Dispositions Personality Inventory; SES –Successful Entrepreneurship Scale

Chart 15. Personality disposition profile in entrepreneurs (N=294)



Source: own work

Analyzing chart 15 and taking into account the above-mentioned criterion of the median, it should be assumed that the personality profile of people who ran their own business during the first round of the study is as follows:

- High scores in *Risk-Taking Propensity*, *Disagreeableness*, *Openness to Experience*, *Extraversion*, *Self-Efficacy*, *Passion*, and *Authoritative Parenting*.
- Scores that were considered low (although only slightly lower than the accepted value of the median for a given personality disposition) in *Autonomy*, *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, *Innovativeness*, *Resistance to Stress*, and *Internal Locus of Control*.

Taking into consideration the small differences between the value of the median and the arithmetic mean for the personality dispositions *Autonomy*,

Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Resistance to Stress, and Internal Locus of Control, it may be assumed that high intensity of each of the above personality dispositions is significant to the process of running one's own business.

The second stage of the analyses was to determine the correlations between personality dispositions and entrepreneurial success. To accomplish this objective (conforming to the assumption of normality of distribution, $N=294$), the parametric r-Pearson correlation was performed. Thus the scores obtained for 14 EDPI personality dispositions (*Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Extraversion, Self-Efficacy, Resistance to Stress, Internal Locus of Control, Passion, and Authoritative Parenting*) were correlated with the scores in the general indicator of entrepreneurial success, operationalized with the use of a combination of 7 objective and subjective indicators of entrepreneurial success (please see sections 2.1. and 2.2.). The correlations found between the 14 personality dispositions and the general indicator of entrepreneurial success are presented in table 10.

The obtained matrix of correlations revealed an array of significant relations between personality dispositions and the general indicator of entrepreneurial success. **Positive significant correlations** were discovered between **11 personality dispositions** (*Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Self-Efficacy, Resistance to Stress, and Internal Locus of Control*) **and entrepreneurial success**. No significant correlation was found between 3 personality dispositions (i.e., *Extraversion, Passion, and Authoritative Parenting*) and entrepreneurial success.

Table 10. Relationships between personality dispositions and the general indicator of entrepreneurial success⁴

	<i>Entrepreneurial success</i>	
	r	P
<i>Risk Taking Propensity_EDPI</i>	0.13	0.022
<i>Autonomy_EDPI</i>	0.19	0.001
<i>Disagreeableness_EDPI</i>	0.21	0.000
<i>Openness to Experience_EDPI</i>	0.15	0.014
<i>Emotional Stability_EDPI</i>	0.20	0.001
<i>Conscientiousness_EDPI</i>	0.15	0.009
<i>Need for Achievement_EDPI</i>	0.30	0.000
<i>Innovativeness_EDPI</i>	0.23	0.000
<i>Extraversion_EDPI</i>	0.07	0.240
<i>Self-Efficacy_EDPI</i>	0.20	0.001
<i>Resistance to Stress_EDPI</i>	0.22	0.000
<i>Internal Locus of Control_EDPI</i>	0.15	0.009
<i>Passion_EDPI</i>	0.11	0.061
<i>Authoritative Parenting_EDPI</i>	0.05	0.425

Source: own work

⁴ In table 10, the cells containing significant correlations are marked in bold for the sake of a better overview.

3.2. Relationship between personality dispositions and selected indicators of entrepreneurial success

This subsection will constitute a continuation of the previous subsection in which the personality profile of enterprisers created based on the median, the arithmetic mean and the correlations between the general indicator of entrepreneurial success (described in Chapter II) and 14 personality dispositions (*Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Extroversion, Self-Efficacy, Resistance to Stress, Internal Locus of Control, Passion, and Authoritative Parenting*) are presented. This subsection illustrates the correlations between 14 personality dispositions and the 4 selected indicators of entrepreneurial success. To determine the aforementioned correlations, mean scores obtained in 14 subscales of the *EDPI* were compared in four groups:

1. Maintaining versus not maintaining financial liquidity;
2. low versus average versus high level of competitiveness;
3. low versus average versus high self-assessed chances for the company's future development; and
4. low versus average versus high level of innovativeness.

Because of a lack of compliance with one of the criteria for using parametric tests—the assumption of equinumerosity of the groups under examination—a non-parametric Mann-Whitney U test (comparing two groups with each other) and a Kruskal-Wallis test (comparing three groups with one another) were performed.

First, the mean scores obtained for 14 *EDPI* personality dispositions were compared with the use of the non-parametric Mann-Whitney U test in two groups of respondents (maintaining versus not maintaining financial liquid-

ity). The obtained results indicate that people maintaining financial liquidity are significantly different from people who do not maintain financial liquidity in terms of 6 personality dispositions (*Emotional Stability, Conscientiousness, Need for Achievement, Innovativeness, Self-Efficacy, and Resistance to Stress*) because on average, they achieve higher scores for these dispositions. Differences with respect to the remaining 8 personality dispositions (i.e., *Risk-Taking Propensity, Autonomy, Disagreeableness, Openness to Experience, Extraversion, Internal Locus of Control, Passion, and Authoritative Parenting*) in people maintaining financial liquidity versus not maintaining it turned out to be statistically insignificant. The obtained differences in terms of the mean scores achieved for 14 personality dispositions are provided in table 11 and chart 16.

Another step in the analyses was to verify the differences in terms of the mean scores obtained for 14 personality dispositions in three groups (low versus average versus high level of competitiveness). Thus (because of the lack of equinumerosity of the groups under examination), a non-parametric Kruskal-Wallis test was performed. The obtained results indicate significant differences with respect to the mean scores achieved for *Risk-Taking Propensity, Emotional Stability, Need for Achievement, Innovativeness, Self-Efficacy, and Resistance to Stress*. In other words, people who assessed their company's level of competitiveness as high simultaneously had higher mean scores in *Risk-Taking Propensity, Emotional Stability, Need for Achievement, Innovativeness, Self-Efficacy, and Resistance to Stress*. The remaining differences in terms of the mean scores in the subscales for *Autonomy, Disagreeableness, Openness to Experience, Conscientiousness, Extraversion, Internal Locus of Control, Passion, and Authoritative Parenting* were found to be statistically insignificant. The obtained results are presented in table 12 and chart 17.

Table 11. Entrepreneurial personality dispositions in entrepreneurs maintaining and not maintaining liquidity of their business⁵

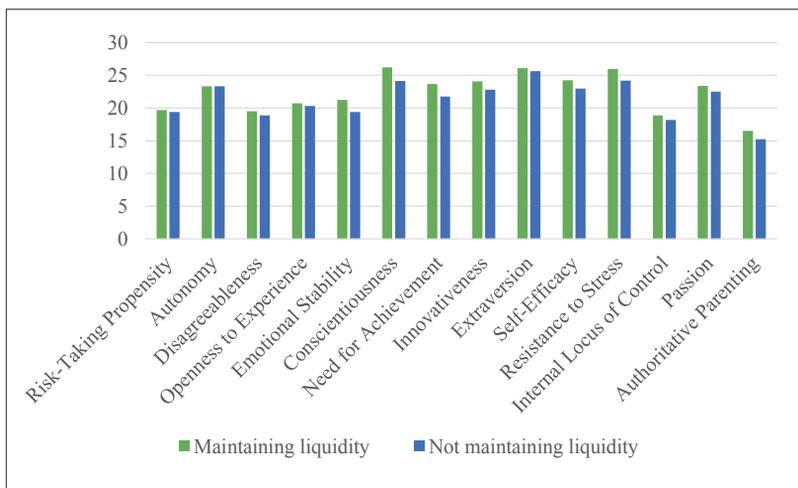
	<i>Maintaining liquidity</i> (N=246)		<i>Not maintaining liquidity</i> (N=48)		Z	P
	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	19.68	3.87	19.38	3.72	-.396	0.692
<i>Autonomy</i>	23.35	3.61	23.34	3.97	-.070	0.944
<i>Disagreeableness</i>	19.53	4.35	18.87	4.48	-.948	0.343
<i>Openness to Experience</i>	20.70	3.63	20.30	3.57	-.835	0.403
<i>Emotional Stability</i>	21.24	4.99	19.40	4.74	-2.450	0.014
<i>Conscientiousness</i>	26.22	4.15	24.13	4.46	-2.878	0.004
<i>Need for Achievement</i>	23.67	3.52	21.76	3.54	-3.193	0.001
<i>Innovativeness</i>	24.08	3.09	22.79	3.20	-2.218	0.027
<i>Extraversion</i>	26.08	4.27	25.63	4.43	-.665	0.506
<i>Self-Efficacy</i>	24.23	3.17	23.00	3.39	-2.419	0.016
<i>Resistance to Stress</i>	26.00	4.31	24.17	4.16	-2.641	0.008
<i>Internal Locus of Control</i>	18.88	3.56	18.19	3.92	-.969	0.333
<i>Passion</i>	23.41	3.68	22.49	4.30	-1.216	0.224
<i>Authoritative Parenting</i>	16.50	4.79	15.24	5.32	-1.424	0.155

