

# Economics and Business Review

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# Role of subjective norms in shaping entrepreneurial intentions among students

 Karolina Nessel<sup>1</sup>

 Szczepan Kościółek<sup>2</sup>

 Anna Leśniak<sup>3</sup>

## Abstract

In view of the inconsistency in prior research, the main goal of this analysis is to determine the influence of subjective norms on entrepreneurial intentions among Polish students. The secondary goal is to examine how these subjective norms are affected by entrepreneurial experiences among individuals close to students, the students' self-employment history and work experiences, and their gender. Based on the framework of the theory of planned behaviour and data generated through surveys of students in a management programme ( $N = 255$ ), structural equation modelling is applied. The results indicate that subjective norms indirectly influence students' entrepreneurial intentions (through attitude towards entrepreneurship and perceived behavioural control). Regarding the antecedents of subjective norms, students' prior entrepreneurial experience and work history are not significant, nor is gender. The entrepreneurial experience of individuals close to students has a significant and positive impact on subjective norms only when students are convinced of the successes of their close entrepreneurs.

## Keywords

- entrepreneurial intention
- SEM
- subjective norms
- theory of planned behaviour
- Polish students

**JEL codes:** D91, L26, M13

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## Introduction

In many countries, individual entrepreneurship benefits from institutional support because of its substantial contributions to employment, innovation, and economic growth. Therefore, understanding the processes of entrepreneurial activity at various stages is essential. The first of these stages is establishing one's business, usually preceded by a conscious and planned intention (Krueger & Carsrud, 1993; Lerner et al., 2018). This entrepreneurial intention is the best, albeit imperfect, predictor of actual entrepreneurial behaviour (Tsou et al., 2023). It is natural, therefore, that entrepreneurial intentions are the subject of intensive scientific inquiry (Batista-Canino et al., 2024).

The most commonly used theoretical framework for these studies is Ajzen's theory of planned behaviour (Ajzen, 1991), according to which one of the main factors influencing entrepreneurial intentions is subjective social norms. However, previous empirical research, both in Poland and abroad, has been inconsistent in determining the significance and form of this influence. In an international context, the direct impact is often found not significant, while the indirect impact sometimes is confirmed (González-Serrano et al., 2018). In the Polish context, studies usually considered only a direct impact, with mixed results (Kobylińska, 2022; Pawlak, 2016), and the only work exploring an indirect impact (Moriano et al., 2012) did not use the exact Ajzen's theory, which may be the reason why the impact was not significant. The geographical context in these investigations is important because local economic, social and cultural institutions shape social norms and their subjective interpretation (Moriano et al., 2012; Tomal & Szromnik, 2021).

The study aims to explore the above-mentioned research inconsistency in the Polish context and thus fill the research gap of exploring the direct and indirect role of subjective norms in shaping entrepreneurial intent in Poland, according to Aizen's theory of planned behaviour. The main goal of the analysis is to determine the influence of subjective norms on entrepreneurial intentions among Polish students. The secondary goal is to examine how the subjective norms are affected by entrepreneurial experiences among individuals close to students, the students' self-employment history and work experiences, and their gender. To achieve both goals, the analysis employs a struc-

tural equation modelling approach to the data gathered among students of master's programme in management at one of Poland's biggest universities.

The study results indicate that subjective norms indirectly influence students' entrepreneurial intentions. Moreover, they are not impacted by students' prior entrepreneurial experience and work history nor gender, whereas the entrepreneurial experience of individuals close to students has a significant and positive impact on subjective norms only when students are convinced of the successes of their close entrepreneurs.

The theoretical implications of our study concern scientific inquiries into entrepreneurial intentions based on the theory of planned behaviour (the need for more complex measures of subjective norms and entrepreneurial behaviour among individuals the subjects are close to), while the practical implications relate to confirming the value of actions that influence subjective norms by organisations developing entrepreneurial ecosystems. The Polish context reveals that in a cultural environment where entrepreneurship is often perceived as requiring unethical or illegal behaviours, but where individual entrepreneurial careers are generally valued (Glinka et al., 2023), subjective norms are shaped by the positive experiences of close individuals. Consequently, these norms indirectly influence entrepreneurial intentions through attitudes that reflect personal evaluations of entrepreneurship and the perception of it as an achievable endeavour.

