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Selected contextual factors and entrepreneurial intentions of students on the example of Poland

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ABSTRACT
The article analyses the influence of contextual variables on students' entrepreneurial intentions. The research seeks to extend previous findings concerning the impact of various contextual factors on entrepreneurial intentions. The main focus was on public policy, business environment and education as the contextual traits. The study answers the following questions: What role do contextual variables play in the formation of the entrepreneurial intention of young people? What factors comprise a latent variable — contextual factor? What is the relationship between various contextual factors? The survey was conducted among students of the Faculty of Engineering Management at Bialystok University of Technology (Poland). Data were collected from the sample of 332 respondents. This research used a causal quantitative methodology using structural equations (Structural Equation Modelling, SEM). The impact of education (E) on the business environment (BE) and of the business environment (BE) on public policy (PP) was confirmed. A direct influence of contextual factors — education (E), business environment (BE) and public policy (PP) — on entrepreneurial intentions (EI) has not been positively verified. The main theoretical conclusion is that contextual factors do not directly explain the entrepreneurial intentions of the surveyed student population in Poland. Decision-makers and politicians should consider additional measures to improve public policy in the country, but above all, measures that promote intentions indirectly. They aim to improve the educational environment in the country that is strengthening entrepreneurship education programmes in universities and earlier education stages and activities in the business environment, supporting the creation of new companies.

KEY WORDS
student entrepreneurship, contextual factors, entrepreneurial intentions, education, public policies, business environment

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Introduction

Over the last several decades, the phenomenon of entrepreneurship has gained enormous importance on a global scale as a perceived important source of innovation and economic growth for countries and regions (Audretsch, 2002; Christensen, Johnson, & Rigby, 2002; Mai & Gan, 2007). Entrepreneurship is the subject of extensive research that examines it from various perspectives: motivation (Shane et al., 2003; Oosterbeek et al., 2009), barriers

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(Gorji & Rahimian, 2011; Sobel et al., 2007; Klapper et al., 2004), intentions (Fayolle & Liñán, 2014), gender (Sarfaraz et al., 2014; Warnecke, 2013), pandemic perspective (Zahra, 2021; Ratten, 2020) and many other.

Entrepreneurship is a multi-dimensional and multi-threaded global process that has the effect of setting up a new company (Ahsan et al., 2019; Baciu et al., 2020; Bosma et al., 2009; Szydło et al., 2022). Two lines of research address variables favouring entrepreneurship in general: personal/individual (Canedo et al., 2014; Tomczyk et al., 2013; Martinez-Gonzales & Kobylińska, 2019) and contextual (Busenitz et al., 2014; de Castro et al., 2005; Mai & Gan, 2007; Krueger et al., 2000; Lee et al., 2011).

Studies using the individual approach have focused on the specific attributes of entrepreneurs (e.g., skills, self-efficacy, competencies, motivation, and attitude) (Gupta & Fernandez, 2009; Abdullah, 2018; Jahanshahi, 2018; Salhi, 2018). Within the contextual approach, environmental and external factors (e.g., public policy, education, culture, and business environment) are among the many factors supporting entrepreneurial activity (Civera et al., 2021; Ahadi & Kasraie, 2020; Fuller et al., 2018; Ucbasaran et al., 2001; Szpilko et al., 2021). Research in the area of entrepreneurial intentions generally focuses on identifying personal factors that explain the willingness to become an entrepreneur, minimising the importance of other factors.

The issue of individual entrepreneurship has always been the subject of scientific research, leading to many studies in an attempt to identify the factors that predict the behaviour of future entrepreneurs. Entrepreneurial Intention (EI) is well known as a reliable predictor of real entrepreneurial behaviour (Fayolle & Liñán, 2014). Since the intention is considered to be the best predictor of behaviour, a thorough understanding of the parameters influencing EI is essential to assessing business behaviour (Ajzen, 1991; Krueger et al., 2000).

Entrepreneurial intention is shaped by a specific environment, and some environmental factors are more favourable than others (Civiera et al., 2021; Suresh & Ramraj, 2012). No consensus exists in the literature regarding contextual factors that best explain the influence of specific variables on entrepreneurial intentions (Vuong, 2020). The literature highlights the role of entrepreneurial policies and programmes important for a favourable entrepreneurial climate in the country (Davari & Farokhmanesh, 2017) and the importance of the business environment and infrastructure (Guglielmetti, 2010). The role of the appropriate education system also has been highlighted because it allows for the development of entrepreneurial intentions, shaping values related to self-employment (Liñán et al., 2011; Van Der Sluis et al., 2008). There is ample empirical evidence that education is essential to nurturing entrepreneurial individuals and, thus, creating entrepreneurial communities (Gurtner & Soyez, 2016; Dvouletý, 2018).

Researchers point to the need to study entrepreneurial intentions in a regional context in various segments of the population, as sociological research indicates a progressive homogenisation of patterns, including cognitive, relational and behavioural, derived from the process of globalisation (Nowak, 2006). This is especially true for generations such as Generation Y (young people born approx. between 1980 and 2000).

Some authors (Nabi et al., 2010) suggest their great importance in changing the generation of the current entrepreneurial population. There is a particularly high interest in learning about entrepreneurial intentions among university students, as they are a good representation of this generation (Gurtner & Soyez, 2016; Utami, 2017).

This study devoted to the entrepreneurial intentions of university students in Poland aimed to respond to the concerns and suggestions found in the literature and elaborate on the framework of the contextual approach.

The article addresses the expectations that future entrepreneurship research may propose new theoretical models that use engagement theories to describe and explain entrepreneurial commitment (e.g., Fayolle & Liñán, 2014).

While the literature presents many different approaches to environmental factors that can influence the entrepreneurial intentions of young people, it is important to focus on selected variables that can show entrepreneurial relevance, which can be a benchmark, especially in central decision-making. For this reason, the authors present the developed structural model using a set of responses from young Polish students. The small number of variables contained in the model allows for explaining and managing the shaping of intention in the context of the students. This study specifically answers the following questions: What role do contextual variables play in shaping entrepreneurial intention for young people? Which of the contextual variables have the greatest impact on the entrepreneurial intentions of young

people? What are the relationships between contextual factors?

The study uses a two-stage approach. In the first step, confirmatory factor analysis (CFA) was used (CFA allows specifying the relationships between latent variables and their observed indicators), and in the second step, the measurement model was applied to build a structural model. The fit, reliability and validity of the models were tested.

The cause–effect model proposed in the article is new due to the type and number of contextual variables and the relations it contains. The model includes "basics" contextual variables (e.g., education, business environment) and "action" contextual variables (e.g., public policy) that influence entrepreneurial intention. However, the results of the study did not confirm that contextual factors could explain students' entrepreneurial intentions. In the structural model presented in the article, only two paths turned out to be statistically significant. However, the influence of contextual factors — education (E), business environment (BE) and public policy (PP) — on entrepreneurial intentions (EI) has not been positively verified.

The article is structured as follows. The first section offers an introduction, and Section 2 provides a literature review and hypotheses. Section 3 presents the sample, data collection procedure, measures and variables. Section 4 compiles analysis results, and Section 5 concludes and establishes future research directions.

1. Literature review

1.1. Entrepreneurial intention

The literature emphasises that intentions strongly predict actual future entrepreneurial behaviour (Krueger et al., 2000). Entrepreneurial intent (EI) is the first act in the entrepreneurial process (Khalifa & Dhiaf, 2016). Many studies have tried to determine the factors having the greatest impact on entrepreneurial intentions (EI) (Lee et al., 2011; Kobylińska, 2020; Bjekić et al., 2020). So far, the intention is the best predictor of individual behaviour, especially when it is rare, difficult to observe, or associated with unpredictable time delays (Krueger & Brazeal, 1994). Entrepreneurial intention (EI) has been described as a desire to start and a sincere motivation and willingness to engage in an entrepreneurial venture (Osadolor et al., 2021). In recent years, several articles in this area of research have been published, identifying various factors that precede entrepreneurial intentions, both individual and contextual (Shirokova et al., 2016; Farashah, 2015; Lüthje & Franke, 2003). Previous studies in this area have analysed the role of students' personal and environmental factors in shaping their entrepreneurial intentions, but the results of these studies remain contradictory (Szwarc et al., 2009; Nabi et al., 2017).

