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# THE FACTORS INFLUENCING STUDENTS' ENTREPRENEURIAL INTENTIONS: AN ANALYSIS USING THE THEORY OF PLANNED BEHAVIOR

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This study applies the Theory of Planned Behavior to investigate the impact of personal attitudes towards entrepreneurship, social norms, and perceived behavioral control on students' entrepreneurial intentions. Conducted on a sample of 184 students in Croatia, the research study applies the practical adaptation of the TPB model so as to reflect the realistic context in which students develop their entrepreneurial intentions. The multiple regression analysis conducted in the study reveals that all the components of the theory positively and significantly affect entrepreneurial intentions. The most influential factor is perceived behavioral control, only to be followed by personal attitude and social norms. These findings enhance the understanding of the critical elements shaping students' entrepreneurial aspirations. Additionally, the study offers useful information for higher education institutions, helping them understand students' entrepreneurial behavior and guiding the development of targeted programs and internal policies. Ultimately, this research serves as a valuable resource for a broader academic community to help them design the strategies that promote students' entrepreneurial ambitions.

Keywords: entrepreneurship, entrepreneurial intentions, students, theory of planned behavior

JEL Classification: A22, A23, I23, M21

#### INTRODUCTION

In today's fast-evolving market environment characterized by rapid technological advancements, shifting social dynamics, and increasing demand for innovative solutions, entrepreneurship has risen to a pivotal role, becoming essential for market competitiveness and survival. Recognizing the

fact that entrepreneurial skills and mindsets are indispensable tools for success in the 21<sup>st</sup> century (Obschonka, 2014, Obschonka, Hakkarainen, Lonka & Salmela-Aro, 2017), the education system is tasked with nurturing these skills in future entrepreneurs by offering the necessary support to fuel their entrepreneurial initiatives. In developed economies, regions with a high concentration of employees holding a higher education diploma tend to experience the greatest entrepreneurial economic growth (Molnar, Josipović & Baškot, 2024). The

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research conducted by S. Primario, P. Rippa and G. Secundo (2022) highlights the crucial contribution of higher education institutions in developing human and social capital, both of which are foundational to driving innovation and enhancing competitiveness. Through education, students gain the knowledge and hands-on experiences that improve their capacity to learn, absorb new information, and acquire key resources, all of which helps them to recognize potential opportunities (Wilson, Kickul & Marlino, 2007). In this context, higher education institutions hold a responsibility not only to promote innovation and entrepreneurial thinking (Corazza & Saluto, 2021; Sansone, Ghezzi, Landoni & Rangone, 2024) but also to actively support the growth of students' entrepreneurial intentions by fostering the environment that encourages the initiative, creativity, and practical learning experiences.

While science has made significant strides in highlighting the importance of building competencies, knowledge, and skills in entrepreneurship (Corazza & Saluto, 2021; Primario et al, 2022; Wang, You, Wang, Wang, Lai & Su, 2023; Adeel, Daniel & Botelho, 2023; Sansone et al, 2024), this field still remains an active area of scientific and research inquiry. Often regarded as a microcosm of society, students typically display the talents that embody proactive attitudes and dedication to entrepreneurial pursuits. However, a gap in empirical research persists concerning their entrepreneurial intentions in emerging economies, Croatia being no exception. Moreover, recent findings (Singer, Sarlija, Pfeifer & Peterka, 2022) indicate that Croatia's entrepreneurial environment is still not sufficiently supportive. Among the Croatians, only two factors (namely the domestic market dynamics and the quality of the physical infrastructure, such as telecommunications and transportation) positively impact entrepreneurial activity. Conversely, the restrictive aspects of the entrepreneurial landscape include the insufficient prioritization of supportive government policies, the regulatory framework with significant market entry barriers, and inadequate contributions from the education sector toward fostering entrepreneurial competencies in young people, the latter factor underscoring the need for the studies focused on students and their entrepreneurial tendencies.

Given the fact that students are anticipated to redefine business paradigms and shape the future of entrepreneurship on a global scale and recognizing their heightened responsiveness to shifts in a rapidly evolving environment, there is a strong rationale for ongoing research in their readiness for entrepreneurial challenges. This approach calls for a systematic, scientifically grounded examination of the diverse factors influencing their entrepreneurial aspirations and behaviors, providing the insights that may inform the policies and practices aimed at nurturing the next generation of entrepreneurs.

A review of the existing literature highlights robust empirical support for the Theory of Planned Behavior (TPB) in explaining how the personal attitude, social norms, and perceived behavioral control influence behavioral intentions across diverse (Finisterra Do Paco, Ferreira, Raposo, Rodrigues & Dinis, 2011; Igbal, Melhem & Kokash, 2012; Širola, 2020; Su, Zhu, Chen, Jin, Wang, Lin & Xu, 2021; Sampene, Li, Khan, Agyeman & Opoku, 2023). Despite this fact, there yet remains a substantial gap in the research addressing students' entrepreneurial intentions in Croatia through the lens of the TPB. This study aims to address this gap by examining the cognitive factors (namely attitudes, social norms, and perceived behavioral control) that impact Croatian students' entrepreneurial intentions. Through the application of the TPB model, this study seeks to provide valuable insights into students' entrepreneurial orientations. These insights could be instrumental for Croatian higher education institutions as they refine their educational strategies and policies so as to better support entrepreneurial skills. Moreover, the study's findings have the potential to contribute to the global academic discourse on fostering entrepreneurship among students, offering the perspectives that are relevant not only in Croatia but also in a broader international context.