Source: own work

p≤0.05

⁵ In table 11, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 16. Differences in EDPI mean scores in persons maintaining liquidity and those who did not maintain such liquidity



Source: own work

In the next stage of the analyses, the correlations between 14 personality dispositions and the participants' self-assessed chances for their companies' future development were verified by exploring the differences in the average intensification of the scores in the *EDPI* subscales of 3 groups of people (i.e., those who assessed chances of their company to develop in the future as low, average, or high). Because of the lack of equinumerosity of the examined groups, a non-parametric Kruskal-Wallis test was also performed. As demonstrated in table 13, people who declared that the chances of their company to develop in the future were relatively high scored higher, on average, in the following *EDPI* subscales: *Risk-Taking Propensity*, *Autonomy*, *Disagreeable-*

Table 12. Entrepreneurial personality dispositions in entrepreneurs who evaluated their level of competitiveness as high, average and low⁶

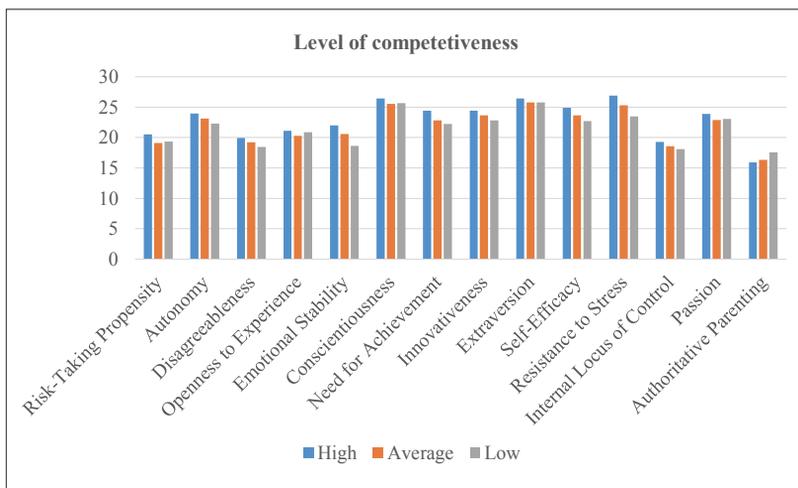
	level of competitiveness						Kruskal-Wallis H	
	High (N=106)		Average (N=163)		Low (N=25)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	20.49	3.89	19.12	3.90	19.36	2.46	4.17	0.016
<i>Autonomy</i>	23.96	3.61	23.10	3.61	22.29	3.99	2.87	0.058
<i>Disagreeableness</i>	19.92	4.21	19.24	4.43	18.48	4.65	1.41	0.244
<i>Openness to Experience</i>	21.09	3.31	20.30	3.73	20.88	3.99	1.56	0.213
<i>Emotional Stability</i>	22.02	4.58	20.57	5.02	18.60	5.50	5.86	0.003
<i>Conscientiousness</i>	26.45	4.29	25.55	4.16	25.65	4.74	1.45	0.237
<i>Need for Achievement</i>	24.43	3.39	22.83	3.61	22.25	3.31	7.88	0.000
<i>Innovativeness</i>	24.43	2.88	23.65	3.17	22.80	3.67	3.61	0.028
<i>Extraversion</i>	26.45	4.10	25.75	4.32	25.80	4.92	0.87	0.419
<i>Self-Efficacy</i>	24.91	3.08	23.66	3.27	22.72	2.84	7.30	0.001
<i>Resistance to Stress</i>	26.88	4.14	25.29	4.37	23.48	3.63	8.12	0.000
<i>Internal Locus of Control</i>	19.26	3.71	18.55	3.69	18.09	2.47	1.66	0.192
<i>Passion</i>	23.91	3.77	22.89	3.61	23.04	4.67	2.36	0.096
<i>Authoritative Parenting</i>	15.94	4.85	16.34	4.93	17.54	4.77	1.06	0.349

Source: own work

p≤0.05

⁶ In table 12, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 17. Differences in EDPI mean scores in persons who evaluated their level of competitiveness as high, average and low



Source: own work

ness, *Openness to Experience*, *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, *Resistance to Stress*, *Internal Locus of Control*, and *Passion* compared to people assessing these chances as average or low. The remaining differences in terms of the mean scores achieved in the subscales: *Extraversion* and *Authoritative Parenting* turned out to be statistically insignificant. The obtained results are presented in table 13 and chart 18.

In the next stage of the analyses, the correlations between 14 personality dispositions and the level of innovativeness were verified by exploring the differences in the average intensification of the scores in the *EDPI* subscales of 3 groups of people (i.e., those who assessed their level of innovativeness

Table 13. Entrepreneurial personality dispositions in entrepreneurs who evaluated the chances for their companies' future development as high, average and low⁷

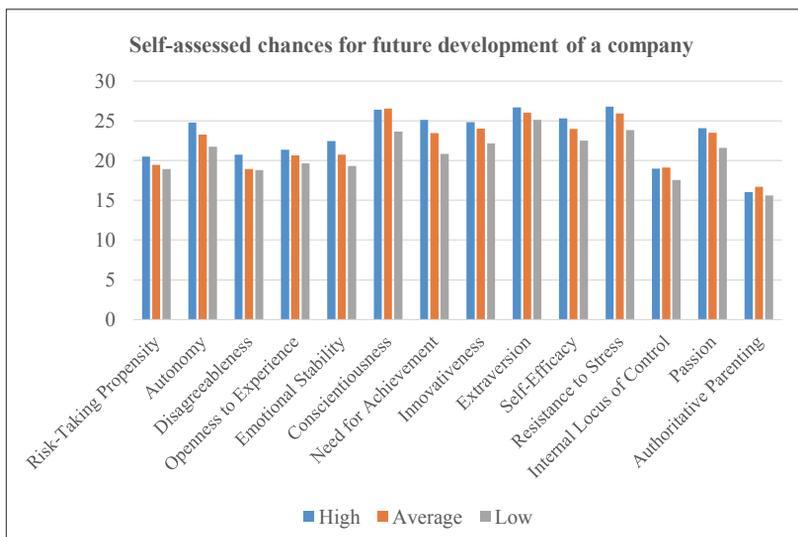
	Self-assessed chances for the company's future development						Kruskal-Wallis H	
	High (N=80)		Average (N=152)		Low (N=62)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	20.49	3.40	19.48	3.81	18.92	4.27	3.23	0.041
<i>Autonomy</i>	24.78	3.34	23.27	3.29	21.73	4.21	13.09	0.000
<i>Disagreeableness</i>	20.75	4.06	18.95	3.99	18.80	5.26	5.29	0.006
<i>Openness to Experience</i>	21.35	3.40	20.65	3.55	19.65	3.87	3.87	0.022
<i>Emotional Stability</i>	22.48	4.48	20.77	4.73	19.32	5.68	7.46	0.001
<i>Conscientiousness</i>	26.39	4.07	26.54	3.96	23.63	4.51	11.45	0.000
<i>Need for Achievement</i>	25.13	3.04	23.47	3.38	20.85	3.34	29.24	0.000
<i>Innovativeness</i>	24.85	2.93	24.04	2.82	22.18	3.49	14.34	0.000
<i>Extraversion</i>	26.67	4.10	26.03	4.17	25.10	4.74	2.33	0.099
<i>Self-Efficacy</i>	25.30	3.29	23.97	2.93	22.50	3.21	14.06	0.000
<i>Resistance to Stress</i>	26.77	4.17	25.91	3.97	23.82	4.83	8.80	0.000
<i>Internal Locus of Control</i>	18.97	3.76	19.13	3.36	17.58	3.90	4.17	0.016
<i>Passion</i>	24.10	3.43	23.49	3.49	21.59	4.45	8.35	0.000
<i>Authoritative Parenting</i>	16.03	4.67	16.70	4.97	15.63	4.95	1.19	0.306

Source: own work

p≤0.05

⁷ In table 13, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 18. Differences in EDPI mean scores in persons who evaluated the chances for their companies' future development as high, average and low



Source: own work

as low, average, or high). Because of the lack of equinumerosity of the examined groups, a non-parametric Kruskal-Wallis test was also performed. As table 14 and chart 19 demonstrate, people who assessed the level of innovativeness of their company as high obtained higher mean scores in the following subscales of the EDPI: *Autonomy*, *Disagreeableness*, *Openness to Experience*, *Emotional Stability*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, and *Authoritative Parenting* compared to people who assessed the level of innovativeness of their firms to be average or low. The remaining differences in terms of the mean scores achieved in the EDPI subscales: *Risk-Taking*

Table 14. Entrepreneurial personality dispositions in entrepreneurs who evaluated their level of innovation as high, average and low⁸