The article is organised as follows: first, the theoretical background and hypothesis are presented, followed by an explanation of the methodology used in the study. Next, the results are presented and then discussed. Finally, the paper concludes with implications and suggestions for future research.

## **1. Theoretical background and hypotheses development**

The theoretical framework for the study is the theory of planned behaviour (TPB), proposed by Ajzen (1991, 2012) as an extension of the theory of reasoned action (Fishbein & Ajzen, 1975). According to TPB, intention is the primary determinant of actual behaviour. The stronger the intention of behaviour, the greater the likelihood of its being enacted, provided there is access to the appropriate resources and opportunities. Intention, in turn, is shaped by the attitude towards the behaviour, subjective norms, and perceived behavioural control. All three behavioural determinants stem from personal beliefs regarding behaviour, norms, and control.

The attitude towards the behaviour is an individual assessment of the behaviour based on personal beliefs about its outcomes and the value attrib-

uted to these outcomes. Subjective norms refer to the perceived pressure from significant others, such as family, friends, or acquaintances, regarding the behaviour in question. They reflect an individual's perception of what others think the person should do. Perceived behavioural control is the personal belief in one's ability to perform the behaviour, encompassing the perceived ease / difficulty of performing the behaviour and facilitating or hindering factors. These three factors together (attitude, subjective norms, and perceived behavioural control), as well as the relationships between them, influence the intention to engage in the behaviour and, subsequently, the occurrence of the behaviour. Therefore, intention serves as a mediator between the cognitive evaluation of behaviour and its enactment. According to TPB, individuals consciously consider various factors and different options in pursuit of specific goals. This assumption is weaker than the requirement of full rationality based on maximising expected utility (Neumann & Morgenstern, 1944), requiring only conscious self-regulatory processes.

TPB serves as the primary theoretical framework in studies on entrepreneurial intentions (Batista-Canino et al., 2024; Hueso et al., 2021), including those related to student entrepreneurship (Tingting et al., 2022). On the one hand, some of these studies aimed to verify the impact of educational programmes on entrepreneurial intentions (Iglesias-Sánchez et al., 2016; Jones et al., 2008; Maresch et al., 2016; Solesvik, 2013; Wu & Wu, 2008). On the other hand, students constituted the research sample, through which attempts were made to expand TPB by incorporating elements that better explain the mechanisms stimulating these intentions. In this latter stream, the model included personality traits (Karimi et al., 2017; Mirjana et al., 2018; Zhang et al., 2015), motivations (Al-Jubari et al., 2019; Solesvik, 2013), and environmental conditions (Amofah et al., 2024; Iakovleva et al., 2011; Karimi et al., 2017), as well as respondents' demographic characteristics. According to the sufficiency assumption of TPB (Ajzen, 2020), these elements can either be determinants of the main predictors (attitude towards entrepreneurship, subjective norms, and perceived behavioural control) or moderate the latter's influence on entrepreneurial intentions.

Importantly, previous studies on student entrepreneurship based on TPB have led to the theory's positive empirical verification and the conclusion of a clear, positive impact of attitude towards entrepreneurship and perceived behavioural control on entrepreneurial intentions. The impact of subjective norms on student entrepreneurial intentions, however, remains ambiguous. The results of some authors' studies indicate the significance of this factor (Al-Jubari et al., 2019; Iakovleva et al., 2011; Karimi et al., 2017; Mirjana et al., 2018; Solesvik, 2013; Zhang et al., 2015), while the results of others provide contrasting findings (Che Nawi et al., 2022; Iglesias-Sánchez et al., 2016; Maresch et al., 2016; Wu & Wu, 2008). In the context of Polish students' entrepreneurial intentions, most previous studies suggest that subjective



norms play a significant role in the intention to start a business (Pawlak, 2016; Wach, 2015). However, divergent conclusions also emerge (Kobylińska, 2022; Moriano et al., 2012; Wach & Bilan, 2023).

One explanation for the inconsistency in research results may be the different operationalisation of subjective norms. Some studies measure this construct solely using questions about the belief in the likelihood that a given reference person will support the implementation of the respondent's entrepreneurial intentions. However, these beliefs should be adjusted for the motivation to comply with these norms and thus weighted by the importance attributed to the opinions of the reference individuals (Ajzen, 2020; Fishbein & Ajzen, 2011).