The paper is so structured as to include the Introduction, the Analysis of the Fundamental Concepts Derived from Prior Research, the Explanation for the Research Methodology and the Interpretation of the Research Findings. The Conclusion synthesizes the entire work, discussing

the theoretical and practical implications of applying the acquired knowledge and elaborating on the theoretical and practical contributions of the research study.

#### LITERATURE REVIEW

This section provides an overview of the previous research that has applied the Theory of Planned Behavior, only to be followed by a presentation of the research model along with the description of the model's variables.

### The application of the Theory of Planned Behavior in previous research studies

Although entrepreneurship has been studied for over 300 years, no clear and universally accepted definition has remained. The concept is defined in various ways, from narrow interpretations focused on the dynamic process of starting a business to the broader views that encompass traits such as diligence, self-confidence, initiative, innovativeness, and risk-taking (Van Gelderen, Brand, Van Praag, Bodewes, Poutsma & Van Gils, 2008), as well as the commitment to achieving specific goals by combining resources, recognizing change, and creating new value (Hisrich, Peters & Shepherd, 2011). Nevertheless, there is a general consensus now on the complexity and multi-dimensional, interdisciplinary nature of entrepreneurship, which continues to evolve driven by a multitude of factors and circumstances (Leitão, Lasch & Thurik, 2011). Within the scientific field of management, definitions "entrepreneurship" commonly emphasize entrepreneurs' personal characteristics or attitudes, individual and organizational entrepreneurial behaviors, and entrepreneurship as a socioeconomic phenomenon (Tien, Minh, Ngoc & Nhan, 2019). As S. Adeel et al (2023) succinctly state, "entrepreneurship is usually defined as an individual's ability to turn ideas into viable new ventures."

In recent years, the Theory of Planned Behavior (TPB) has become a popular model for examining

students' entrepreneurial intentions (Liñán & Chen, 2009; Iqbal et al, 2012; Entrialgo & Iglesias, 2016; Širola, 2020; Su et al, 2021; Piri Rajh, Rajh & Horvat, 2022). The TPB offers a relevant framework for predicting entrepreneurial intentions through educational processes and the learning context (Ajzen, 1991; Fayolle, Gailly & Lassas-Clerc, 2006; Iqbal et al, 2012). According to the TPB, there are three main variables that influence the entrepreneurial intention: perceived behavioral control (PBC), which represents an individual's perception of how feasible it is to perform a behavior; attitude toward entrepreneurship, reflecting one's personal belief in behaviors or traits such as entrepreneurial spirit; and social norms, which reflect the perceived approval of the influential figures, such parents, friends, or colleagues, of entrepreneurship. These factors are found to directly shape entrepreneurial intentions (Ajzen, 1991; Iqbal et al, 2012; Al-Jubari, 2019; Su et al, 2021).

Y. Su *et al* (2021) provide a thorough overview of the TPB, emphasizing the fact that perceived behavioral control is central to the model. They highlight the fact that, while entrepreneurial attitudes and PBC shape the intention from within, social norms add an external layer of the influence based on the entrepreneur's surroundings. When these factors are aligned, the entrepreneur's intention to start a business strengthens, thereby increasing the likelihood of the entrepreneur launching a venture.

In prior studies, the TPB has extensively been analyzed from multiple perspectives in the context of entrepreneurship (Iqbal et al, 2012; Munir, Jianfeng & Ramzan 2019; Al-Jubari, 2019; Otache, 2019; Al-Jubari, Hassan & Liñán, 2019; Duong, Nguyen, Ngo, Nguyen & Nguyen 2020; Su et al, 2021). For example, A. Iqbal et al (2012) examined the influence of different TPB variables on the entrepreneurial intention, whereas I. Al-Jubari et al (2019) included the additional factors like need satisfaction, need frustration, and attitudes towards entrepreneurship. H. Munir et al (2019) investigated risk-taking propensity, the locus of control, the proactive personality, and the gender as the additional factors influencing entrepreneurial intentions. Similarly, C. Duong et al (2020) considered personal attitude, self-efficacy, social capital, and

country norms, whereas J. Maes, H. Leroy and L. Sels (2014) included the gender, personal attitude, social norms, and perceived behavioral control. Y. Su *et al* (2021) expanded the TPB by examining entrepreneurial intentions among students and adding perceived faculty support as a new variable.

These previous studies form a critical foundation for this research study by offering the theoretical frameworks and methodologies that have already proved to be effective in similar contexts. Analyzing prior research has highlighted the gaps in knowledge that this study seeks to address, as well as the identification of the relevant factors that influence this research topic. These insights have facilitated the development of a tailored research model, building upon the established concepts, simultaneously incorporating new dimensions specific to the current study. The following sections will detail the model's variables, further underscoring the value of the prior research in shaping the study's scientific contributions.