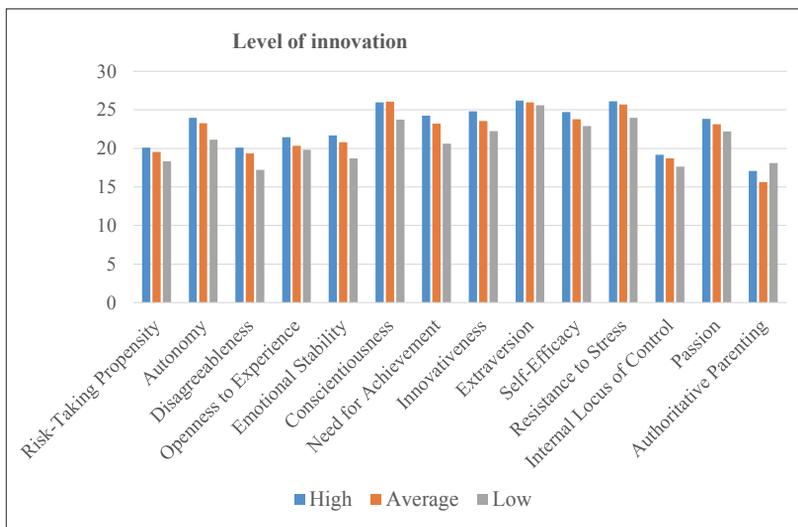
	Level of innovation						Krus- kal-Wallis H	
	High (N=96)		Average (N=176)		Low (N=22)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	20.11	3.65	19.55	3.95	18.32	3.47	2.07	0.128
<i>Autonomy</i>	23.98	3.58	23.28	3.53	21.14	4.28	5.60	0.004
<i>Disagreeableness</i>	20.12	4.31	19.33	4.26	17.23	4.92	4.05	0.018
<i>Openness to Experience</i>	21.44	3.91	20.31	3.35	19.82	3.98	3.65	0.027
<i>Emotional Stability</i>	21.68	4.70	20.80	4.93	18.68	6.03	3.44	0.034
<i>Conscientiousness</i>	25.99	4.23	26.08	4.17	23.75	4.80	2.75	0.065
<i>Need for Achievement</i>	24.25	3.36	23.23	3.48	20.62	4.07	9.59	0.000
<i>Innovativeness</i>	24.81	2.80	23.55	3.02	22.23	4.25	8.58	0.000
<i>Extraversion</i>	26.20	4.21	25.95	4.16	25.59	5.70	0.21	0.808
<i>Self-Efficacy</i>	24.73	3.22	23.80	3.18	22.90	3.28	3.95	0.020
<i>Resistance to Stress</i>	26.11	4.19	25.71	4.30	23.95	4.94	2.22	0.111
<i>Internal Locus of Control</i>	19.18	3.83	18.69	3.58	17.62	2.78	1.72	0.181
<i>Passion</i>	23.81	3.77	23.11	3.56	22.18	5.20	2.02	0.134
<i>Authoritative Parenting</i>	17.09	4.66	15.64	4.93	18.09	4.78	4.34	0.014

Source: own work

p≤0.05

⁸ In table 14, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 19. Differences in EDPI mean scores in persons who evaluated their level of innovation as high, average and low



Source: own work

Propensity, Conscientiousness, Extraversion, Resistance to Stress, Internal Locus of Control and Passion turned out to be statistically insignificant.

If the results obtained through comparative analyses are studied, it may be noticed that in all four groups, only 4 out of the 14 personality dispositions tested (i.e., *Emotional Stability, Need for Achievement, Innovativeness, and Self-Efficacy*) diversified all of the groups in question.

The next step in the analyses was to check how “constant” the diversifying power of each personality disposition is. To put it differently, an attempt was made to determine whether and which of the personality dispositions being

tested would differentiate the 4 groups of respondents (i.e., maintaining versus not maintaining financial liquidity; low versus average versus high level of competitiveness; low versus average versus high self-assessed chances for future development of the business; and low versus average versus high level of innovativeness) in the replication study (conducted again after 18 months had passed). Because of the lack of compliance with the criteria of the equinumerosity of the groups, a non-parametric Mann-Whitney U test (comparing two groups with each other) and a Kruskal-Wallis test (comparing three groups with one another) were carried out.

A comparison of people who had maintained versus people who had not maintained financial liquidity using the Mann-Whitney U test revealed that both of the analyzed groups were different from each other exclusively in terms of the mean scores achieved in the subscale *Authoritative Parenting*, namely, the group that maintained financial liquidity obtained higher mean scores for this personality disposition. The remaining differences were statistically insignificant (table 15, chart 20).

In the next stage of the analyses, the differences in terms of the mean scores in the *EDPI* among the groups evaluating their level of competitiveness as high, average, or low were verified. Because of the lack of compliance to one of the criteria for using a parametric test—i.e., the assumption of equinumerosity of the groups under examination—yet again the non-parametric Kruskal-Wallis test was performed. The obtained results indicate that there are no major differences in the mean scores achieved for *EDPI* personality dispositions among the three groups under analysis (i.e., high, average, and low competitiveness) (table 16, chart 21).

The next stage of the study was to examine the differences in the mean scores obtained for the 14 *EDPI* personality dispositions by three groups

Table 15. Entrepreneurial personality dispositions in entrepreneurs maintaining and not maintaining liquidity in their business (N=49)⁹

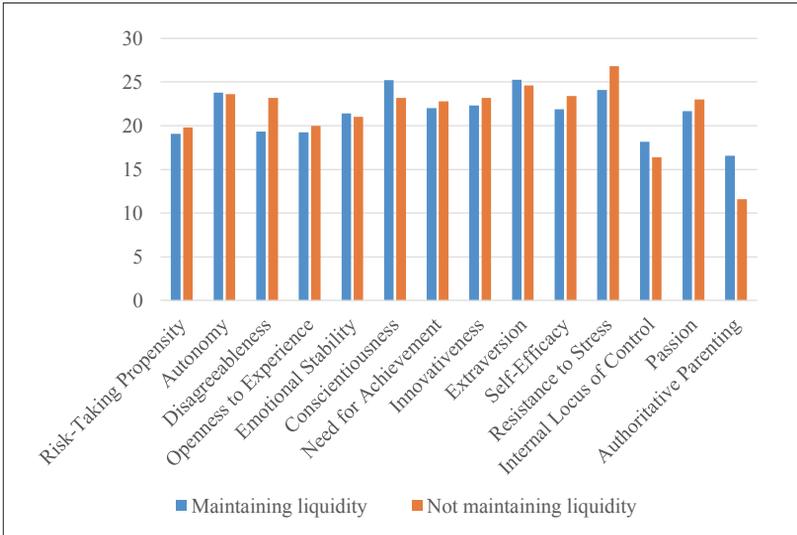
	Maintaining liquidity (N=44)		Not maintaining liquidity (N=5)		Z	P
	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	19.09	3.43	19.80	3.27	-0.53	0.595
<i>Autonomy</i>	23.77	7.29	23.60	4.98	-0.30	0.766
<i>Disagreeableness</i>	19.32	4.21	23.20	4.15	-1.72	0.086
<i>Openness to Experience</i>	19.23	3.33	20.00	5.43	-0.43	0.666
<i>Emotional Stability</i>	21.41	3.91	21.00	3.74	-0.18	0.855
<i>Conscientiousness</i>	25.23	4.21	23.20	3.83	-1.16	0.245
<i>Need for Achievement</i>	22.02	3.51	22.80	4.15	-0.48	0.630
<i>Innovativeness</i>	22.32	3.56	23.20	5.26	-0.43	0.655
<i>Extraversion</i>	25.27	4.00	24.60	6.84	-0.35	0.727
<i>Self-Efficacy</i>	21.90	3.04	23.40	6.23	-1.38	0.168
<i>Resistance to Stress</i>	24.07	3.69	26.80	4.49	-1.20	0.231
<i>Internal Locus of Control</i>	18.18	2.50	16.40	3.05	-1.32	0.188
<i>Passion</i>	21.68	3.96	23.00	4.80	-0.55	0.584
<i>Authoritative Parenting</i>	16.55	4.57	11.60	2.88	-2.32	0.020

Source: own work

p≤0.05

⁹ In table 15, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 20. Differences in EDPI mean scores in persons maintaining liquidity and those who did not maintain such liquidity