Another problematic aspect of the impact of subjective norms on entrepreneurial intentions is the pathway of influence. Initially, TPB assumed only direct influence. However, later works highlighted the possibility of mutual interaction between attitude towards entrepreneurship, subjective norms, and perceived behavioural control (Heuer & Liñán, 2013). In such an approach, subjective norms may not directly influence entrepreneurial intentions, but its impact may be indirect through the attitude towards entrepreneurship and perceived behavioural control (González-Serrano et al., 2018; Liñán & Chen, 2009). Subjective norms reflect perceived values in the individual's environment, which may partially determine the attitude towards entrepreneurship and perceived behavioural control (Liñán & Santos, 2007). Perceived values also depend on the environment's economic, social, and cultural conditions. Given this, the following research hypotheses can be formulated:

- H1:** Subjective norms directly influence students' entrepreneurial intentions.
- H2:** Subjective norms indirectly influence entrepreneurial intentions by affecting attitude towards entrepreneurship.
- H3:** Subjective norms indirectly influence entrepreneurial intentions by affecting perceived behavioural control.

Additionally, it is believed that the presence of entrepreneurs among close individuals impacts subjective norms and, consequently, reinforces students' entrepreneurial intentions (Gurel & Daniele, 2010; Lingappa et al., 2020; Wach, 2015). People may be inclined to take action endorsed by their family, friends, and other significant ones (Portyanko et al., 2023). Furthermore, it is not only the mere fact of entrepreneurs' presence among close individuals but also the perceived quality of their experiences that correlates with the potential intention to run one's own business (Engle et al., 2011; Krueger, 1993). Based on this, the following research hypotheses may be formulated:

- H4a:** Subjective norms are shaped by the presence of entrepreneurs among close individuals.
- H4b:** Subjective norms are shaped by the quality of entrepreneurial experience among close individuals.

Moreover, one's experience, both entrepreneurial and in other professional work, can also positively influence attitudes, subjective norms, and perceived behavioural control, stimulating entrepreneurial intentions (Iakovleva et al., 2011; Zapkau et al., 2017). Direct involvement in entrepreneurial activities helps individuals connect with other entrepreneurs, which can influence their perceptions of how society views entrepreneurship and can shape subjective norms. Similarly, professional experience, through exposure to various organisational cultures, can impact beliefs about socially accepted behaviours, including entrepreneurial activities. Thus, we can pose the following hypotheses:

**H5:** Subjective norms are shaped by one's own entrepreneurial experience.

**H6:** Subjective norms are shaped by one's own professional work experience.

Other variables often considered as potential determinants of all three main factors of entrepreneurial intention are gender, age, education (including entrepreneurship-related education), institutional, and cultural environment. Considering the study context and characteristics of the research sample (students of the same management programme at the same university, of similar age and nationality), only the first variable on this list may exhibit sufficient variability to potentially influence subjective norms (as well as attitude towards entrepreneurship and perceived behavioural control). The higher entrepreneurial intentions among men as opposed to women are often explored as a result of gender factors shaping attitudes, subjective norms, and perceived behavioural control, although the findings are mixed (Iakovleva et al., 2011; Zapkau et al., 2017). Hence:

**H7:** Subjective norms are differentiated by gender.

## **2. Material and methods**

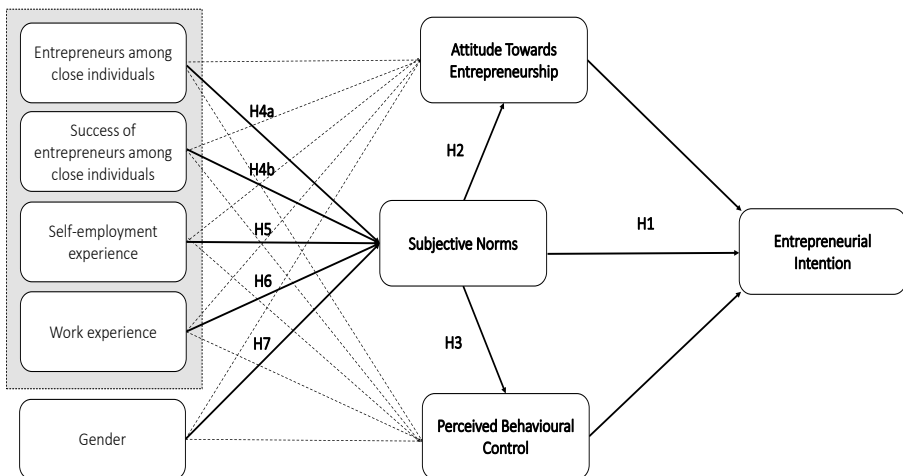
### **2.1. Measurements and research process**