#### The research model

The Theory of Planned Behavior (TPB) suggests a strong link between the entrepreneurial intention and successful entrepreneurial performance. *Intention* is regarded as a critical predictor of behavior, reflecting an individual's willingness to undertake entrepreneurial activities (Liñán & Chen, 2009). This concept encompasses the three primary factors that influence behavior: personal attitudes towards entrepreneurship, social norms, and perceived behavioral control (Liñán & Chen, 2009), which serve as the main hypotheses in this research study.

Entrepreneurial intention (EI) is a composite variable where values greater than zero indicate a higher inclination towards an entrepreneurial career, whereas values less than zero suggest a greater inclination towards alternative careers, i.e. a lower inclination towards an entrepreneurial career. EI represents a focused decision on targeted behavior and is considered as the best single predictor of planned behavior.

Personal Attitude (PA) towards entrepreneurship is a composite variable assessing an individual's career path orientation based on their positive or negative evaluation of an entrepreneurial career compared to alternative careers (Ajzen & Fishbein, 1975). Higher values of this variable indicate a more positive perception of the outcome of starting an entrepreneurial career.

Social Norms (SN) is a composite variable, where higher scores indicate a greater belief that a future entrepreneurial career aligns with the opinions of the respondent's social environment. In other words, social norm refers to the perceived social pressure to perform or avoid a certain type of behavior. It is assumed to be shaped by a full range of accessible normative beliefs about the expectations of the key referents, such as one's spouse, family, friends, supervisor, and co-workers (Širola, 2020).

Perceived Behavioral Control (PBC) is a composite variable that represents an individual's personal beliefs about their own control over planned behavior, in which sense this variable reflects the beliefs related to access to the resources and opportunities necessary to carry out a certain type of behavior (Ajzen, 1991). The importance of this construct stems from its predictive ability, which reflects an individual's perception of the (in)ability to control behavior. In other words, the fewer obstacles an individual expects (control belief) and the greater the belief in the resources and opportunities needed for an entrepreneurial career, the higher PBC towards an entrepreneurial career.

This study employs an adapted version of the Theory of Planned Behavior (TPB) model customized so as to better reflect the practical context in which students form their entrepreneurial intentions. Specifically, adjustments are made to the social norms variable, incorporating the role of faculty professors' support in fostering entrepreneurial initiatives. By including this additional particle, the model more accurately captures the environmental influences on students' entrepreneurial intentions, offering a more realistic analysis of their entrepreneurial behavior. Furthermore, the other key variables of the Theory,

namely entrepreneurial intentions (EI), personal attitude (PA), and perceived behavioral control (PBC), have also been modified. Each of these variables is condensed into a total of four particles, offering a more streamlined and focused approach compared to previous research. This approach is further detailed in the research methodology section, which explains the specific modifications made to each variable and the reasoning lying behind these changes.

The study addresses the following research question: Can entrepreneurial intentions among Croatian students be predicted using the components of the Theory of Planned Behavior? In order to answer the research question, the following hypotheses were formulated:

- H1: Personal attitude (PA) towards entrepreneurship has a positive effect on entrepreneurial intentions (EI) among the students.
- H2: Social norms (SN) have a positive effect on entrepreneurial intentions (EI) among the students.
- H3: Perceived behavioral control (PBC) in the students has a positive effect on their entrepreneurial intentions (EI).

Figure 1 illustrates the proposed hypotheses within the conceptual model, followed by the equation (1) formulated for the multiple regression model.

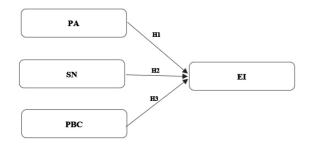


Figure 1 The research model

Source: Authors

$$EI = a + b_1 PA + b_2 SN + b_3 PBC \tag{1}$$

#### RESEARCH METHODOLOGY

To address the research question, an empirical study was conducted, and a structured questionnaire was developed. The questionnaire was organized into four sets of questions. The first set collected sociodemographic information from the respondents. The second set focused on exploring the entrepreneurial characteristics of the participants, which were assessed through four categories: independence, the leadership ability, responsibility, and organizational skills, as defined by A. Hunjet, G. Kozina and M. Milković (2012). The third set examined the participants' attitudes towards the role of the faculty in fostering entrepreneurial initiatives. Although these sets of questions were not used to test the hypotheses directly, they did provide a valuable framework for describing the respondents' profiles and enriched the information about the research sample.