Source: own work

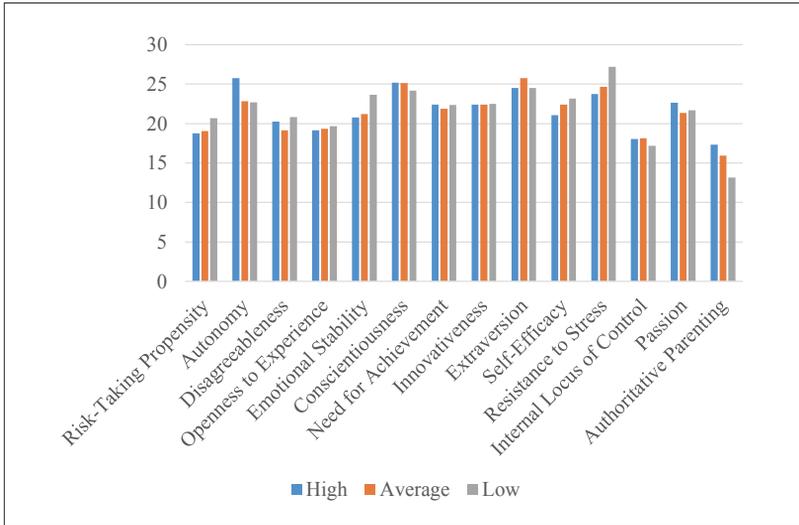
of people assessing the chances for future development of their businesses as high, average, or low. Because of a lack of compliance with one of the criteria for using a parametric test—the assumption of equinumerosity of groups under examination—the non-parametric Kruskal-Wallis test was carried out. The results show that people assessing their above-mentioned chances as high were different from the other groups (assessing the chances for the development of their company as average or low) in terms of the mean scores achieved for 5 personality dispositions (*Need for Achievement*, *Innovativeness*, *Self-Efficacy*, *Resistance to Stress*, and *Passion*). People assess-

Table 16. Entrepreneurial personality dispositions in entrepreneurs who evaluated their level of competitiveness as high, average and low (N=49)

	Level of competitiveness						Krus- kal-Wallis H	
	High (N=16)		Average (N=27)		Low (N=6)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	18.75	2.82	19.07	3.47	20.67	4.50	2.14	0.344
<i>Autonomy</i>	25.75	10.92	22.81	3.97	22.67	4.32	0.51	0.776
<i>Disagreeableness</i>	20.25	2.59	19.15	5.24	20.83	3.60	2.28	0.320
<i>Openness to Experience</i>	19.13	3.14	19.33	3.82	19.67	3.67	0.11	0.945
<i>Emotional Stability</i>	20.75	4.65	21.22	3.27	23.67	3.77	2.90	0.236
<i>Conscientiousness</i>	25.18	3.45	25.11	4.78	24.17	3.54	0.30	0.861
<i>Need for Achievement</i>	22.38	3.44	21.89	3.81	22.33	2.94	0.52	0.773
<i>Innovativeness</i>	22.38	3.65	22.41	3.96	22.50	3.21	0.44	0.803
<i>Extraversion</i>	24.50	3.97	25.78	4.59	24.50	3.83	0.02	0.988
<i>Self-Efficacy</i>	21.06	4.30	22.41	2.86	23.17	3.06	1.21	0.545
<i>Resistance to Stress</i>	23.75	4.02	24.67	3.41	27.17	4.49	2.33	0.312
<i>Internal Locus of Control</i>	18.06	2.43	18.15	2.61	17.17	3.13	0.83	0.660
<i>Passion</i>	22.63	3.81	21.37	4.22	21.67	3.93	1.36	0.506
<i>Authoritative Parenting</i>	17.31	3.34	15.93	4.99	13.17	5.49	2.98	0.225

Source: own work

Chart 21. Differences in EDPI mean scores in persons who evaluated the level of competitiveness as high, average and low



Source: own work

ing the chances in question as high obtained higher mean scores for the following personality dispositions: *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, *Resistance to Stress*, and *Passion* in comparison to the remaining groups. The remaining differences were statistically insignificant (table 17, chart 22).

With respect to determining the constancy of the diversifying power, the final stage of the analyses was to check the differences in terms of the 14 EDPI personality dispositions in three groups assessing their level of innovativeness as high, average, or low. Because of a lack of compliance with

Table 17. Entrepreneurial personality dispositions in entrepreneurs who evaluated the chances for their companies' future development as high, average and low¹⁰

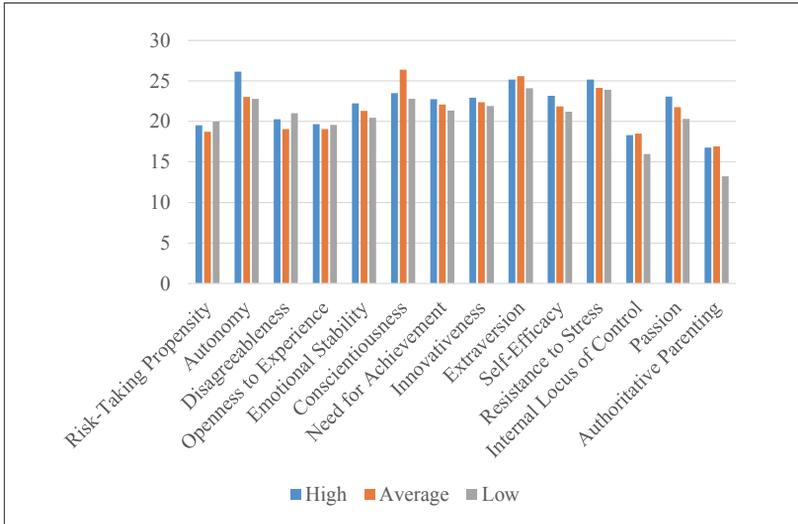
	Self-assessed chances for future development of a company						Kruskal-Wallis H	
	High (N=16)		Average (N=27)		Low (N=6)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	19.50	2.32	18.75	3.58	20.00	4.09	0.29	0.867
<i>Autonomy</i>	26.17	12.5	23.04	3.96	22.78	4.38	2.01	0.367
<i>Disagreeableness</i>	20.25	4.20	19.07	4.47	21.00	4.12	0.06	0.969
<i>Openness to Experience</i>	19.67	2.60	19.07	3.79	19.56	4.03	5.45	0.065
<i>Emotional Stability</i>	22.25	4.73	21.29	3.64	20.44	3.40	3.35	0.187
<i>Conscientiousness</i>	23.50	4.32	26.39	3.54	22.78	4.68	0.95	0.074
<i>Need for Achievement</i>	22.75	3.31	22.07	3.78	21.33	3.24	5.21	0.042
<i>Innovativeness</i>	22.92	2.43	22.36	4.33	21.89	3.22	6.35	0.016
<i>Extraversion</i>	25.17	4.09	25.57	4.13	24.11	5.23	8.24	0.624
<i>Self-Efficacy</i>	23.17	3.07	21.86	3.16	21.22	4.58	7.39	0.025
<i>Resistance to Stress</i>	25.17	2.92	24.14	3.6	23.89	5.56	7.42	0.024
<i>Internal Locus of Control</i>	18.33	1.87	18.5	2.44	16.00	3.08	4.98	0.083
<i>Passion</i>	23.08	2.97	21.75	4.49	20.33	3.91	7.95	0.019
<i>Authoritative Parenting</i>	16.77	3.338	16.89	4.75	13.22	5.19	0.99	0.608

Source: own work

p≤0.05

10 In table 17, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 22. Differences in EDPI mean scores in persons who evaluated chances for their companies' future development as high, average and low



Source: own work

one of the criteria for using a parametric test—the assumption of equinumerosity of the examined groups—the non-parametric Kruskal-Wallis test was performed. The results of this analysis shows that the only significant differences were discovered with respect to the mean scores achieved for *Authoritative Parenting*. People assessing their level of innovativeness as high obtained higher mean scores for *Authoritative Parenting* compared to the two groups assessing their level of innovativeness as either average or low. The remaining results were found to be statistically insignificant. The obtained results are presented in table 18 and chart 23.