To assess the influence of TPB components on entrepreneurial intentions, the scale developed by Liñán and Chen (2009) was adopted. The scale consists of 19 statements, with 5 assessing the attitude towards entrepreneurship, three focusing on subjective norms, 5 measuring perceived behavioural control, and 6 evaluating entrepreneurial intentions. Additionally, to account for the motivation to comply with norms in the case of subjective norms, the scale was supplemented with three items measuring the importance that respondents attribute to the opinions of those they consider close individuals

(based on Kolvereid, 1996). All items were measured on a Likert scale, ranging from 1, indicating “strongly disagree,” to 7, indicating “strongly agree.” A detailed description of the items is provided in Table 2.

The questionnaire also included questions about gender, age, engagement in paid work amounting to at least 20% of full-time employment (Iakovleva et al., 2011), prior self-employment experience, and the presence of entrepreneurs among the close individuals. The latter was supplemented with an additional question, where respondents were asked to assess the entrepreneurial success of their close entrepreneurs on a five-point ordinal scale (ranging from “they experience many failures” to “they experience many successes”). This measurement approach facilitated structural equation modelling (SEM), whereby all previously derived research hypotheses were tested simultaneously, while also controlling for other relationships linking experiences and gender with TPB components (Figure 1).

The model’s attitude towards entrepreneurship, perceived behavioural control, and entrepreneurial intentions constructs followed Liñán and Chen’s (2009) framework. However, subjective norms underwent prior weighting, following the procedure advocated by Kolvereid (1996). Thus, each of the three items relating to subjective norms determined by family (SN\_1), friends (SN\_2), and other significant individuals (SN\_3) was first recoded onto a bipolar scale (from 1 = -3 to 7 = 3). Subsequently, the obtained values were multiplied by the weights generated by the corresponding answers, determining the importance of these individuals’ opinions. This process yielded weighted subjective norm items, reflecting the importance attributed to them by the respondent (SN\_W1, SN\_W2, SN\_W3).



**Figure 1. Research model**

Source: own study.

The presence of entrepreneurs among the close individuals and their perceived successes, as well as students' own entrepreneurial experience and other work experience, were incorporated into the model as dichotomous variables, where a value of 1 indicated the phenomenon's presence. The variable describing gender, also dichotomous, was assigned a value of 1 for females. The entrepreneurial success of the close individuals was operationalised through interaction with the presence of entrepreneurs among them, implying that the influence of this factor was activated only for students for whom it could potentially occur.

The data analysis process comprised two stages, following the procedure recommended by Hair et al. (2010). In the first stage, scale validation was conducted using confirmatory factor analysis (CFA), while in the second stage, the structural model was estimated. The assessment of fit measures and interpretation of other validation criteria were based on guidelines formulated by Fornell and Larcker (1981), Hair et al. (2010), and Kline (2005).

## **2.2. Data collection and analysis**

The data for analysis were collected using a survey method from October 2017 to March 2024. The questionnaires were distributed among full-time second-degree students majoring in Tourism and Sports Management at the Jagiellonian University in Kraków. They were completed during educational classes, excluding the pandemic period from 2020 to 2021. The questionnaires were administered either on paper or online, according to the organisational conditions of the classes. In all cases, respondents' anonymity was offered to all participants. A total of 310 surveys were collected across 6 cohorts with a combined cohort size of 499, corresponding to a sampling ratio of 62%. To ensure the homogeneity of the research sample in terms of age and cultural background, the study was restricted to surveys completed by Polish nationals aged 26 years or younger. After applying this criterion and removing incomplete surveys, the final sample consisted of 225 responses.

Most of the students surveyed were aged 23 or 24 (64%), with the age distribution of all respondents falling within the narrow range of 21–26 years (Table 1). In the sample, the majority were females (65%) without prior entrepreneurial experience (89%) but with some work experience (87%). It was common for them to have entrepreneurs among their close individuals (78%) and, if so, to perceive them as successful in this field (62%). Given the minimal number of negative assessments of entrepreneurial experiences among the close individuals (below 2%), responses of "many failures" and "failures" were combined into a neutral category, which became a reference point for positive assessments ("successes" and "many successes").