The research done by A. Iqbal et al (2012) served as the basis for constructing the last set of the questions applied for testing the hypothesis through examining the participants' entrepreneurial intentions. While the literature review has identified various models for examining entrepreneurial intentions (EI), the Theory of Planned Behavior (TPB) offers a comprehensive framework for their analysis (Ajzen, 1991; Iqbal et al, 2012). As the Theory posits that most actions are planned, the intention driving a specific behavior comes before the behavior itself (Ajzen & Fishbein, 1975). The individuals who carefully consider their future actions vary in terms of the three predictors of future behavioral intentions: the attitude towards a specific behavior, social norms, and perceived behavioral control. Considering this theory in the realm of entrepreneurship, it is reasonable to anticipate that the students' beliefs and attitudes towards entrepreneurship will impact the development of their entrepreneurial intentions. In that sense, I. Ajzen (1991) suggested, and A. Iqbal et al (2012) applied, a six-item scale for entrepreneurial intention (EI) measurement, whereas personal attitude (PA) was measured using a five-item scale, social norms (SN) using a three-item scale and perceived behavioral control (PBC) using a six-item scale. For the purposes of this research, however,

all the research variables were reduced to four relevant, clear and comprehensible particles. The scientific grounding for these adjustments lies in the need for clarity and specificity in measuring the variables that influence entrepreneurial intentions. By condensing these variables into fewer particles, the study aims to enhance the reliability and validity of the measurements, making it easier to analyze the relationships between these variables and entrepreneurial intentions. This approach aligns with the best practices in the research methodology, where simplification can lead to more robust findings and clearer implications for practice. At the same time, in addition to reducing the particles of the variables EI, PA and PBC, the SN variable was adapted in such a way that, in addition to the three originally defined items (Ajzen, 1991), it also contains an additional, newly created particle called "faculty professors", which emphasizes the influence of the teacher's authority on the entrepreneurial behavior of their students. Namely, as a source of inspiration and motivation, professors' authority can significantly influence students' entrepreneurial intentions. By sharing their knowledge, experiences, and advice, the professors who are experts in entrepreneurship can provide essential support and mentorship to the students aspiring to become entrepreneurs. Additionally, professors' authority can also impact entrepreneurial intentions through the educational program and the curriculum. Professors have the opportunity to incorporate practical exercises, projects, and business simulations in their lessons, thereby encouraging entrepreneurial thinking among the students. By adding the newly created particle to the SN variable, the questionnaire is further aligned with the actual experiences and practices of the students as the target population.

In addition to the above-mentioned adaptation of the model, this research was also customized in another methodological aspect. In relation to the previous studies (Ajzen, 1991; Iqbal *et al*, 2012; Širola, 2020), in whose studies a seven-point Likert scale was suggested and applied, all the scales in this research were measured on a five-point Likert scales, ranging from 1 (strong disagreement) to 5 (strong agreement), which was done in order to reduce the possibility of

confusion and in order to facilitate decision-making among the research participants who are used to being graded in an educational system applying grades from 1 to 5.

The research was conducted on a sample of university students in Croatia, specifically those enrolled in economics programs, with the focus on entrepreneurship courses as part of their curricula. These students represent the target group of the study as they are actively engaged in learning entrepreneurship and are at a critical stage where they must make decisions on their future career paths. By focusing on the students of the faculties of economics, the research study aims to capture insights from the individuals who are more likely to consider entrepreneurial careers due to their academic background and exposure to entrepreneurship education.

In the first research phase, the universities (and their respective faculties as the legally autonomous entities within them) offering economics programs were selected so as to identify the institutions relevant to the study. The selection focused on the six prominent public institutions in Croatia known for their highquality education in economics and the related fields with comprehensive entrepreneurship curricula. The aim was to gather insights from the students attending these universities (faculties) since they are considered to be highly representative of the academic training that shapes entrepreneurial intentions in Croatia. The online questionnaire was developed and distributed via the social media platforms, such as Facebook groups, that gather students from the selected faculties, and on the official Facebook pages of the chosen institutions as well. The call to participate in the survey explicitly stated that it was intended for the students enrolled in the economics programs at the specified institutions. Additionally, an initial open-ended question was included in the survey asking the respondents to specify the institution they were attending, thus ensuring that the data reflected the views of the students coming from the relevant academic backgrounds. The chosen distribution method combining the reach of social media with clear targeting maximized the participation and

ensured the sample accurately represented the target population. Data collection took place in February 2024 applying an online survey method via the Google Forms. Out of 190 distributed questionnaires, 184 were deemed usable for the analysis, resulting in the response rate of 96.8%. The collected data were then analyzed using appropriate statistical methods, with the IBM SPSS Statistics 23 software package being utilized for the analysis.

#### RESEARCH RESULTS

In this section, a descriptive analysis of the sample is presented, providing an overview of the respondents' characteristics and a brief respondent profile description. This is followed by the descriptive statistics for the key variables in the model. Finally, the hypothesis testing is performed based on the established multiple regression model.

## The general characteristics of the research sample: the descriptive statistics

The educational level and the gender are typically taken into consideration and analyzed when examining the basic characteristics of the sample units, as is also done in this study.