Table 18. Entrepreneurial personality dispositions in entrepreneurs who evaluated their level of innovation as high, average and low¹¹

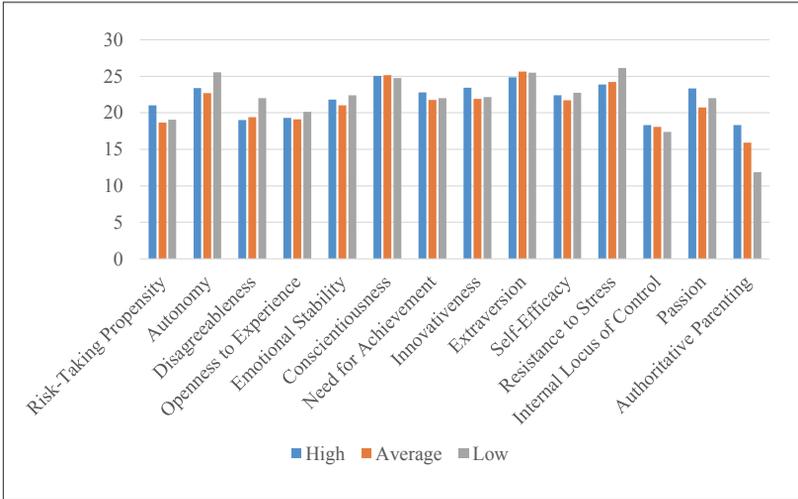
	Level of innovation						Krus- kal-Wallis H	
	High (N=16)		Average (N=27)		Low (N=6)			
	M	SD	M	SD	M	SD		
<i>Risk-Taking Propensity</i>	21.00	3.02	18.67	3.70	19.06	3.04	3.07	0.216
<i>Autonomy</i>	23.38	4.44	22.71	3.43	25.56	11.25	0.26	0.877
<i>Disagreeableness</i>	19.00	4.20	19.42	4.79	22.00	2.83	2.78	0.249
<i>Openness to Experience</i>	19.31	2.68	19.08	3.65	20.13	5.00	0.69	0.709
<i>Emotional Stability</i>	21.81	3.90	21.04	3.72	22.38	3.74	1.07	0.586
<i>Conscientiousness</i>	25.06	3.336	25.17	4.82	24.75	4.33	0.01	0.994
<i>Need for Achievement</i>	22.81	2.71	21.75	3.82	22.00	4.44	1.05	0.593
<i>Innovativeness</i>	23.44	2.56	21.92	3.97	22.13	4.94	1.62	0.445
<i>Extraversion</i>	24.88	3.03	25.63	4.52	25.50	5.50	0.32	0.850
<i>Self-Efficacy</i>	22.38	2.80	21.71	3.56	22.75	4.37	1.96	0.376
<i>Resistance to Stress</i>	23.88	3.69	24.21	3.75	26.13	4.36	1.04	0.595
<i>Internal Locus of Control</i>	18.31	2.36	18.08	2.62	17.38	3.16	0.52	0.773
<i>Passion</i>	23.31	2.94	20.71	4.15	22.00	5.07	5.11	0.078
<i>Authoritative Parenting</i>	18.31	3.52	15.92	4.22	11.88	5.67	8.41	0.015

Source: own work

p≤0.05

11 In table 18, the cells containing significant correlations are marked in bold for the sake of a better overview.

Chart 23. Differences in EDPI mean scores in persons who evaluated their level of innovation as high, average and low



Source: own work

To summarize and compare the results of Studies 1 and 2, it may be concluded that the examined personality dispositions are significant from the perspective of conducting one’s own business activity. The personality dispositions that diversified all of the analyzed groups (study 1) appear to be particularly important, i.e., *Emotional Stability*, *Need for Achievement*, *Innovativeness*, and *Self-Efficacy*. The results obtained in the replication study confirmed the importance of 3 out of the 4 personality dispositions revealed in study 1, i.e., *Need for Achievement*, *Innovativeness*, and *Self-Efficacy*.

3.3. Types of motivation and entrepreneurial success

Previously, we could see various relationships between 14 personality dispositions and entrepreneurial success along with the importance of three personality features (*Need for Achievement, Innovativeness and Self-Efficacy*) for four selected indicators of successful entrepreneurship (*Maintaining Liquidity, Level of Competitiveness, Self-Assessed Chances for Future Development of a Company and Level of Innovation*).

In this section we will also focus on psychological factors, but now the findings will be organized around two points:

1. The most frequently chosen motives for starting up a business will be shown and three types of motivation (economic, non-economic and eclectic) will be distinguished; and
2. The associations between types of motivation (economic, non-economic and eclectic) and successful entrepreneurship will be evaluated.

In line with the above points, the first stage of the analyses was to determine which motives to establish a business were most often selected by the respondents. The obtained results indicate that the dominant motives among the three most commonly selected ones are as follows: ***Possibility of Higher Earnings, Self-Realization and Satisfaction*** and ***Independence in decision making***. In the opinion of the respondents, the following motives: ***Independence in Acting, Desire to test oneself*** and ***Higher social status***, along with the category of motives named “*Other*”, turned out to be less important. For the sake of a better overview, the motives chosen by the respondents are presented both in a concise table (table 19) and a chart (chart 24).

Table 19. Motives for establishing a business, as declared by the respondents (N=294)

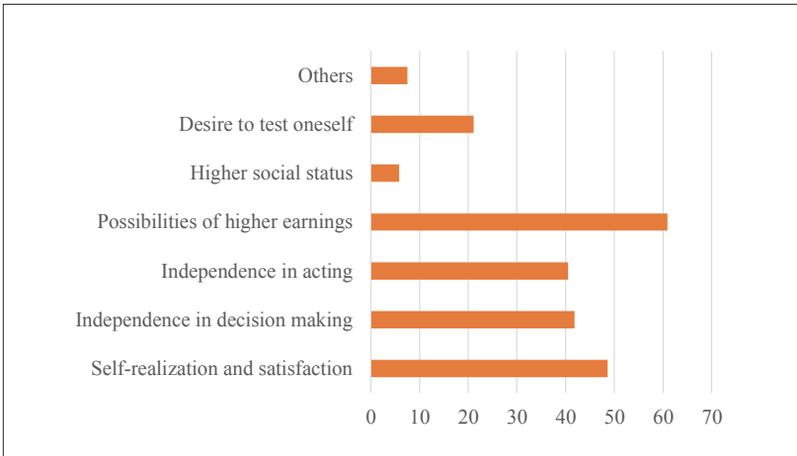
Motives	YES		NO	
	N	%	N	%
Self-Realization and Satisfaction	143	48.6	151	51.4
Independence in decision making	123	41.8	171	58.2
Independence in Acting	119	40.5	175	59.5
Possibility of Higher Earnings	179	60.9	115	39.1
Higher social status	17	5.8	277	94.2
Desire to test oneself	62	21.1	232	78.9
Other	22	7.5	272	92.5

Source: own work

During the next stage of the analyses, specification of the types of motivation that inspired the entrepreneurs to establish their businesses came into focus. Thus, three types of motivation to start a business were distinguished:

- Non-economic type 1 was represented by people who only chose the following motives: *Self-Realization and Satisfaction*, *Independence in decision making*, *Independence in Acting*, and *Desire to test oneself*;
- Economic type 2 was represented by people who only chose the following motives: *Possibility of Higher Earnings*, *Higher social status*;
- Eclectic type 3 was represented by people who simultaneously declared to have been inspired by both non-economic motives (such

Chart 24. Motives for establishing a business chosen by respondents (N=294)

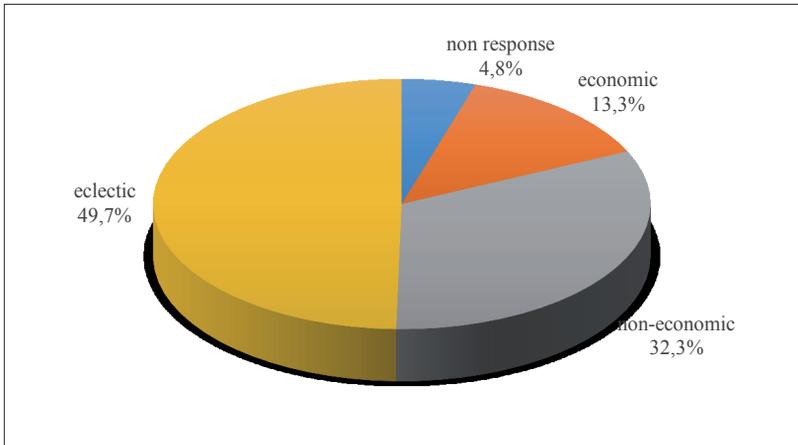


Source: own work

as *Self-Realization and Satisfaction*, *Independence in decision making*, *Independence in Acting*, and *Desire to test oneself*), economic motives (such as *Possibility of Higher Earnings*, *Higher social status*), and/or *Other* motives.

The obtained results show that the biggest percentage of the respondents (i.e., **49.7%**) declared that their decision to establish a business was inspired by various economic and non-economic motives (**the eclectic type**). People whose motives were exclusively internal (**the non-economic type, 32.3%**) or external (**the economic type, 13.3%**) constituted smaller proportions. No response was provided by 14 people, i.e., 4.8% of the participants in the study. The results are provided in chart 25.

Chart 25. Types of motivation for starting up a business (N=294)



Source: own work

Next, the correlations between the types of motivation to set up one's own business and entrepreneurial success were verified. Thus, three types of motivation to start a business were adopted in the analysis along with entrepreneurial success dichotomized into two categories: high versus low intensity of entrepreneurial success. Dichotomization of entrepreneurial success was based on the criterion of the median; namely, if the score exceeded the value of the median for entrepreneurial success ($M=18.5$), the intensity of entrepreneurial success was deemed high, whereas if the score was lower than the median for entrepreneurial success (below 18.5 points), the intensity of entrepreneurial success was deemed low. Because of the character of the variables (i.e., dichotomous [high versus low entrepreneurial success] and trichotomous [type of motivation]), analysis of the Cramer's V was conduct-

ed. The obtained results indicate that there are no significant correlations between the types of motivation (i.e., the economic, non-economic, and electric type) and entrepreneurial success (Cramer's $V=0.04$, $P=0.771$).