As indicated in the literature, the entrepreneurial intention is a state of mind leading to the choice of self-employment over working for someone else. Many studies analyse the positive relationship between EI and entrepreneurial activity and its subsequent relationship with economic development (Turton & Herrington, 2020; Guerrero & Peña-Legazkue, 2013). The interest in studying entrepreneurial intentions is related to many factors. As research shows, the intention strongly correlates with the behaviour of creating a firm; in some cases, this correlation even exceeded 0.96 (Shirokova et al., 2016). Intention also explains the high percentage of the variance in entrepreneurial behaviour, the variable that most accurately predicts entrepreneurial behaviour (Shirokova et al., 2016; Liñán & Fayolle, 2015). On the other hand, intention measures the will and personal effort an entrepreneur is willing to undertake to start a business (Thompson, 2009; Oftedal et al., 2018). Two models serve as a guide to understanding the development of entrepreneurial intentions: Ajzen's planned behaviour (TPB) theory (Shapero & Ajzen, 1991) and Shapero and Sokol's (1982) business event model (EEM) for a business event (Shapero & Sokol, 1982). In Shapero and Sokol's model, the intention of entrepreneurship is shaped based on perceived desire, perceived vitality and propensity to act. On the other hand, the planned action theory holds that the intention to start an activity depends on three variables: attitude to behaviour, perceived control of behaviour, and subjective norm. Intent models are the subject of research in psychology, marketing, and management, and previous research has revealed especially interesting empirical conclusions. Due to the predictive power of intention over entrepreneurial behaviour, the entrepreneurial intention has been used as a dependent variable in most of the designed models (Krueger et al., 2000; Fitzsimmons & Douglas, 2011). Although both models have been empirically tested and provide satisfactory predictions of entrepreneurial intentions, the literature is dominated by the use of planned behaviour theory (Kautonen et al., 2015).

The most influential articles on entrepreneurial intention can be divided into several groups. The first category includes publications on theoretical and methodological issues testing the main models. The second category includes articles focusing on variables such as gender, family roles, social capital and personality traits. The third group of research concerns the role of education in the context of entrepreneurship. Numerous publications focus on the role of context and institutions, including samples from several countries. The last group of articles analyses the relationship between intention and behaviour, confirming the high predictive potential of intention in entrepreneurial behaviour (Gonzales & Kobylińska, 2019).

1.2. Contextual factors

Most of the research focuses on personal factors influencing entrepreneurship (Claar et al., 2012; Rosique-Blasco et al., 2018; Frohman, 1997; Lee et al., 2004). A definite minority of articles focus on the importance and role of contextual factors in entrepreneurial intentions. The knowledge about the contextual background of entrepreneurial plans is less extensive, especially at the level of the analysed country.

In addition to personal variables, entrepreneurship at the regional level also requires contextual factors, also known as external or extrinsic variables (Simón-Moya et al., 2014; Ahadi & Kasraie, 2020). Entrepreneurship takes place in a specific environment, and some environmental factors are more favourable than others (Civera et al., 2021; Matos & Hall, 2019). No commonly accepted contextual factors influencing entrepreneurship have been identified in the literature, although they are usually classified as formal institutional and informal institutional (Salimath & Cullen, 2010; Tur-Porcar et al., 2018; Nguyen, 2020; Tleuberdinova, 2021). From a formal institutional perspective, the importance of government policies and programmes, infrastructure and market development is emphasised (Touzani, 2015; Cherrier et al., 2018; Méndez-Picazo et al., 2021). The role of the education system was also emphasised as it allows for the development of an entrepreneurial vocation, self-employment values, entrepreneurial competences and entrepreneurial intentions (Schøtt & Cheraghi, 2015; Bergmann et al., 2016).

According to Hatos et al. (2012), the most frequently mentioned contextual predictors are the labour market situation, access to financing, housing origin, income level and income expectations, law, research/development/technology, market characteristics, entrepreneurship education and culture, level of economic development, entrepreneurship development policy, stage of the economic cycle. Rahaman et al. (2020) discussed five variable contextual factors: social networks, access to capital, university education, structural support, and business information. When it comes to contextual variables related to entrepreneurship, Global Entrepreneurship Monitor (GEM) includes them in its reports as "entrepreneurial framework conditions" (Sá & De Pinho, 2019). These variables can be considered an important part of business creation and directly influence entrepreneurial opportunities, competences and preferences (Bosma et al., 2021; Herrington & Coduras, 2019). GEM context variables can be divided into formal institutional or informal institutional. Regarding the formal institutional framework, GEM contains three variables related to government actions: "Taxes and Bureaucracy", "Governmental Policies: Support and Relevance", and "Government Entrepreneurship Programs" (Bosma et al., 2021).

The first variable relates to the importance and overall support that government provides to entrepreneurship through policy making. The second concerns the extent to which tax policy and bureaucracy can facilitate or slow down entrepreneurship. The third variable relates to government programmes that directly promote entrepreneurship at the national, regional or municipal levels (Martínez-González et al., 2021). These three variables are important for entrepreneurship as government support for entrepreneurship is considered a fundamental aspect in the literature (Akinyemi & Adejumo, 2018; Nakku et al., 2019). Additionally, in the formal institutional framework, GEM includes two contextual variables related to infrastructures for entrepreneurship. First, "Commercial and Legal Infrastructure" refers to the presence of property rights, commercial, accounting and other services, and legal and opinion-making institutions that support or promote the entrepreneurial process. Second, "Physical Infrastructure" means the ease of access to physical resources (e.g., transportation, communication) (Martínez-González et al., 2021). In this way, GEM considers the importance of infrastructures in the literature (Bennett, 2019; Muñoz et al., 2020). Considering the importance given to the market in the entrepreneurial literature (Zhao & Lounsbury, 2016; Ali et al., 2020), GEM considers two variables related to these aspects: "Internal Market Dynamics"

and it is related to the level of fluctuation in markets from year to year. The second is "Internal Market Openness (Market Burdens or Entry Regulation)", which is the extent to which new firms are free to enter existing markets. GEM also reflects the importance attached to education in the entrepreneurial literature. GEM considers education using two variables (Wei et al., 2019). "Entrepreneurial Education at School Stage" refers to the extent to which entrepreneurship training is integrated into the primary and secondary education system, and "Entrepreneurial Education at Post School Stage" refers to the extent to which entrepreneurship training is included in higher education. It also includes two more contextual variables within the formal institutional context: "Entrepreneurial Finance" refers to the availability of financial resources for small and medium enterprises (Bonini et al., 2019; Brown et al., 2020).

The second is "R&D Transfer", a contextual variable that has also been considered in the entrepreneurial literature (Sá and De Pinho, 2019). This is defined as the degree to which national R&D will lead the entrepreneurial process. According to the literature, GEM considers the informal institutional context mainly through the prism of the culture and social norms (Hechavarría & Ingram, 2019).

In the GEM model, the informal context-related institutional variable is called "Cultural and Social Norms", which is the degree to which social and cultural norms encourage or enable actions leading to new business activities (Bosma et al., 2021). Some of the entrepreneurial literature suggests that socio-cultural factors, such as fear of failure, perceived opportunities, perceived opportunities, and role models, are the most important drivers of entrepreneurial behaviour (Arenius & Minniti, 2005; Koellinger et al., 2005).

However, increasing attention is being paid to several contextual factors influencing entrepreneurship (Rahaman et al., 2020; Farashah, 2015; Gelard & Saleh, 2011). It is difficult to predict factors that are crucial to the intentions of young people. The literature review resulted in the following factors playing the greatest role in predicting the entrepreneurial intentions of students from the perspective of contextual factors.