**Table 1** The respondents' socio-demographic Profile (N=184)

December	Respondents				
Description	Frequency	Percentage			
Gender					
Male	52	28.3			
Female	132	71.7			
Year of study					
1st year	74	40.2			
2 <sup>nd</sup> year	10	5.4			
3 <sup>rd</sup> year	2	1.1			
4 <sup>th</sup> year	59	32.2			
5 <sup>th</sup> year	39	21.2			

Source: Authors

From the point of view of the respondents' gender, the majority of the respondents in the study sample are female (71.7%). Most of the respondents are first-year students (40.2%), which is followed by the fourth-year students (32.2%) and the fifth-year students (21.2%), as indicated in Table 1.

In order to systemize the students' entrepreneurial attributes as the input for their future entrepreneurial activity, the study explored the students' entrepreneurial traits. To this end, the respondents were asked to choose from the statements provided within the various categories (independence, leadership, responsibility, organizational abilities) the statement that describes them the best.

According to their self-evaluations, most of the respondents in the sample had developed entrepreneurial traits: 53.3% reported that they did all of their work independently and 60.95% stated that they could win over most people when they start doing something. Furthermore, the respondents showed a high level of responsibility for what they were doing (75.6%), together with a high level of organizational abilities, indicated by their intention to have a plan and a clearly defined line of action (76.6%).

Starting from the assumption that the students' attitudes towards the faculty they are attending are a good source of information and a distinct signal of the limitations that students may come across in the educational process, the study identifies the role of the faculty in encouraging students' entrepreneurial initiatives, as is presented in Table 3.

The findings indicate the fact that the role of the faculty in encouraging students' entrepreneurial initiatives is strong since, through its educational program, the faculty builds the entrepreneurial spirit (52.2%), provides the study cases of successful entrepreneurs (66.8%), brings the knowledge needed to develop a business plan (54.3) and emphasizes the importance of teamwork (82.6%).

The comprehensive overview of the research sample enables the assertion of the fact that the respondents' self-evaluation in the variables reflecting the entrepreneur profile indicates that the students exhibit the key entrepreneurial traits manifested through independence, tenacity, responsibility and

**Table 2** The self-evaluation of the students' entrepreneurial traits - the share (%)

Entrepreneurial traits	Item	Percentage
Independence	I do all my work independently. Nobody has to tell me what to do.	53.3
(Am I independent by	All I need is a little nudge to get started but then I continue on my own.	40.8
nature?)	Easy does it. I don't do anything until I have to.	6.0
Leadership	Usually, I can win over most people when I start something.	60.9
(Do I have the ability to	I can give orders if someone else tells me what I need to do.	20.1
lead others?)	Usually I leave leadership to others, but I will join them if I like what they're doing.	19.0
Responsibility (Am I capable of taking on responsibility?)	I like being responsible for what I'm doing and I like to see the results of my work.	75.6
	I will take on responsibility if I have to; otherwise, I would rather leave it to someone else.	19.0
	There is always some "know-it-all" who wants to show off how smart they are. I am happy to let them do that.	5.4
	Before starting anything, I always want to have a plan and a clearly defined line of action.	76.6
Organizational abilities (Am I a good organizer?)	I can manage well until things start getting too complicated. That's when I usually give up.	12.5
	I have everything nicely planned out and then some huge problem emerges. That's why I tend to deal with things as they come.	10.9

Table 3 The role of the faculty in encouraging entrepreneurial initiative - the share (%)

Items	Yes	No
The faculty played the key role in fostering my entrepreneurial spirit.	52.2	47.8
At the faculty, I analyzed the case studies of successful entrepreneurs.	66.8	33.2
At the faculty, I learned how to develop a business plan.	54.3	45.7
The faculty emphasized the importance of teamwork.	82.6	17.4

Source: Authors

organizational abilities. Additionally, the respondents demonstrate a favorable view of the faculty as the supporter of their entrepreneurial endeavors, the findings laying a promising foundation for a further exploration of the students' entrepreneurial initiatives that are discussed in the following section of the paper.

### The descriptive analysis of the main variables

As the preliminary step in the research done in students' entrepreneurial intentions, this section provides the description and data analysis of the key variables used to develop the hypotheses. The instrument demonstrated internal consistency, with Cronbach's alpha values ranging from 0.814 for social norms to 0.947 for entrepreneurial intentions. All Cronbach's alpha coefficients are within acceptable ranges with the values exceeding 0.7064, which indicates their satisfactory to high reliability for measuring the individual constructs (Nunnally & Bernstein, 1994).

All the items within the EI variable were given medium average scores, indicating that the students displayed moderate entrepreneurial intentions. The item rated the highest was "My professional goal is to become an entrepreneur." (M=3.43, SD=1.129), whereas the item rated the lowest was "I have a firm intention to start a firm one day." (M=3.26; SD=1.130).