3.4. Relationships between selected organizational factors and entrepreneurial success

The next stage of the analysis was to determine the correlations between the selected organizational factors¹² and entrepreneurial success. To explore the aforementioned correlations, mean scores obtained for the general indicator of entrepreneurial success were compared in 10 groups, i.e.,

1. An entrepreneur's professional experience in terms of company management versus lack of such experience;
2. An entrepreneur's professional experience specific to their current business activity versus lack of such experience;
3. An entrepreneur's employees with unique education/professional experience versus no such education/experience;
4. An entrepreneur has a successful entrepreneur in the family versus no such enterpriser in the family;
5. An entrepreneur's experience running his or her own company versus lack of such experience;
6. An entrepreneur's employees have valuable knowledge versus no such knowledge;

12 In this publication, the analyses concentrated exclusively on knowledge-related, experiential, and social factors (i.e. contacts with clients, a successful entrepreneur in the family).

7. An entrepreneur has a postgraduate diploma versus no such diploma;
8. An entrepreneur has taken part in specialist trainings versus no participation;
9. An entrepreneur has valuable knowledge versus no such knowledge; and
10. An entrepreneur had contacts with clients prior to establishing their own business versus no such contacts.

Statistical analyses were conducted with the parametric t-Student test (if the assumptions that the distribution was normal and the groups were equinumerous were confirmed) and the non-parametric U Mann-Whitney test (if the criterion that groups were equinumerous was not satisfied). The obtained results indicate that statistically significant differences in terms of the mean scores in the general indicator of entrepreneurial success were only noted in the group of people that had professional experience in running a company; that had a successful entrepreneur in the family; that had valuable/unique knowledge; and in a group of entrepreneurs whose employees had such (i.e., valuable/unique) knowledge. In other words, entrepreneurs who had professional experience in company management, an effective entrepreneur in the family, valuable/unique knowledge, and employees that had such knowledge achieved higher mean scores in the general indicator of entrepreneurial success compared to the group of people who did not have such experience, knowledge, or entrepreneurs in the family. The remaining differences were found to be statistically insignificant. The obtained results are presented in table 20 and table 21.¹³

13 Significant results provided in tables 20 and 21 are marked in bold.

Table 20. Differences in entrepreneurial success mean scores in various study groups

		<i>Management experience</i>				t	P
		YES N=99		NO N=195			
		M	SD	M	SD		
		18.95	4.34	17.68	4.45	2.33	0.021
		<i>Management experience specific to the current business activity</i>					
		YES N=186		NO N=108			
		M	SD	M	SD		
		18.12	4.43	18.09	4.50	0.08	0.940
Entrepreneurial success		<i>Professional experience of employees</i>					
		YES N=115		NO N=108			
		M	SD	M	SD		
		18.92	4.52	17.83	4.38	-1.89	0.059
		<i>Successful entrepreneur in the family</i>					
		YES N=172		NO N=122			
		M	SD	M	SD		
		18.62	4.42	17.39	4.40	2.34	0.020

Table 21. Differences in entrepreneurial success mean scores in various study groups

<i>Experience in running one's own business</i>					
YES N=66		NO N=228		Z	P
Average rank		Average rank			
158.64		144.28		-1.21	0.226
<i>Valuable/unique knowledge of employees</i>					
YES N=200		NO N=40			
Average rank		Average rank			
149.00		141.80		-2.85	0.004
<i>Postgraduate education</i>					
YES N=56		NO N=238			
Average rank		Average rank			
146.69		147.69		-0.08	0.936
<i>Completion of specialist trainings</i>					
YES N=98		NO N=196			
Average rank		Average rank			
143.76		149.37		-0.54	0.592

Entrepre-
neurial
success

Table 21. Differences in entrepreneurial success mean scores in various study groups (continued)

	<i>Having valuable/unique knowledge</i>			
	YES N=86	NO N=208		
	Average rank	Average rank		
Entrepre- neurial success	166.48	139.65	-2.47	0.014
	<i>Having contacts with clients</i>			
	YES N=207	NO N=87		
	Average rank	Average rank		
	151.30	138.47	-1.18	0.236

Source: own work

3.5. Organizational and psychological predictors of entrepreneurial success

So far, analyses of correlations between the variables have been conducted separately for organizational/entrepreneurial and psychological variables. In this paragraph, these correlations will become precisely identified by drawing up a compilation of the aforementioned variables during verification of their predictive value/power for entrepreneurial success. Therefore, this subsection is primarily devoted to evaluating the predictive value of

individual variables for entrepreneurial success and secondarily (based on the results obtained in the replication study) devoted to determining the “constancy” of the predictive power of the predictors singled out in the first round of the study.

A (stepwise) regression model was “prepared” by introducing the dependent variable (*entrepreneurial success*) into it; the dependent variable is operationalized as the general indicator of entrepreneurial success. Conversely, both organizational/entrepreneurial and psychological variables were simultaneously introduced into the regression model as independent variables.

Thus, the **independent organizational variables** were the following:

- Capital source,
- Ownership structure (entrepreneur as the sole founder),
- Age at the time of setting up a business,
- Professional experience (including company management experience, experience specific to the current business, and experience in running one’s own business),
- An entrepreneur with valuable/unique knowledge,
- Employees’ experience and knowledge,
- Having contacts with clients (prior to establishing the business), and
- Having a successful entrepreneur in the family.

The **independent psychological variables** were as follows:

- Risk-Taking Propensity,
- Autonomy,
- Disagreeableness,

- Openness to Experience,
- Emotional Stability,
- Conscientiousness,
- Need for Achievement,
- Innovativeness,
- Extraversion,
- Self-Efficacy,
- Resistance to Stress,
- Internal Locus of Control,
- Passion, and
- Authoritative Parenting.

The obtained values of the regression statistics revealed the predictive value/power of 3 personality dispositions (i.e., **Need for Achievement**, **Emotional Stability**, and **Disagreeableness**) along with 1 organizational/entrepreneurial variable (i.e., **Valuable/Unique Knowledge of Employees**). The value of the *Beta* coefficient shows that the greater the intensity of the *Need for Achievement*, *Emotional Stability*, and *Disagreeableness* accompanied by employees' specialist (valuable/unique) knowledge, the greater the entrepreneurial success. The obtained values of regression statistics are presented in table 22.

The constancy of the predictive power, understood as the variable “keeping” its predictive value for entrepreneurial success, was verified after a lapse of 18 months following the first round of the study (during the replication study). Thus, entrepreneurial success (operationalized similarly as in the first round of the study with the general indicator of entrepreneurial success) was introduced into the regression model (created based on the

Table 22. Proportional contribution of each independent variable to the accounting for variance in scores in the Successful Entrepreneurship Scale (study 1)

Summary of regression of the dependent variable <i>Entrepreneurial Success</i> F= 9.31 P=.000							
Independent variable	R	R ²	Adjusted R ²	B	Beta	t	P
Need for Achievement,				0.20	0.17	2.20	0.029
Emotional Stability,				0.17	0.20	2.70	0.008
Disagreeableness	0.40	0.16	0.14	0.17	0.17	2.48	0.014
Valuable/Unique Knowledge of Employees				1.27	0.13	2.02	0.045

Source: own work

results obtained during the second round of the study) as the dependent variable. Only the variables that demonstrated predictive power during the first round of the study, i.e.: *Need for Achievement*, *Emotional Stability*, *Disagreeableness*, and *Valuable/Unique Knowledge of Employees*, were introduced into the model as the independent variables. The obtained regression statistics indicate that only one independent variable, ***Emotional Stability***, has constant predictive power. Put differently, only emotional stability turned out to be a significant predictor of entrepreneurial success one more time during the replication study. The value of the *Beta* coefficient shows that the greater the emotional stability of the entrepreneur, the “higher” his or her entrepreneurial success (table 23).

Table 23. Proportional contribution of each independent variable to the accounting for variance in scores in the Successful Entrepreneurship Scale (study 2)

Summary of regression of the dependent variable: <i>Entrepreneurial Success</i>							
F= P=							
Independent variable	R	R ²	Adjusted R ²	B	Beta	t	P
Emotional Stability	0.38	0.15	0.13	0.71	0.38	2.85	0.006

Source: own work

3.6. Personality and motivational profile in successful entrepreneurs

The final stage of the analyses was to create the personality and motivation profiles¹⁴. These profiles were prepared based on the results obtained in the replication study, which were collected from 49 entrepreneurs who took part in the second round of the study and who managed to survive over the period of 18 months following the first round of the study. The personality profile (chart 26) of entrepreneurs was created based on the values of descriptive statistics (table 24).