1.3. Education (E)

It is now widely accepted that education is necessary to nurture an entrepreneurial individual and, therefore, create an entrepreneurial community. Research by Hollenbeck and Hall (2004) and Wilson et al. (2007) explored and emphasised the importance of education in the context of entrepreneurial intentions. Robinson et al. (1994) found a strong relationship between education and the likelihood of becoming an entrepreneur and being successful as an entrepreneur. However, these authors did not determine the specific type of education (early school or studies) conducive to entrepreneurial attitudes (Lorz et al., 2011).

Education introduces young people to entrepreneurial logic, common challenges and general procedures. In addition, educational institutions provide micro-environments conducive to the development of an entrepreneurial culture and ensure a network of relationships with other research centres, reputable companies and consultants (Lredo, 2007; Kibler, 2013; Valliere, 2017; Passaro et al., 2018). Entrepreneurship education is to be implemented through various educational initiatives (e.g., courses, training, and workshops) (Fayolle & Cheerful, 2015). These educational initiatives encourage people to come out of the shadows and act on their passions (Thompson, 2004; Passaro et al., 2018).

Some authors suggest that entrepreneurial skills are more easily developed earlier in life because returns from training programmes later in life depend on prior investment in entrepreneurial skills (Huber et al., 2014). Some authors suggest that the level of skills and competencies which are honed by entrepreneurial education is not completely understood (Solesvik, 2019). The skills development model introduced by Cunha and Heckman (2007) emphasises that cognitive and noncognitive skills are developed at different stages in life, where the skills learned during one period in life (e.g., at primary school) increase the benefits of investing in these competences in subsequent periods (e.g., at high school or university).

While entrepreneurship education from an early age is certainly a desired behaviour, universities are pillars of knowledge that provide students with the skills needed to develop entrepreneurial tendencies (Volkmann et al., 2019). The literature on the subject emphasises that universities can support the entrepreneurial attitudes of young people by initiating many programmes aimed at promoting an entrepreneurial culture, supporting it and helping to create start-ups (Laredo, 2007; Franzoni & Lissoni, 2009; Fini et al., 2011). Especially academic entrepreneurial ecosystems affect the nature and quality of entrepreneurial activity and shape the direction and potential

benefits associated with the identification, creation and implementation of opportunities (Kobylińska & Lavios, 2020).

Since adequate education is considered to be one of the most important "essential" contextual factors influencing entrepreneurial intentions, the following hypothesis is formulated:

H1: Education (E) positively influences the entrepreneurial intentions (EI) of students.

However, some researchers find no direct link between entrepreneurial education and entrepreneurial intention (Fayolle & Gailly, 2009; von Graevenitz et al., 2010; Sánchez, 2013). Furthermore, some counter-effects have been found for students who previously had significant exposure to entrepreneurship education (Oosterbeek et al., 2010; Fayolle & Gailly, 2015) so that individuals may be discouraged by realistically looking at what is needed to start their own business and critical issues related to its management.

According to (Paço et al., 2011), education and training are important because they can change an individual's personal attitude towards competences and own skills.

As Fayolle and Gailly (2013) noted, little knowledge is available about the potential causal relationship between certain educational variables (e.g., pedagogical methods, course content, resources available, etc.) and their impact on entrepreneurial intentions and/or behaviour (values, attitudes, skills, etc.).

Entrepreneurship education aims to empower people, especially young people, to be responsible and vulnerable. Entrepreneurs should promote thinking and be involved in economic development and the creation of sustainable societies (Tajpour et al., 2018).

Their knowledge and awareness can improve the quality of the business environment, which is created by them.

Some models of entrepreneurial intention encompass an indirect influence of education on entrepreneurial intention (Passaro et al., 2018). Thus, people educated and trained in entrepreneurial education can create and be a part of a better business environment in the country.

They are more aware of what infrastructure and available technologies in the country can better meet the needs of entrepreneurs. Therefore, the following hypothesis was formulated:

H2: Education (E) positively influence the business environment (BE).

1.4. Business environment (BE)

The shaping of individual entrepreneurial aspirations not only occurs under the influence of the assessment of one's own possibilities and abilities but is also shaped by the attributes of the entrepreneur-friendly environment (Bosma, Schutjens, & Stam, 2009).

The notion of the entrepreneurial environment is crucial in studying the impact of the business environment on entrepreneurship and individual entrepreneurial behaviour (Grundstén, 2004). Nam and Hwansoo (2019) defined the entrepreneurial environment as the sum of the legal and institutional environment, financial environment, market environment, and entrepreneurial infrastructure, among others. A favourable business environment influences the dynamics of entrepreneurship in a given country. This environment includes economic development and institutions that affect the quality of management, access to capital and other resources and the perception of entrepreneurs (Fereidouni et al., 2010).

Some researchers have investigated the relationship between the perception of the entrepreneurial environment and the entrepreneurial intentions of individuals. Nam & Hwansoo (2019) indicated that the attitudes of entrepreneurs are significantly influenced by their perception of the entrepreneurial environment. Zhao et al. (2019) confirmed that students when considering the decision to start a business, assess whether the perceived environment is conducive to entrepreneurial activities. Stam (2010) pointed out that a favourable environment, along with its institutions and demand for products and market opportunities, may determine people's preferences to become entrepreneurs, which in turn may motivate entrepreneurial behaviour. It can be concluded that the business environment is also the "basic" contextual factor of entrepreneurial intentions.

The expected relationship between perceptions of the business environment and motivation to start a business is largely based on the pragmatic belief that times of economic recession or depression are unfavourable for entrepreneurs (Fereidouni et al., 2010). In connection with the above, the following hypothesis was adopted:

H3: Business environment (BE) positively influences the entrepreneurial intentions (EI) of students.

Research results show that countries with the highest rates of entry into enterprises provide entrepreneurs with a stable political climate, good govern-

ance, modernised business registers and simplified legal forms of running a business (Klapper et al., 2011). A good business climate in the country with appropriate market opportunities and technological development may affect the state's policy towards entrepreneurs in terms of lowering taxes or interest rates, which may further affect the entrepreneurial intentions of young people. The possible impact of the business environment on public policies favouring entrepreneurship allows for the following hypothesis:

H4: The business environment (BE) has a direct positive influence on public policy (PP).

1.5. Public policy (PP)

The literature on the subject includes research on government policies and regulations and their impact on entrepreneurship (Campbell & Mitchell, 2012). Public policy in the field of entrepreneurial practice aims to encourage entrepreneurship by creating a favourable environment for entrepreneurs. Government policy in this context includes all activities aimed at regulating and improving the conditions for entrepreneurs in terms of provided support, implementation measures and financing.

Literature from several studies has shown that government policy is positively related to entrepreneurship (Mason & Brown, 2011; Greene, 2012). Various authors suggest that economic policies stimulate and influence entrepreneurial intentions (Castaño et al., 2016). In the case of public support policies, it is assumed that the government is a leader in entrepreneurship development; it can provide support policies and the necessary resources within its capabilities (Obaji & Olugu, 2014).

The Global Entrepreneurship Monitor (GEM) report highlights the important functions of institutions that provide favourable conditions for the growth and development of entrepreneurial activity (Rahaman et al., 2020). Previous research has indicated the role of governments in improving access to capital through public funds, lowering entry barriers for new firms, and developing entrepreneurship support programmes (Murray, 2007; Li et al., 2020). Kreft and Sobel (2005) argued that entrepreneurship development requires an environment with low taxes, low tax regulation and private property rights.

Many authors argue that entrepreneurship is promoted by a solid regulatory framework, clearly defined property rights, transparent and easy procedures required to start a business, and effective political and economic institutions (Groşanu et al., 2015). Some studies have been dedicated to specific regions of the world, such as Eastern Europe (Manolova et al., 2008). The predominance of high-quality economic, political and legal institutions tends to direct efforts toward productive entrepreneurship and help sustain economic growth (Sobel, 2008).