Table 4 The students' entrepreneurial intention (EI)

Items	Min	Max	Mean	Std. Deviation	Cronbach's alpha	Average Mean
I am ready to do anything to be an entrepreneur.	3	5	3.35	1.191		
My professional goal is to become an entrepreneur.	3	5	3.43	1.129	0.947	3.33
I am determined to create a firm in the future.	2	5	3.28	1.161	<i>J</i> 17	7 77
I have a firm intention to start a firm one day.	2	5	3.26	1.130		

Table 5 Personal attitude (PA) towards entrepreneurship

Items	Min	Max	Mean	Std. Deviation	Cronbach's alpha	Average Mean
Being an entrepreneur would entail great satisfaction to me.	2	5	3.96	1.053		3.73
A career as an entrepreneur is attractive to me.	3	5	3.85	1.096	0.885	
If I had the opportunity and resources, I'd like to start a firm.	3	5	3.70	1.128	0.883	
Among various options, I would rather be an entrepreneur.	2	5	3.42	1.069		

Source: Authors

Table 6 The social norms

Items	Min	Max	Mean	Std. Deviation	Cronbach's alpha	Average Mean
Your close family	2	5	3.72	1,200		
Your friends	3	5	3.64	1.251	0.944	2.20
Your faculty professors	3	5	3.60	1.224	0.814	3.39
Your colleagues	2	4	2.58	1.113		

Source: Authors

The total mean average of the PA variable is 3.73, with "Being an entrepreneur would entail great satisfaction for me." as the item rated the highest (M=3.96; SD=1.053) and "Among various options, I would rather be an entrepreneur." as the item rated the lowest (M=3.42; SD=1.069). Such results indicate that, according to the students' perception of and attitudes towards entrepreneurship, opportunities and resources play the key role in starting their own business ventures. Although the students are aware of a lack of current resources, it is believed that, if

they had them available, they would be inclined to start their own business.

Table 6 displays the respondents' social norms (SN). The total mean 3.39 suggests that the family, friends, faculty professors, and college peers influence the students by encouraging them to consider or plan an entrepreneurial career. The students seem to be more influenced by their close family (M=3.72), only to be followed by their friends (M=3.64) and faculty professors (M=3.60), whereas peers (M=2.58) have a slightly lesser, but still significant impact. Faculty

Items	Min	Max	Mean	Std. Deviation	Cronbach's alpha	Average Mean
To start a firm and keep it working would be easy for me.	3	5	3.44	.945		
I am ready to start a viable firm.	2	5	3.19	1.107		
I know the necessary practical details to start a firm.	2	5	3.05	1.142	0.892	3.14
If I tried to start a firm, I would have a high probability of making a success.	2	4	2.87	1.058		

**Table 7** Perceived behavioral control

professors exert almost the same level of influence on the students as their friends do, with the means 3.60 and 3.64, respectively, which suggests that professors play a significant role in shaping students' entrepreneurial intentions, as much as their friends who offer support and advice do. However, peers have a noticeably lesser impact, which is indicative of the fact that, while they still may influence the students, their role in fostering the students' entrepreneurial intentions is less pronounced. In contrast, the students may be more influenced by their parents' opinions due to their reliance on their parents for financial support, which is a factor deeply rooted in the Croatian culture and family structure.

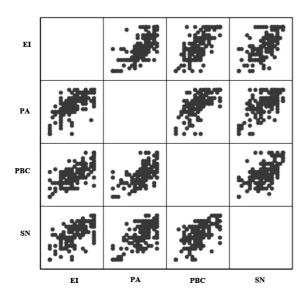
The total mean average of the PBC variable is 3.14, with "To start a firm and keep it working would be easy for me." as the item rated the highest (M=3.44; SD=0.945) and "If I tried to start a firm, I would have a high probability of making a success." as the item rated the lowest (M=2.87; SD=1.058). A. Iqbal *et al* (2012) provide an explanation for the notably low mean average of this factor compared to the other three, suggesting that it may stem from certain reluctance and hesitation among college students. This apprehension could be linked to their doubts about their self-confidence in taking risks and their ability to establish a business or start a venture from the ground up, which may feel beyond their current capabilities and mindsets.

## Multiple regression analysis: the hypotheses testing

Considering multiple regression analysis (with the selected two-way testing, 5% significance, the test power 80 %, and the three predictors), the G\*Power 3.1.9.7 program, which is a statistical power analysis program based on Cohen's sampling formula, recommends a minimum sample size of 77 units. Since this study involves a total of 184 respondents, the criterion for conducting the research was successfully met. The mutual linearity of the variables in the multiple regression model was tested using a scatter plot.

By analyzing each individual diagram shown in the matrix, it is evident that there is an approximate linear relationship between all the variables of the model. The correlation analysis table presents the Pearson correlation coefficients (r) and their statistical significance (p). All the independent variables are highly correlated with the dependent variable, and the independent variables are also statistically significantly correlated with each other.

The following variables: personal attitude (PA), perceived behavioral control (PBC) and social norms (SN) are the independent variables of the model, and they are statistically significantly (p<0.001) related to the entrepreneurial intention (EI) dependent variable. The mentioned connections have a positive sign and thus suggest an increase in the values in the variables (both the dependent and the independent): PA (r1=0.739), PBC (r1=0.746), SN (r1=0.686).