Analyzing the chart based on the criterion of the median and thus assuming that the intensity of a given trait is high if the mean scores are equal to or higher than the value of the median for the given personality

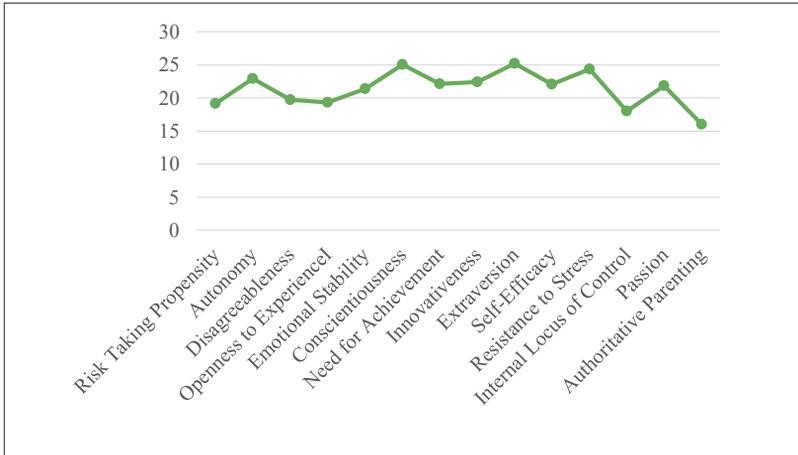
14 To get detailed information about study sample and organizational data, please see Sections 2.3.3. and 2.3.4.

Table 24. Descriptive statistics for the EDPI scores

	M	SD	Me	Minimum	Maximum
Risk Taking Propensity_ <i>EDPI</i>	19.16	3.39	19	13	27
Autonomy_ <i>EDPI</i>	22.92	3.95	23	16	30
Disagreeableness_ <i>EDPI</i>	19.71	4.33	20	9	30
Openness to Experience_ <i>EDPI</i>	19.31	3.52	20	11	26
Emotional Stability_ <i>EDPI</i>	21.37	3.86	22	12	29
Conscientiousness_ <i>EDPI</i>	25.02	4.28	25	14	34
Need for Achievement_ <i>EDPI</i>	22.10	3.54	23	15	30
Innovativeness_ <i>EDPI</i>	22.40	3.71	23	14	30
Extraversion_ <i>EDPI</i>	25.20	4.28	25	16	34
Self-Efficacy_ <i>EDPI</i>	22.06	3.42	22	13	29
Resistance to Stress_ <i>EDPI</i>	24.35	3.82	25	13	33
Internal Locus of Control_ <i>EDPI</i>	18	2.52	18	11	23
Passion_ <i>EDPI</i>	21.82	4.04	23	13	30
Authoritative Parenting_ <i>EDPI</i>	16.04	4.66	16	5	23

Source: own work

Chart 26. Personality disposition profile in entrepreneurs (N=49)



Source: own work

disposition, it should be concluded that the entrepreneurs who survived on the market were the ones characterized by a high intensity of

1. *Risk-Taking Propensity*
2. *Conscientiousness*
3. *Extraversion*
4. *Self-Efficacy*
5. *Internal Locus of Control*
6. *Authoritative Parenting*

and a low intensity of

1. *Autonomy*
2. *Disagreeableness*

Table 25. Motives for starting up a business declared by respondents (N=294)

Motives	YES		NO	
	N	%	N	%
Self-realization and satisfaction	26	53.1	23	46.9
Independence in decision making	13	26.5	36	73.5
Independence in acting	20	40.8	29	59.2
Possibility of higher earnings	34	69.4	15	30.6
Higher social status	1	2	48	98
Desire to test oneself	13	26.5	36	73.5
Others	3	6.1	46	93.9

Source: own work

3. *Openness to Experience*

4. *Emotional Stability*

5. *Need for Achievement*

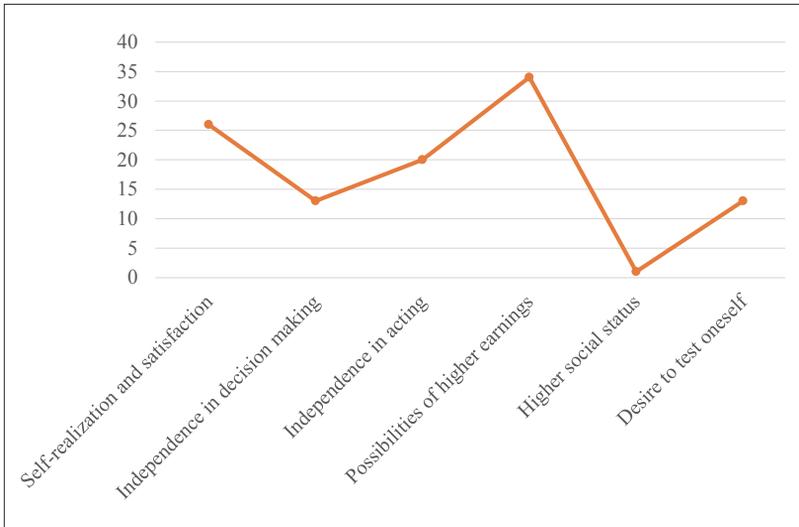
6. *Innovativeness*

7. *Resistance to Stress*

8. *Passion*

Conversely, the following turned out to be the most significant motives to set up one's own business: *Possibility of Higher Earnings*, *Self-Realization and Satisfaction* and *Independence in Acting* (Table 25). The motivation profile of entrepreneurs is presented in chart 27.

Chart 27. Motivational profile of entrepreneurs (N=49)



Source: own work

Discussion

This paper contains an attempt to perform the difficult and complex task of making a (precise) specification of the relationships between organizational factors (understood broadly), psychological factors and entrepreneurial success. The task was so complicated that it required careful analysis of vast material from two separate scientific disciplines while selecting only the results whose significance has been confirmed by many scientific publications. The review of the literature and in-depth analysis of the results were, on the one hand, based on an interdisciplinary approach and, on the other hand, a comprehensive approach (taking into consideration the perspective of many years of research). This thought (i.e., interdisciplinarity and comprehensiveness) manifests itself at each stage of this work and in each paragraph of this publication (i.e., from the title through the description of the results). It is particularly visible in the tabular juxtaposition of the definitions of entrepreneurship, which presents these definitions in chronological order from 1921 to 2015 (comprehensiveness), whereas the psychological definitional components of the notion of commercial entrepreneurship are highlighted (interdisciplinarity). The above-mentioned comprehensiveness and in-

terdisciplinarity also manifest themselves during elaboration of the notion of entrepreneurial success and its predictors.

Thus two perspectives on entrepreneurial success are presented:

1. The objective perspective, namely, the one that is more “organizational” in character, e.g., survival or growth of the company (Watson, Hogarth-Scott & Wilson, 1998); and
2. The subjective perspective, which can be called the more psychological perspective, e.g., subjective self-assessed general satisfaction from running one’s own business (Kessler, 2007).

An attempt has also been made to show perceptions of the notion of entrepreneurial success that have prevailed over the last 20 years (comprehensiveness). Similar, we present the determinants of entrepreneurial success that have been offered by the relevant literature because 1961 (comprehensiveness), which we dichotomized into organizational and psychological predictors (interdisciplinarity).

Another important merit of the paper (next to the aforementioned comprehensiveness and interdisciplinarity) is its presentation of entrepreneurial success in an innovative, “fresh” manner that goes beyond simple dichotomization into “success” versus “no success”. On the one hand, entrepreneurial success is displayed from an interdisciplinarity perspective (i.e., **4 organizational** indicators of success, i.e., *Survival of Enterprise on the Market*, *Annual Turnover*, *Profitability*, and *Maintaining Liquidity*; and **3 psychological** indicators of success, i.e., *Level of Competitiveness*, *Level of Innovativeness*, and *Self-Assessed Chances for Future Development of a Company* are selected based on the review of the relevant literature). On the other hand, the manner of calculation of the results for entrepreneurial success allowed us to “treat” it as a quantitative variable, which made it

possible to see it through the prism of “intensification” and not just the presence or absence of the phenomenon.