In conclusion, the literature from several studies has shown that government policy is positively related to entrepreneurship (Greene, 2012; Texteira et al., 2018). Some authors argue that public policy is conducive to creating a favourable business environment (Kuriakose, 2013; Sarfati, 2012). However, knowledge is lacking regarding the extent to which support through public procedures and policies implemented by government institutions will be able to influence the entrepreneurial intentions of young people. It can be assumed that public policies are so-called "action" contextual variables that can ultimately determine the will to start a business and can positively influence entrepreneurial intentions. Therefore, the following hypothesis is formulated:

H5: Public policy (PP) positively and directly affects entrepreneurial intentions (EI).

2. Research methods

This study aimed to investigate the relationship between selected contextual factors and entrepreneurial intention. First, a comprehensive literature review was performed. This step allowed for the formulation of a theoretical framework with the hypotheses.

These studies were performed using a causal quantitative methodology with structural equations (Structural Equation Modelling, SEM). The SEM model was chosen for its advantages in studying human behaviour and for its optimal predictive potential (Sarstedt et al., 2014). SEM enables the building of the model using variables that are abstract and cannot be measured directly by a single item, such as public policy, business environment, education assessment or entrepreneurial intention.

Structural Equation Modeling (SEM) combines regression analysis with confirmatory factor analysis and allows testing of research hypotheses with high possible complexity of relationships between variables. A typical SEM analysis includes the following stages (Konarski, 2009): model specification and identification; estimation of model parameters; model quality assessment — the assessment of com-

pliance of the estimated model with the observed data set and eventual model verification, i.e., introducing modifications to the initially adopted model.

The study uses a two-stage approach. In the first step, confirmatory factor analysis (CFA) was used (CFA allows to determine the relationships between latent variables and their observed indicators), and in the second step, the measurement model was applied to build a structural model. The fit, reliability and validity of the models were tested.

Data analysis was performed using SPSS Statistics 21.0 software and IBM SPSS AMOS 21.0 used for structural equation modelling.

2.1. Sample and data collection

The sample consisted of young students from Poland, considering the suggestions of other authors regarding the importance of higher education in entrepreneurship and the need to deepen studies in this segment of the population. Many authors indicate that university students are a segment of interest in research on entrepreneurship in general and entrepreneurship intention in particular (Oftedal et al., 2008). The sample was deliberately selected from among students of the Faculty of Management Engineering studying in business-related study fields (management, production engineering, tourism and recreation, logistics) as this context makes it easier to approach and promote entrepreneurship. For the distribution of the questionnaire among students, the days and hours were randomly selected from among classes with the highest student attendance so that the number of students in the sample of each course was representative. The survey was handed over to the students personally by the author of the study at the turn of January and February 2020. Data were collected from the sample of 332 respondents (161 men and 171 women).

The sample size meets the minimum rule of ten times the number of observed variables (items) in quantitative research using a questionnaire (with a total of 17 predictive items observed).

2.2. Measures and instrument

To understand the factors influencing the entrepreneurial intentions of university students, the study used a quantitative method of collecting and analysing data. The questionnaire was used to gather information, as is usually the case in this type of research. The survey consists of two parts: general questions (gender, field of study, and the year of study) and part of Likert's 17 five-point questions with five alternative answers (1 — "strongly disagree", to 5 — "strongly agree") related to contextual variables. The items were taken from existing scales of previous studies. Elements corresponding to intention were designed in line with the comments by Liñán and Chen (2009) and Miranda et al. (2017). For the design of elements related to contextual factors, the variables described in publications (Martinez-Gonzales & Kobylińska, 2019; GEM, 2019; Miranda et al., 2017) were suggested.

Aiming to identify the structure of data and reduce the number of variables and check the dimensionality of each research construct (contextual variables), an exploratory factor analysis with the varimax rotation was performed. Due to low correlation with other items, six items were excluded from the analysis. In the final solution, only items with a loading higher than 0.5 were considered. The identified factors are (consistent with the intended solution) education (E), public policy (PP), business environment (BE) and entrepreneurial intention (EI).

3. Research results

The model was defined in the first step. Model specification means building a model that represents the assumed relationships between variables. Then, the identification of the model was checked (the possibility of unambiguous determination of the model parameters), and the model parameters were estimated.

Then, a measurement model was developed. For this purpose, confirmatory factor analysis (CFA) was used, which allows specifying the relationships between theoretical constructs (contextual variables) and their observed variables (questionnaire statements). Standardised regression weights connecting a given observable index with a latent variable were significant ($p<0.01$) and higher than 0.54 (Table 1).

The measurement model was tested for reliability and validity. Cronbach's alpha ranged from 0.59 to 0.78, Average Variance Extracted (AVE) from 0.37 to 0.55, and Composite Reliability (CR) from 0.60 to 0.79, indicating sufficient enough internal consistency's reliability and the appropriateness of the scales for the measurement of the constructs in the study.

The quality of the model is related to the assessment of the compliance degree of the estimated model with the data. Evaluating the fit of the model is

Tab. 1. Confirmatory factor analysis results

Construct		Standardised loading (λ)*	AVE	CR	α
E	*To create a company, it is necessary …*				
E1	that entrepreneurship begins to be taught in universities	0.56	0.44	0.60	0.59
E2	that entrepreneurship begins to be taught before university	0.75			
PP	*To create a company, it is necessary …*				
PP1	a good financial and banking situation in the country	0.54	0.37	0.64	0.63
PP2	government policies that favour entrepreneurship	0.66			
PP3	appropriate fiscal policies	0.62			
BE	*To create a company, it is necessary …*				
BE1	appropriate transportation and infrastructure in the country	0.69	0.43	0.69	0.68
BE2	an adequate technological development in the country	0.68			
BE3	entrepreneurship environment opportunities	0.59			
EI	*Entrepreneurial Intention*				
EI1	I intend to create a company in the future	0.84	0.55	0.79	0.78
EI2	It is very likely that in the future, they will be an entrepreneur	0.73			
EI3	I already feel motivated to create a company	0.65			

*Parameter significant at the 0.001 level

complex and requires the consideration of at least a few measures (no single measure can be used to evaluate a model uniquely). AMOS program automatically calculates 25 measures of the model fit. One of the most popular measures for assessing structural models: CMIN/df (χ2/degree of freedom)=1.33, the root mean square error of approximation RMSEA=0.03, the goodness-of-fit index GFI=0.97, the adjusted goodness-of-fit index AGFI=0.95, the comparative fit index CFI=0.98, the normed fit index NFI=0.94, the parsimonious goodness-of-fit index PGFI=0.60 exceed the recommended values and indicate a good model fit (Konarski, 2009).

Then, the measurement model was used to build the structural model (Fig. 1).

Only two paths turned out to be statistically significant in the structural model. The obtained results confirm the influence of education (E) on the business environment (BE) and of the business environment (BE) on public policy (PP), which supports hypotheses H2 and H4. However, the influence of contextual factors — education (E), business environment (BE) and public policy (PP) — on entrepreneurial intentions (EI) has not been positively verified; thus, hypotheses H1, H3 and H5 were not supported.

The measures for the final structural model fit — CMIN/df (χ2/degree of freedom)=1.34, the root mean square error of approximation RMSEA=0.03, the goodness-of-fit index GFI=0.97, the adjusted goodness-of-fit index AGFI=0.95, the comparative fit index CFI=0.98, the normed fit index NFI=0.94, the parsimonious goodness-of-fit index PGFI=0.59 — indicate a good structural model fit (Konarski, 2009).

4. Discussion of the results

The literature review noted that universities are a potential source of future entrepreneurs, and creating a business is an option increasingly appreciated by students in each country (Gonzales & Kobylińska, 2019).