**Figure 2** The matrix notation of the scatter plots for the model variables

**Table 8** The correlational analysis of the variables

	EI	PA	PBC	SN
El	1			
PA	.729	1		
PBC	.746	.643	1	
SN	.686	.653	.609	1

Source: Authors

Following the correlation analysis, a multiple regression analysis was carried out so as to examine the influence of the independent variables on the dependent variable, specifically in order to determine whether the students' EI could be predicted based on the PA, PBC, and SN variables.

The first part of the table below provides the level of the predictive ability of the set model via the information on the multiple correlation coefficient (R), the determination coefficient (R<sup>2</sup>), and its corrected value (Adjusted R<sup>2</sup>), as well as the evaluation of the overall statistical significance of the set model (the F-ratio). The second part of the table presents

the unstandardized and standardized coefficients. Since all the independent variables, as well as the dependent variable, were measured using different measurement units, it is recommended that the standardized coefficients should be interpreted, in which way the comparability of the variables of the multiple regression model is ensured.

According to the data shown in the table, the equation for the multiple regression model reads as follows:

$$EI = -0.369 + 0.321 * PA + 0.235 * SN + 0.397 * PBC$$
 (2)

Multiple regression analysis was used to test whether the entrepreneurial intentions (EI) variable could be predicted based on the elements of the Theory of Planned Behavior. The variables: personal attitude (PA), perceived behavioral control (PBC) and social norms (SN) predict entrepreneurial intentions statistically significantly (F3, 180=134.211, p<0.001). The variables of the model explain 69.1% of the variation in entrepreneurial intentions. The predictive ability of all the three independent variables of the analyzed multiple regression model is justified because all the independent variables contribute statistically significantly to the model. The PBC (perceived behavioral control) variable has the most predictive power in explaining entrepreneurial intentions (b2=0.397, t=6.927, p<0.001), only to be followed by personal attitude (b1=0.321, t=5.354, p<0.001) and finally social norms (b3=0.235, t=4.062, p<0.001).

The regression analysis indicates that all the dimensions of the Theory of Planned Behavior (TPB) significantly influence the level of entrepreneurial intentions, thereby confirming support for all three hypotheses.

#### DISCUSSION

The Theory of Planned Behavior is highly regarded for its effectiveness in predicting entrepreneurial intentions across various contexts. This study's findings further validate this reputation, with a significant power 69.1% in the explained variance observed in this research, in which way this study also

Indicator					
R	0.831				
$R^2$	0.691				
Adjusted R <sup>2</sup>	0.686				
Std. Error	0.60033				
Durbin-Watson	2.033				
F-ratio	134.211				
Sig.	.000				
	Unstandardized Coefficients		Standardized Coefficients		
Independent variables	В	Std. Error	Beta	t	Sig.
(Constant)	369	.193		-1.910	.058
PA	.368	.069	.321	5.354	.000
SN	.262	.065	.235	4.062	.000
PBC	.458	.066	·397	6.927	.000

**Table 9** The overview of the output results of the multiple regression analysis

The dependent variable: EI

Source: Authors

aligns with the previous research in the components of the TPB (Ajzen, 1991; Finisterra Do Paco *et al*, 2011; Iqbal *et al*, 2012; Al-Jubari, 2019; Širola, 2020; Su *et al*, 2021; Sampene *et al*, 2023), highlighting its consistency and reliability in predicting entrepreneurial behavior.

The descriptive indicators of the research sample indicate that the respondents exhibit entrepreneurial traits based on the evaluation results. However, they express moderate entrepreneurial intentions. Nevertheless, the results indicate that all the dimensions of the TPB strongly and significantly influence entrepreneurial intentions. In this regard, the PBC variable has the greatest impact, only to be followed by PA, and finally SN. This outcome can be explained by the nature of the variables in the context of entrepreneurship. Perceived behavioral control (PBC) refers to an individual's belief in their capacity to manage and carry out the actions required for entrepreneurial success. Among the students, particularly among those studying economics and entrepreneurship, a strong sense of control over future business activities directly enhances their confidence in entering entrepreneurial ventures. The more they believe they possess the necessary skills, knowledge, and resources to start a business, the stronger their entrepreneurial intention becomes, increasing their likelihood of taking proactive steps toward entrepreneurship. Therefore, the results are as expected, with the PBC being the most influential factor as it reflects the students' self-confidence and their perception of their own ability to tackle business challenges. In contrast, while still significant, personal attitude (PA) has a lesser impact as it represents the general attitude towards entrepreneurship which may not necessarily lead to action without a belief in success. Social norms (SN) have the least predictive power because, although external encouragement can play a role, it has proven to be less important than internal confidence and personal beliefs.

However, the results of this study partially diverge from the previous research in the impact of social norms (SN) on entrepreneurial intentions (EI). For example, E. Rajh, J. Budak, J. Ateljevic, L. Davcev, T. Jovanov and K. Ognjenovic (2016) reported the lowest regression analysis result ( $\beta$  = 0.05, p < 0.01) between these variables, whereas D. Širola (2020) found no correlation between SN and EI. Similarly, in a single regression analysis, A. Iqbal *et al* (2012) revealed an insignificant impact of SN on EI among the university students. Conversely, R. L. Engle, N. Dimitriadi, J.