As far as the results are concerned, the findings of this study seem to confirm the conclusions drawn from previous research indicating the existence of significant correlations between **organizational factors** (Cragg & King, 1988; Duchesneau & Gartner, 1990; Cooper, Gimeno-Gascon & Woo, 1994; Jensen, Webster & Buddelmeyer, 2008; Makhbul, 2011; Mata & Portugal, 1994; Pfeiffer & Reize, 2000; Rodriguez-Gutierrez, Moreno & Tejada; 2015; Saridakis, Mole & Storey, 2008; Thompson, 2005), **psychological factors** (Baron, 2000; Brandstötter, 1997; Costa, McCrae & Holland; 1984; Gaglio & Katz, 2001; Görling & Rehn, 2008; Mahmood, Idris & Amin, 2003; McClelland, 1961; Winslow & Solomon, 1988; Zhang et al., 2009) and **entrepreneurial success**. These are not, however, clear-cut correlations; instead, they are complex correlations that are dependent on the configuration of factors that are examined as predictors of entrepreneurial success, the manner of operationalization of entrepreneurial success, or the choice of a given aspect/indicator of entrepreneurial success. Therefore, if the correlations between personality dispositions and entrepreneurial success are considered, a conclusion might be drawn that whole configurations of personality traits (and this is how they should be examined) instead of single traits are important to achieve entrepreneurial success. In this study, the following set of personality dispositions turned out to be correlated with entrepreneurial success: *Risk-Taking Propensity*, *Autonomy*, *Disagreeableness*, *Openness to Experience*, *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, *Resistance to Stress*, and *Internal Locus of Control*. These results appear to be confirmed by other research findings that highlight the important (for en-

trepreneurial success) role of the personality dispositions provided above (Brandstötter, 1997; Engle, Mah & Sadri, 1997; Klein, Lim, Saltz & Mayer; 2004; Makhbul, 2011; McClelland, 1961; Rauch & Frese, 2007; Stewart & Roth, 2001; Timmons, Smollen & Dingee, 1985). The configuration of personality dispositions was different, if another perspective was assumed for the purpose of examining entrepreneurial success (which was not viewed in terms of the intensity of the phenomenon but through objective criteria, such as survival of the company). Preparation of the profiles of personality dispositions of entrepreneurs who conducted business activity during the first round of the study and who survived for 18 months (until the replication study) has revealed that these entrepreneurs are characterized by a particularly high intensity of *Risk-Taking Propensity*, *Extraversion*, *Self-Efficacy*, and *Authoritative Parenting*. This partially testifies to the need for further examination of the construct of entrepreneurial success because it appears that the role played by individual psychological factors depends on how entrepreneurial success is understood. In other words, it seems that psychological factors' contribution to accounting for variance in entrepreneurial success will be different depending on what categories are employed for the purpose of defining the notion of entrepreneurial success (i.e., intensification of the phenomenon or its presence/absence).

Equally interesting results are offered by an analysis of the correlations between personality dispositions and the selected indicators of entrepreneurial success (such as *Maintaining Liquidity*, *Level of Competitiveness*, *Self-Assessed Chances for Future Development of a Company*, and *Level of Innovation*), which emphasized the importance of 3 personality dispositions (i.e., *Need for Achievement*, *Innovativeness*, and *Self-Efficacy*) that

significantly differentiated the 4 groups under analysis (i.e., maintaining liquidity versus not maintaining liquidity; low versus high level of competitiveness, low versus high self-assessed chances for future development of a company; low versus high level of innovativeness) both in the first and second rounds of the study. These results suggest an interesting conclusion that, on the one hand, the aforementioned configuration of personality dispositions will depend not only on the sole “approach” to entrepreneurial success but also on the “dimension”/aspect of entrepreneurial success that undergoes analysis. For instance, maintaining liquidity was one of the dimensions of entrepreneurial success that underwent analysis; in the first round of the study, *Emotional Stability*, *Conscientiousness*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, and *Resistance to Stress* had diversifying power. If, however, the level of innovativeness was examined as a dimension of entrepreneurial success (during the first round of the study), then diversifying power was demonstrated by *Autonomy*, *Disagreeableness*, *Openness to Experience*, *Emotional Stability*, *Need for Achievement*, *Innovativeness*, *Self-Efficacy*, and *Authoritative Parenting*. It is worth stressing the importance of *Self-Efficacy*, which was the only one to have been significantly correlated with entrepreneurial success or its dimensions in all of the above-mentioned analyses. This outcome appears to find confirmation in publications that demonstrate the significant role of self-efficacy in entrepreneurial success (among others: Makhbul, 2011; Zhao, Seibert & Hills, 2005).

Comprehensiveness in examination of the issues related to entrepreneurial success is also manifested by the multidimensional approach of psychological variables. In addition to the aforementioned personality dispositions, the motives for establishing a business were examined. In

this case, the results were also consistent with the findings of previous studies (e.g., Carsrud & Brännback, 2009, Kirkwood, 2009; Robichaud, McGraw & Roger, 2001; Staniewski, 2009; Wang, Walker & Redmond, 2006). Four motives turned out to be particularly important when making a decision to start a business: the possibility of higher earnings, self-realization, satisfaction, and autonomy in decision making. A more comprehensive analysis of those motives revealed that despite the importance of the above-mentioned motives, entrepreneurs make a decision concerning start-up ventures based on a configuration of (both) internal along with external motives (the eclectic type) more often than based on purely internal (the non-economic type) or purely external (the economic type) motives; whereas these types appear not to be significantly correlated with entrepreneurial success. These results are partially consistent with others that stressed the importance of the eclectic type in making a decision to self-employ (e.g., Staniewski & Awruk, 2015).

With respect to the organizational variables, some analyses were devoted to verifying the correlations between organizational factors and entrepreneurial success. Based on the results of previous studies (Brazell, 1991; Duchesneau & Gartner, 1990; Evans & Leighton, 1989; Haswell & Holmes, 1989; Huck & McEwen, 1991; Hodgetts & Kuratko, 1992; Lin, 1998; Pfeiffer & Reize, 2000; Saridakis, Mole & Storey, 2008; Staniewski, 2008; Wood, 1989; Yusuf, 1995; Yusof & Aspinwall, 1999), a decision was made to verify the importance of knowledge-related (i.e., having unique knowledge or employee's with such knowledge, participation in trainings, courses, or postgraduate education), experiential, and social factors (i.e., contacts with clients prior to setting up a business or having a successful entrepreneur in the family). The obtained results indicate that unique

knowledge, entrepreneurs' managerial experience, and having a successful entrepreneur in the family play a major role. These factors significantly diversified the groups under examination, as confirmed by the study conducted by Ployhart and Moliterno (2011), which reveals that individuals or groups that had a higher level of knowledge, skills, and competences achieved higher effectiveness in business compared to people who represented a lower level of such qualities. In this context, the measures of human capital may be, e.g., educational advancement, professional experience, upbringing by entrepreneurial parents, and other life experiences (Ployhart & Moliterno, 2011). The importance of the above-mentioned organizational factors for entrepreneurial success was also advocated by other researchers, e.g., Makhbul, 2011; Rose et al., 2006.

The compilation of organizational and psychological factors in the regression model carried out for entrepreneurial success showed that 3 psychological variables (*Need for Achievement*, *Emotional Stability*, and *Disagreeableness*) along with 1 organizational variable (*Unique Knowledge of Employees*) had predictive value. Conversely, constancy of the predictive power was demonstrated by only 1 psychological variable, *Emotional Stability* (which was the only significant predictor of entrepreneurial success in the replication study). These findings are also confirmed by rich relevant literature that indicated the predictive value of *Need for Achievement* (Caird, 1991; McClelland, 1961; Timmons, Smollen & Dingee, 1985), *Emotional Stability* (Brandstötter, 1997), or *Disagreeableness* (Engle, Mah & Sadri, 1997; Furnham & Fudge, 2008; Schmitt-Rodermund, 2004 and 2007; Schmitt-Rodermund & Vondracek, 2002; Zhao & Seibert, 2006; Zhao, Seibert & Lumpkin, 2010) for entrepreneurial success on multiple occasions.

In conclusion, it is worth stressing again that entrepreneurial success is dependent on configurations (and not a configuration) of organizational and psychological variables, which makes it difficult if not impossible to identify a single variable that might have a beneficial influence on achieving entrepreneurial success. Nevertheless, two psychological variables, i.e., *Self-Efficacy* and *Emotional Stability*, seem to be of exceptional importance in comparison to other psychological variables. The former was significantly correlated with entrepreneurial success and diversified the groups under examination during both rounds of the study and, finally, co-created the personality profile of an entrepreneur (both in the first and the second round of the study). The latter achieved predictive value both in the first round of the study and during the replication study, thus revealing the constancy of its predictive power. In the light of these findings, a claim is possible that people who are “cognitively” convinced of the possibility of achieving success and simultaneously demonstrate emotional stability (and therefore emotional composure, patience, and high resilience to stress) and have employees that possess unique and valuable knowledge are capable of achieving “high” entrepreneurial success.

Two issues should be highlighted with respect to the limitations and recommendations for future research. First, one unquestionable limitation of this study is the small number of entrepreneurs who met the two criteria for the replication study (i.e., they took part in the second round of the study because they effectively ran their business for 18 months following the first round). Consequently, it is necessary to exercise increased caution during interpretation of the results obtained during the replication study. However the most important recommendation for future research is pursuit of the operationalization of entrepreneurial success as a quantitative

indicator/variable. Nevertheless, a closer look should be taken at extraversion, which (contrary to the results of previous research) turned out to have minor significance for entrepreneurial success (in this study). As one of the few traits that was not correlated with entrepreneurial success, extraversion did not diversify the groups under analysis and had no predictive value for entrepreneurial success.

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