Previous research has shown that entrepreneurial intentions depend largely on personal factors. This relationship is particularly evident in explana-

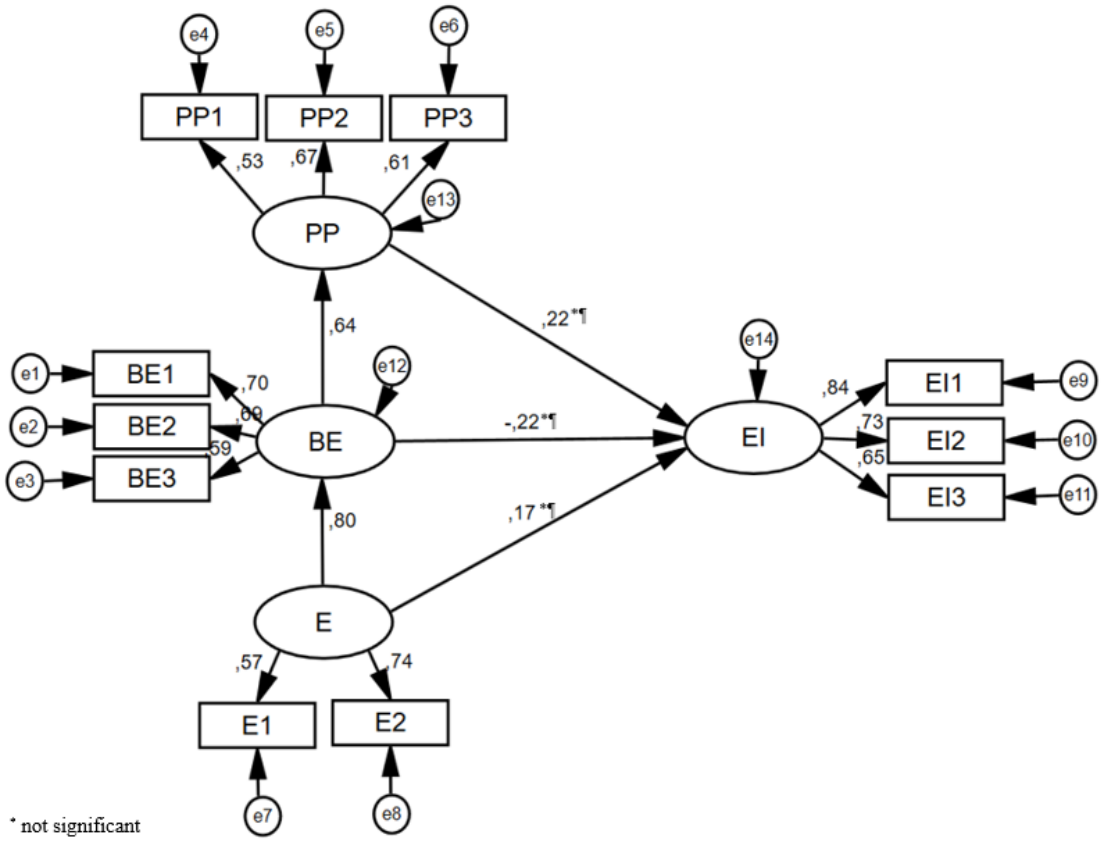

Fig. 1. Structural model

tory cause intention models (Elfving, Brännback, & Carsrud, 2009). This study considers contextual factors that, based on a literature review, may seem important in explaining entrepreneurial intentions.

In the structural model presented in this article, only two paths turned out to be statistically significant: the impact was confirmed of education (E) on the business environment (BE) and of the business environment (BE) on public policy (PP). However, the influence of contextual factors — education (E), business environment (BE) and public policy (PP) — on entrepreneurial intentions (EI) has not been positively verified.

Understanding and being able to predict the entrepreneurial intentions of young people becomes an important issue in the context of supporting them with the right tools and policies. The results of the study did not confirm that contextual factors can explain the entrepreneurial intentions of students. Considering the hypotheses posed in the previous sections of the article, there has been insufficient empirical evidence to find significant relationships between contextual factors, such as education, public policies or the business environment.

The presented research results partially confirm empirical evidence that individual factors explain entrepreneurial intentions to the greatest extent, although contrasting with the results of previous studies, where some contextual variables were important in explaining intentions.

In the case of contextual factors, it should be assumed that they do not have a direct impact on entrepreneurial intentions but may reinforce some personal factors. As indicated in previous studies, education can strengthen entrepreneurial attitudes, while the business environment can influence subjective norms, and public policy can influence the perceived control of entrepreneurial behaviour. As some authors have noted (Fini et al., 2012), it is possible that awareness of external support would come into play at the later stages, when individuals are actually implementing entrepreneurial activities.

The explanation for this result (irrelevance of contextual factors for entrepreneurial intentions) may be the lack of entrepreneurial culture in the context of the region where the study was conducted. Podlaskie Voivodeship is a region in the eastern part of Poland that historically has not been characterised

by having a high rate of entrepreneurial activity (Kobylińska, 2021).

Conclusions

The study presented in this article aimed to examine the influence of contextual factors on the students' entrepreneurial intentions.

In the presented study, an attempt was made to meet the expectations of some researchers that future research in the field of entrepreneurship may propose new theoretical models describing and explaining the entrepreneurial involvement of young people. Few articles are available in the literature analysing the relationships between various contextual factors that may shape entrepreneurial intentions. Therefore, this article aims to fill this gap in the literature. Based on theoretical analyses, contextual factors were selected from among the most often emphasised as important for strengthening entrepreneurial intentions. Aiming to verify the research hypotheses, a sample of Polish students was studied. Statistical analyses resulted in three main conclusions: (1) contextual factors do not explain the entrepreneurial intentions of the surveyed population, (2) education affects the business environment in the country, and (3) the business environment affects public policies. The presented study aimed to deepen the existing understanding of the relationship between contextual factors and the students' entrepreneurial intentions. The results of this study show that external contextual variables cannot directly stimulate the entrepreneurial intentions of young people. There may be several reasons for such a situation: incorrectly selected variables, a homogeneous research sample, and the regional context.

Certainly, Polish decision-makers and politicians should consider additional measures to improve public policy in the country (factors related to the appropriate fiscal and economic policy), but above all, measures that indirectly stimulate intentions. They are aimed to improve the country's educational environment by strengthening entrepreneurship education programmes at universities and earlier education stages and activities in the business environment, supporting the creation of new companies. Better education in the field of entrepreneurship in the country and the purposefulness of the business environment stimulating the opening of companies can contribute to a better entrepreneurial climate and, thus, to the improvement of the quality of the business environment. On the other hand, entrepreneurship-friendly public policy can be created as a response to a good quality business environment co-created by decision-makers with appropriate education in the field of entrepreneurship. The study presented in the above article has some limitations. First, the selection of the sample for this study was not random, and all students came from one province, which may affect the representativeness and universality of the results. Future research may be conducted on a larger sample of respondents from different socio-demographic groups or students from different regions of the country.

Moreover, research can be conducted in different countries with different cultures, social norms and different socio-economic conditions. These contextual factors can have a significant impact on the entrepreneurial intentions of young people in different regions. Moreover, this study only considered a limited number of contextual variables to predict entrepreneurial intentions. For future research, it may be useful to explore the broader context of the external environment, considering more variables.