V. Gavidia, C. Schlaegel, S. Delanoe, I. Alvarado, X. He, S. Buame and B. Wolff (2010) found that, in Costa Rica, SN accounted for 40% of the variance in EI. This study, however, has yielded different results, indicating a stronger influence of SN on EI among the students (b3 = 0.235, t = 4.062, p < 0.001). I. Ajzen (1991) suggested that the combined effect of perceived behavioral control (PBC), subjective norms (SN), and personal attitudes (PA) contributed more significantly to entrepreneurial intentions (EI) than their independent effects. This conclusion also aligns with the findings of this study.

#### **CONCLUSION**

Research in entrepreneurial intentions has gained an increasing attention in recent years. Yet, it has remained a field with many unanswered questions, particularly when viewed in the context of the economies such as Croatia that are facing significant constraints in overall entrepreneurial development. This makes the investigation of students' entrepreneurial intentions a compelling area of study given the fact that students are potential new entrepreneurs who could drive innovation, support economic resilience, and reduce youth unemployment, highlighting the need for ongoing research from multiple perspectives. Conducted on a sample of Croatian students, this study provides insights into their entrepreneurial behavior, offering the input for the development of the tailored entrepreneurial programs and internal policies that foster entrepreneurial intentions.

The results of the multiple regression analysis carried out in this study provide strong support for all three hypotheses, confirming the fact that the elements of the Theory of Planned Behavior (TPB) significantly influence entrepreneurial intentions (EI). Hypothesis 1, which proposes that personal attitude (PA) positively affects entrepreneurial intentions among students, is supported by the findings as personal attitude is found to have a statistically significant positive relationship with EI (b1 = 0.321, p < 0.001). This aligns with the expectation that a favorable attitude towards entrepreneurship enhances students' intentions to engage in entrepreneurial activities.

Hypothesis 2, suggesting that social norms (SN) positively affect entrepreneurial intentions, is also confirmed by the data. Social norms show a positive and statistically significant effect on EI (b3 = 0.235, p < 0.001), supporting the idea that societal and cultural influences can shape students' entrepreneurial aspirations. Finally, Hypothesis 3, which says that perceived behavioral control (PBC) positively affects entrepreneurial intentions, is strongly supported as PBC exhibited the highest predictive power (b2 = 0.397, p < 0.001). These results indicate that the students who perceive themselves as those who have the ability and resources to successfully pursue entrepreneurial ventures are more likely to form entrepreneurial intentions.

Although the study did not explicitly reveal the role of the educational system in promoting entrepreneurial initiatives, on the one hand, it did provide a clearer and more comprehensive framework for assessing environmental influences on students' entrepreneurial intentions by incorporating a multidimensional support aspect from faculty professors within social norms (SN), on the other, which also underscores the faculty's responsibility in bridging the gap by integrating relevant courses in the curriculum to educate students in entrepreneurship.

This study offers contributions to both theory and practice. The theoretical aspect advances the understanding of entrepreneurial intentions and enriches the entrepreneurship literature by emphasizing and more precisely determining the factors fostering them. At the practical level, the study highlights the importance of providing incentives for students to engage in entrepreneurial activities, with higher education institutions serving as a crucial support system that should consistently be developed and customized in order to meet students' needs. Additionally, these outcomes contribute to the evidence base used to assess the current and shape future incentive policies aimed at fostering entrepreneurial behavior. These results could especially be beneficial in encouraging actions at the micro-level, originating directly from higher education institutions rather than depending on the slow-moving bureaucratic system.

This study has several limitations that should be considered when reviewing the results. The study has a spatial limitation, as it focuses exclusively on the Croatian students enrolled in economics programs, particularly on those taking entrepreneurship courses as part of their curricula. Therefore, future research should aim to expand the scope so as to include students from other faculties, not only in Croatia but internationally as well. Furthermore, future studies should broaden the focus so as to include students from non-economic science, such as technical and other fields of study, in order to assess their entrepreneurial intentions. A comparative analysis between the students of the faculties of economics and those coming from other disciplines would provide valuable insights into whether entrepreneurial intentions differ across various academic domains or not, and how these differences may impact a broader entrepreneurial ecosystem.

Additionally, the study assesses the respondents' attitudes, which inherently involves a certain degree of subjectivity in their self-evaluation when completing the questionnaire. To address this subjectivity, future studies could benefit from collecting objective data from statistical sources or conducting longitudinal studies, which may provide more reliable insights into actual entrepreneurial intentions and behaviors. Furthermore, it is crucial to recognize the fact that the focus on entrepreneurial intentions does not always align with actual future behavior.

Given the fact that this study is exploratory in its character and conducted on a relatively small sample, caution should be exercised in generalizing the findings until similar studies have been conducted. Lastly, future research could explore the actual behaviors of students' post-intention to evaluate the alignment between their intentions and outcomes. While the findings of this study cannot be generalized, on the one hand, they can be considered indicative, on the other. This research has raised numerous questions that present challenges for future scientific analysis and discourse.

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