Literature

Abdullah, N., Hadi, N. U., & Dana, L. P. (2018). The nexus between entrepreneur skills and successful business: A decompositional analysis. *International Journal of Entrepreneurship and Small Business, 34*(2), 249-265. doi: 10.1504/IJESB.2018.092029

Ahadi, S., & Kasraie, S. (2020). Contextual factors of entrepreneurship intention in manufacturing SMEs: the case study of Iran. *Journal of Small Business and Enterprise Development, 27*(4), 633-657. doi: 10.1108/JSBED-02-2019-0074

Ahsan, M., & Fernhaber, S. A. (2019). Multinational enterprises: Leveraging a corporate international entrepreneurship lens for new insights into subsidiary initiatives. *Journal of International Management, 25*(1), 51-65. doi: 10.1016/j.intman.2018.07.002

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

Akinyemi, F. O., & Adejumo, O. O. (2018). Government policies and entrepreneurship phases in emerging economies: Nigeria and South Africa. *Journal of Global Entrepreneurship Research, 8*(1), 1-18. doi: 10.1186/s40497-018-0131-5

Ali, A., Kelley D. J., & Levie, J. (2020). Market-driven entrepreneurship and institutions. *Journal of Business Research, 113*, 117-128. doi: 10.1016/j.jbusres.2019.03.010

Audretsch, D. B. (2002). The Dynamic Role of Small Firms: Evidence from the U.S. *Small Business Economics, 18,* 13-40. doi: 10.1023/A:1015105222884

Baciu, E. L., Vîrgă, D., Lazăr, T. A., Gligor, D., & Jurcuț, C. N. (2020). The Association between Entrepreneurial Perceived Behavioral Control, Personality, Empathy, and Assertiveness in a Romanian Sample of Nascent Entrepreneurs. *Sustainability, 12*(24), 10490. doi: 10.3390/su122410490

Bennett, D. L. (2019). Infrastructure investments and entrepreneurial dynamism in the U.S. *Journal of Business Venture, 34*(5), 105907. doi: 10.1016/j.jbusvent.2018.10.005

Bergmann, H., Hundt, C., & Sternberg, R. (2016). What makes student entrepreneurs? On the relevance (and irrelevance) of the university and the regional context for student start-ups. *Small Business Economics, 47*(1), 53-76. doi: 10.1007/s11187-016-9700-6

Bjekić, R., Jelača, M. S., Berber, N., & Aleksić, M. (2020). Factors Affecting Entrepreneurial Intentions of Faculty Students. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies, 26*(2), 1-14. doi: 10.7595/management.fon.2020.0024

Bonini, S., Capizzi, V., & Cumming, D. (2019). Emerging trends in entrepreneurial finance. *Venture Capital, 21*, 133-136. doi: 10.1080/13691066.2019.1607167

Bosma, N., Schutjens, V., & Stam, E. (2009). Entrepreneurship in European regions: Implications for Public Policy. In I. Leitao & R. Baptista (Eds.), *Public Policies for Fostering Entrepreneurship: A European Perspective* (pp. 59–89). New York: Springer.

Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Levie, J., & Tarnawa. *A. Global Entrepreneurship Monitor* (GEM) 2019/2020. London, UK: London Business School. Retrieved from https://www.gemconsortium.org/report/gem-2019-202 0-global-report

Brown, R., Rocha, A., & Cowling M. (2020). Financing entrepreneurship in times of crisis: Exploring the impact of COVID-19 on the market for entrepreneurial finance in the United Kingdom. *International Small Business Journal, 38*(5), 380-390. doi: 10.1177/0266242620937464

Busenitz, L. W., Plummer, L. A., Klotz, A. C., Shahzad, A., & Rhoads, K. (2014). Entrepreneurship research (1985-2009) and the emergence of opportunities. *Entrepreneurship Theory and Practice, 38*(5), 1-20. doi: 10.1111/etap.12120

Campbell, N., & Mitchell, D. T. (2012). A (partial) review of entrepreneurship literature across disciplines. *Journal of Entrepreneurship and Public Policy, 1*(2), 183-199. doi: 10.1108/20452101211261453

Canedo, J. C., Stone, D. L., Black, S. L., & Lukaszewski, K. M. (2014). Individual factors affecting entrepreneurship in Hispanics. *Journal of Managerial Psychology, 29*(6), 755-772. doi: 10.1108/JMP-11-2012-0333

Castaño, M., Méndez, M., & Galindo, M. (2016). The effect of public policies on entrepreneurial activity and economic growth. *Journal of Business Research, 69*(11), 5280-5285. doi: 10.1016/j.jbusres.2016.04.125

Civera, J. N., Bó, M. P., & López-Muñoz, J. F. (2021). Do contextual factors influence entrepreneurship? Spain's regional evidences. *International Entrepreneurship and Management Journal, 17*(1), 105-129. doi: 10.1007/s11365-019-00625-1

Davari, A., & Farokhmanesh, T. (2017). Impact of entrepreneurship policies on opportunity to startup. *Management Science Letters, 7*(9), 431-438. doi: 10.5267/j.msl.2017.6.003

de Castro, J. O., Justo, R., & Maydeu Olivares, A. (2005). *Entrepreneurial Activity and Entrepreneurial Environment? A Reexamination of the GEM's Approach*. Instituto de Empresa Business School Working Paper No. WP05-01.

Fayolle, A., & Liñán, F. (2014). The future of research on entrepreneurial intentions. *Journal of Business Research, 67*(5), 663-666. doi: 10.1016/j.jbusres.2013.11.024

Farashah, A. D. (2015). The effects of demographic, cognitive and institutional factors on development of entrepreneurial intention: Toward a socio-cognitive model of entrepreneurial career. *Journal of International Entrepreneurship, 13*(4), 452-476. doi: 10.1007/s10843-015-0144-x

Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management, 53*(1), 75-93. doi: /doi.org/10.1111/jsbm.12065

Fayolle, A., & Liñán, F. (2014). The future of research on entrepreneurial intentions. *Journal of Business Research, 67*(5), 663-666. doi: 10.1016/j.jbusres.2013.11.024

Fereidouni, G. F., Masron, T. A., Nikbi, D., & Ameri, R. E. (2010). Consequences of external environment on entrepreneurial motivation in Iran. *Asian Academy of Management Journal, 15*(2), 175-196.

Fitzsimmons, J. R., & Douglas, E. J. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venture, 26*(4), 431- 440. doi: 10.1016/j.jbusvent.2010.01.001

Fuller, B., Liu, Y., Bajaba, S., Marler, L. E., & Pratt, J. (2018). Examining how the personality, self-efficacy, and anticipatory cognitions of potential entrepreneurs shape their entrepreneurial intentions. *Personality and Individual Differences, 125*, 120-125. doi: 10.1016/J.PAID.2018.01.005

Gorji, M. B., & Rahimian, P. (2011). The study of barriers to entrepreneurship in men and women. *Australian Journal of Business and Management Research, 1*(9), 31. doi: 10.52283/nswrca.ajbmr.20110109a05

Greene, F. (2012). *Should the focus of publicly provided small business assistance be on start-ups or growth businesses?* New Zealand: Ministry of Economic Development.

Groșanu, A., Boța-Avram, C., Răchișan, P. R., Vesselinov, R., & Tiron-Tudor, A. (2015). The influence of country-level governance on business environment and entrepreneurship: A global perspective. *Amfiteatru Economic Journal, 17*(38), 60-75.

Grundstén, H. (2004). *Entrepreneurial intentions and the entrepreneurial environment: A study of technology-based new venture creation*. Helsinki University of Technology.

Guglielmetti, Ch. (2010). *Measuring the business environment for entrepreneurship in fragile states*. WIDER Working Paper, 14.

Gupta, V., & Fernandez, C. (2009). Cross-cultural similarities and differences in characteristics attributed to entrepreneurs: A three-nation study. *Journal of Leadership & Organizational Studies, 15*(3), 304-318. doi: 10.1177/1548051808326036

Hatos, A., Ștefănescu, F., & Hatos, R. (2012). Individual and contextual factors of entrepreneurship in Europe: cross-country comparison. *Actual Problems in Economics, 9*(135), 553-563.

Heckman, J. J., Hsse, J. J., & Rubinstein, Y. (2000) *The GED is a mixed signal: The effect of cognitive and non-cognitive skills on human capital and labor market outcomes*. Unpublished Manuscript.

Hollenbeck, P. G., & Hall D. T. (2004). Self-Confidence and Leader Performance. *Organizational Dynamics, 33*(3), 254-269. doi: 10.1016/j.orgdyn.2004.06.003

Huber, L. R., Sloof, R., & Van Praag, M. (2014). The effect of early entrepreneurship education: Evidence from a field experiment. *European Economic Review, 72*, 76-97. doi: 10.1016/j.euroecorev.2014.09.002

Jahanshahi, A. A., Brem, A., & Shahabinezhad, M. (2018). Does thinking style make a difference in environmental perception and orientation? Evidence from entrepreneurs in post-sanction Iran. *Sustainability, 10*(5), 1546. doi: 10.3390/su10051546

Kautonen, T. van Gelderen, M., & Fink M. (2015). Robustness of the Theory of Planned Behavior in Predicting Entrepreneurial Intentions and Actions. *Entrepreneurship Theory and Practice, 39*(3), 655-674. doi: 10.1111/etap.12056

Khalifa, A. H., & Dhiaf, M. M. (2016). The impact of entrepreneurship education on entrepreneurial intention: The UAE context. *Polish Journal of Management Studies, 14*(1), 119-128. doi: 10.17512/pjms.2016.14.1.11

Kibler, E. (2013). Formation of entrepreneurial intentions in a regional context. *Entrepreneurship and Regional Development: An International Journal, 25*(3-4), 293-323. doi: 10.1080/08985626.2012.721008

Klapper, L., Laeven, L., & Rajan, R. (2004). *Barriers to entrepreneurship*. NBER Working Paper, 10380, 1-61.

Klapper, L., Lewin, A., & Delgado, J. M. Q. (2011). *The impact of the business environment on the business creation process. Entrepreneurship and Economic Development*. Palgrave Macmillan, London.

Kobylińska, U. (2021). Attitudes, Subjective Norms and Perceived Control Versus Contextual Factors Influencing the Entrepreneurial Intentions of Students from Poland, *WSEAS Transactions on Business and Economics, 19*, 94-106. doi: 10.37394/23207.2022.19.10

Kobylińska, U. (2020). Personal and Contextual Factors Affecting the Intentions of Commercialization of Research Results Among Academic Teachers of Technical Universities - Concept of Model and Research Process. In S. Soliman Khalid (Ed.), *Proceedings of the 35th International Business Information Management Association Conference (IBIMA): Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global* (pp. 838–846).

Kobylińska, U., & Lavios, J. J. (2020). Development of research on the university entrepreneurship ecosystem: trends and areas of interest of researchers based on a systematic review of literature. *Oeconomia Copernicana, 11*(1), 117-133. doi: 10.24136/oc.2020.005

Konarski R. (2009). *Modele równań strukturalnych, teoria i praktyka* [*Structural equation models, theory and practice*]. Warsaw, Poland: PWN.

Kreft, S. F., & Sobel, R. S. (2005). Public policy, entrepreneurship, and economic freedom. *Cato Journal, 25*(3), 595-616. doi: 10.1007/s11127-008-9295-9

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5/6), 411-432. doi: 10.1016/S0883-9026(98)00033-0

Kuriakose, S. (Ed.). (2013). *Fostering entrepreneurship in Armenia*. World Bank Publications.

Lee, L., Wong, P. K., Der, F. M., & Leung, A. (2011). Entrepreneurial Intentions: The Influence of Organizational and Individual Factors. *Journal of Business Venturing, 26*(1), 124-136. doi: 10.1016/j.jbusvent.2009.04.003

Li, C., Ahmed, N., Qalati, S. A., Khan, A., & Naz, S. (2020). Role of business incubators as a tool for entrepreneurship development: the mediating and moderating role of business start-up and government regulations. *Sustainability, 12*(5), 1822. doi: 10.3390/su12051822

Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International Entrepreneurship and Management Journal, 7*(2), 195-218. doi: 10.1007/s11365-010-0154-z

Lorz, M., & Volery, T. (2011). *The impact of entrepreneurship education on entrepreneurial intention*. University of St. Gallen.

Lüthje, C., & Franke, N. (2003). The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management, 33*(2), 135-147. doi: 10.1111/1467-9310.00288

Mai, Y., & Gan, Z. (2007). Entrepreneurial opportunities, capacities and entrepreneurial environments: Evidence from Chinese GEM data. *Chinese Management Studies, 1*(4), 216-224. doi: 10.1108/17506140710828505

Manolova, T. S., Eunni, R. V., & Gyoshev, B. S. (2008). Institutional environments for entrepreneurship: evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory & Practice, 32*(1), 203-218. doi: 10.1111/j.1540-6520.2007.00222.x

Martínez-González, J. A., & Kobylińska, U. (2019). Influence of personal variables on entrepreneurial intention: a comparative study between Poland and Spain. *Engineering Management in Production and Services, 11*(1), 68-79. doi: 10.2478/emj-2019-0005

Mason, C., & Brown, R. (2011). Creating good public policy to support high-growth firms. *Small Business Economics, 40*(2), 211-225. doi: 10.1007/s11187-011-9369-9

Matos, S., & Hall, J. (2019). An exploratory study of entrepreneurs in impoverished communities: When institutional factors and individual characteristics result in non-productive entrepreneurship. *Entrepreneurship and Regional Development, 32*(1-2), 134-155. doi: 10.1080/08985626.2019.1640476

Muñoz, P., Naudé, W., Williams, N., Williams, T., & Frías, R. (2020). Reorienting entrepreneurial support infrastructure to tackle a social crisis: A rapid response. *Journal of Business Venturing Insights, 14*. doi: 10.1016/j.jbvi.2020.e00181

Murray, G. C. (2007). *Venture capital and government policy. Handbook of Research on Venture Capital*. Cheltenham: Edward Elgar.

Nabi, G., Holden, R., & Walmsley, A. (2010). Entrepreneurial intentions among students: Towards a refocused research agenda. *Journal of Small Business and Enterprise Development, 17*(4), 537-551. doi: 10.1108/14626001011088714

Nakku, V. B., Agbola, F. W., Miles, M. P., & Mahmood, A. (2019). The interrelationship between SME government support programs, entrepreneurial orientation, and performance: A developing economy perspective. *Journal of Small Business Management, 58(1)*, 2-31. doi: 10.1080/00472778.2019.1659671

Nam, J. M., & Hwansoo, L. (2019). A study on the perception of entrepreneurial environment and the attitude of entrepreneurs by Asian countries: comparative analysis of China. Japan, Korea, and Singapore. *Journal Entrepreneurship Venture Studies, 22*, 51-63.

Nguyen, T. T. (2020). Impact of entrepreneurship environmental support factors to university students' entrepreneurship self-efficacy. *Management Science Letters, 10*(6), 1321-1328. doi: 10.5267/j.msl.2019.11.026

Nowak, L., Thach, L., & Olsen, J. E. (2006). Wowing the millennials: Creating brand equity in the wine industry. *Journal of Product and Brand Management, 15*(5), 316-332. doi: 10.1108/10610420610685712

Obaji, N. O., & Olugu, M. U. (2014). The Role of Government Policy in Entrepreneurship Development. *Science Journal of Business and Management, 2*(4), 109. doi: 10.11648/j.sjbm.20140204.12

Oftedal, E. M., Iakovleva, T. A., & Foss, L. (2018). University context matter: An institutional perspective on entrepreneurial intentions of students. *Education and Training, 60*(23), 873- 890. doi: 0.1108/ET-06-2016-0098

Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review, 54*(3), 442-454. doi: 10.1016/j.euroecorev.2009.08.002

Osadolor, V., Agbaeze, K. E., Ejikeme, E. I., & Olabosinde, S. T. (2021). Entrepreneurial self-efficacy and entrepreneurial intention: The mediating role of the need for independence. *Journal of Entrepreneurship, Management and Innovation, 17*(4), 91-120. doi: 10.7341/20211744

Paço, A. M. F., Ferreira, J. M., Rodrigues, R. G., & Dinis, A. (2011). Behaviours and entrepreneurial intention: Empirical findings about secondary students. *Journal of International Entrepreneurship, 9*(1), 20-38. doi: 10.1007/s10843-010-0071-9

Păunescu, C., & Molnar, E. (2020). Country's entrepreneurial environment predictors for starting a new venture –evidence for Romania. *Sustainability, 12*(18), 7794. doi: 10.3390/su12187794

Rahaman, M. A., Ali, M. J., Mamoon, Z. R., & Al Asheq (2020). Understanding the Entrepreneurial Intention in the Light of Contextual Factors: Gender Analysis. *The Journal of Asian Finance, Economics, and Business, 7*(9), 639-647. doi: 10.13106/jafeb.2020.vol7.no9.639

Raport z badania Global Entrepreneurship Monitor Polska 2019 [Report from the Global Entrepreneurship Monitor Polska 2019 study].

Ratten, V. (2020). Coronavirus (covid-19) and entrepreneurship: changing life and work landscape. *Journal of Small Business & Entrepreneurship, 32*(5), 503-516. doi: 10.1080/08276331.2020.1790167

Passaro, R., Quinto, I., & Thomas, A. (2018). The impact of higher education on entrepreneurial intention and human capital. *Journal of Intellectual Capital, 19*(1), 135-156. doi: 10.1108/JIC-04-2017-0056

Christensen, C. M., Johnson, M., &Rigby, D. K. (2002). Foundations for Growth: How to Identify and Build Disruptive New Businesses, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Retrieved from https://ssrn.com/abstract=1513137

Rosique-Blasco, M., Madrid-Guijarro, A., & García-Pérez-de-Lema, D. (2018). The effects of personal abilities and self-efficacy on entrepreneurial intentions. *International Entrepreneurship and Management Journal, 14*(4), 1025-1052. doi: 10.1007/s11365-017-0469-0

Sá, E. S., & Pinho, J. C. M. (2019). Effect of entrepreneurial framework conditions on R&D transfer to new and growing firms: The case of European Union innovation-driven countries. *Technological Forecasting and Social Change, 141*(C), 47-58. doi: 10.1016/j.techfore.2019.01.017

Salhi, B. (2018). Impact of personal motivation on the intention and behaviour of social entrepreneurs. *Journal of Entrepreneurship Education, 21*(5), 1-15.

Sarfaraz, L., Faghih, N., & Majd, A. A. (2014). The relationship between women entrepreneurship and gender equality. *Journal of Global Entrepreneurship Research, 4*(6), 1-11. doi: 10.1186/2251-7316-2-6

Sarfati, G. (2012). Do public policies for entrepreneurship make a difference? Prospective scenarios for Canada, Ireland, and Italy. *Future Studies Research Journal: Trends and Strategies, 4*(1), 114-139. doi: 10.7444/future.v4i1.95

Sarstedt, M., Ringle, C. M., Smith, D. Reams, R., & Hair, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy, 5*(1), 105-115. doi: 10.1016/j.jfbs.2014.01.002

Schøtt, T., & Cheraghi, M. (2015). Gendering pursuits of innovation: Embeddedness in networks and culture. *International Journal of Entrepreneurship and Small Business, 24*(1), 83-116. doi: 10.1504/IJESB.2015.066160

Shane, S., Locke, E. A., & Collins, C. J. (2003). Entrepreneurial motivation. *Human Resource Management Review, 13*(2), 257-279. doi: 10.1016/S1053-4822(03)00017-2

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent, D. Sexton, & K. H. Vesper (Eds.), *The Encyclopedia of Entrepreneurship*. Englewood Cliffs: PrenticeHall.

Shirokova, G., Osiyevskyy, O., & Bogatyreva, K. (2016). Exploring the intention – behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal, 34*(4), 386-399. doi: 10.1016/j.emj.2015.12.007

Simón-Moya, V., Revuelto-Taboada, L., & Guerrero, R. F. (2014). Institutional and economic drivers of entrepreneurship: An international perspective. *Journal of Business Research, 67*(5), 715-721. doi: 10.1016/j.jbusres.2013.11.033

Sobel, R. S. (2008). Testing Baumol: institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing, 23*(6), 641-655. doi: 10.1016/j.jbusvent.2008.01.004

Sobel, R. S., Clark, J. R., & Lee, D. R. (2007). Freedom, barriers to entry, entrepreneurship, and economic progress. *The Review of Austrian Economics, 20*(4), 221-236. doi: 10.1007/s11138-007-0023-3

Solesvik, M. (2019). Entrepreneurial competencies and intentions: the role of higher education. *Forum Scientiae Oeconomia, 7*(1), 9-23. doi: 10.23762/fso_vol7_no1_1

Stam, E. (2010). Entrepreneurship, evolution and geography. In R. Boschma, & R. L. Martin (Eds.), *The handbook of evolutionary economic geography* (pp. 307–348). Cheltenham: Edward Elgar.

Suresh, J., & Ramraj, R. (2012). Entrepreneurial ecosystem: Case study on the influence of environmental factors on entrepreneurial success. *European Journal of Business and Management, 4*(16), 95-101.

Szpilko, D., Szydło, J., Glińska, E., Kobylińska, U., Rollnik-Sadowska, E., & Ryciuk, U. (2021). *Theoretical and practical aspects of business activity. Business planing*. Bialystok, Poland: Publishing House of Bialystok University of Technology. doi: 10.24427/978-83-67185-02-8

Szydło, J., Szpilko, D., Glińska, E., Kobylińska, U., Rollnik-Sadowska, E., & Ryciuk, U. (2022). *Theoretical and practical aspects of business activity. Starting a business*. Bialystok, Poland: Publishing House of Bialystok University of Technology. doi: 10.24427/978-83-67185-03-5

Tajpour, M., Moaddab, S., & Hosseini, E. (2018). *Entrepreneurship education and learning environment in institutions*. Proceeding of ICE2018. International Conference on Entrepreneurship. Tehran.

Tleuberdinova, A., Shayekina, Z., Salauatova, D., & Pratt, S. (2021). Macro-economic Factors Influencing Tourism Entrepreneurship: The Case of Kazakhstan. *The Journal of Entrepreneurship, 30*, 179-209. doi: 10.1177/0971355720981431

Tomczyk, D., Lee, J., & Winslow, E. (2013). Entrepreneurs' personal values, compensation, and high growth firm performance. *Journal of Small Business Management, 51*(1), 66-82. doi: 10.1111/j.1540-627X.2012.00374.x

Tur-Porcar, A., Roig-Tierno, N., & Mestre, A. L. (2018). Factors Affecting Entrepreneurship and Business Sustainability. *Sustainability, 10*(2), 452. doi: 10.3390/su10020452

Ucbasaran, D., Westhead, P., & Wright, M. (2001). The focus of entrepreneurial research: contextual and process issues. *Entrepreneurship Theory and Practice, 25*(4), 57-80. doi: 10.1177/104225870102500405

Van Der Sluis, J., Van Praag, M., & Vijverberg, W. (2008). Education and entrepreneurship selection and performance: a review of the empirical literature. *Journal of Economic Surveys, 22*(5), 795-841. doi: 10.1111/j.1467-6419.2008.00550.x

Vuong, Q. H., La, V. P., Vuong, T. T., Nguyen, H. K. T., Ho, M. T., & Ho, M. T. (2020). What have Vietnamese scholars learned from researching entrepreneurship? A Systematic review. *Heliyon, 6*(4).

Warnecke, T. (2013). Entrepreneurship and gender: An institutional perspective. *Journal of Economic Issues, 47*(2), 455-464. doi: 10.2753/JEI0021-3624470219

Wei, X., Liu, X., & Sha, J. (2019). How Does the Entrepreneurship Education Influence the Students' Innovation? Testing on the Multiple Mediation Model. *Frontiers in Psychology, 10*. doi: 10.3389/fpsyg.2019.01557

Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self–efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship Theory and Practice, 31*(3), 387-406. doi: 10.1111/j.1540-6520.2007.00179.x

Zahra, S. A. (2021). International entrepreneurship in the post Covid world. *Journal of World Business, 56*(1), 101-143. doi: 10.1016/j.jwb.2020.101143

Zhao, E. Y., & Lounsbury, M. (2016). An institutional logics approach to social entrepreneurship: Market logic, religious diversity, and resource acquisition by microfinance organizations. *Journal of Business Venturing, 31*(6), 643-662. doi: 10.1016/j.jbusvent.2016.09.001

Zhao, Q. J., Zhou, B. F., & Linm, J. H. (2019). Influence of environmental perception on college students' entrepreneurial intention and gender differences. *Journal of Hunan Agricultural University, 1*, 89-96.