**Table 1. Description of the research sample**

| Variable/<br>Response  | <i>n</i> | %  | Variable/<br>Response   | <i>n</i> | %  |
|------------------------|----------|----|---|----------|----|
| Gender                 |          |    | Entrepreneurs among close individuals   |          |    |
| Male                   | 78       | 35 | no  | 50       | 22 |
| Female                 | 147      | 65 | yes   | 175      | 78 |
| Age                    |          |    | Entrepreneurial successes among close individuals <sup>1</sup>                              |          |    |
| 21                     | 4        | 2  | no  | 67       | 38 |
| 22                     | 39       | 17 | yes   | 108      | 62 |
| 23                     | 76       | 34 | Entrepreneurs among close individuals*<br>Entrepreneurial successes among close individuals |          |    |
| 24                     | 67       | 30 | no  | 117      | 52 |
| 25                     | 33       | 15 | yes   | 108      | 48 |
| 26                     | 6        | 3  | Own entrepreneurial experience  |          |    |
| The year of the survey |          |    | no  | 205      | 91 |
| 2017                   | 65       | 29 |   | 20       | 9  |
| 2018                   | 63       | 28 | Own work experience   |          |    |
| 2022                   | 32       | 14 | no  | 29       | 13 |
| 2023                   | 10       | 4  | yes   | 196      | 87 |
| 2024                   | 55       | 24 |   |          |    |

\* Refers to individuals having entrepreneurs among their close individuals.

Source: own study.

Concerning the main elements of TPB (Table 2), the high values describing the attitude towards entrepreneurship are worth noting (ATT\_2, ATT\_3, ATT\_4 above 5.0), indicating a generally positive attitude towards developing this activity among students. A higher-than-average level of entrepreneurial intentions was also observed (mean values of items in the range of 4.0–5.0). Importantly, considering the data collection period disrupted by the COVID-19 coronavirus pandemic, the level of entrepreneurial intentions in the pre- and post-pandemic periods remained unchanged. This is evidenced by the results of Kolmogorov-Smirnov tests, which show that the response distributions for all items describing entrepreneurial intentions in the periods 2017–2018 and 2022–2024 did not exhibit significant differences: ( $D_{INT_1} = 0.041 [p = 1.00]$ ;  $D_{INT_2} = 0.114 [p = 0.474]$ ;  $D_{INT_3} = 0.103 [p = 0.602]$ ;  $D_{INT_4} = 0.117 [p = 0.433]$ ;  $D_{INT_5} = 0.164 [p = 0.101]$ ;  $D_{INT_6} = 0.161 [p = 0.112]$ ).

## 3. Results

### 3.1. Confirmatory factor analysis

The modification of indices resulting from the combination of error paths of two pairs of constructs (INT\_5 with INT\_6 and PBC\_4 with PBC\_5) led to acceptable model fit indices [ $\chi^2(df) = 277.387(144)$ ,  $p < 0.001$ ,  $\chi^2/df = 1.926$ , RMSEA = 0.064, CFI = 0.963, TLI = 0.956, SRMR = 0.049]. The RMSEA value did not exceed 0.08, CFI and TLI exceeded the threshold of 0.90, and the SRMR was less than the required 0.10 (Hair et al., 2010). Although the chi-square tests showed undesirable statistical significance, the ratio of the test value to the degrees of freedom yielded a result of 1.92, significantly below the accepted criterion of 3.0 (Kline, 2005).

Based on the composite reliability (CR), we can conclude that the items forming the constructs are reliably associated with each other, thus adequately measuring them (see Table 2). The lowest CR value was observed for PBC (= 0.844), significantly exceeding the norm of 0.70 (Fornell & Larcker, 1981; Hair et al., 2010).

The model also meets the requirements of convergent validity concerning the degree of interrelatedness among measures forming the same construct. All items are statistically significant ( $p < 0.001$ ) and load on the constructs to the expected extent, i.e. above the cutoff line of 0.5 (Hair et al., 2010). The highest values are observed in items related to entrepreneurial intentions, specifically INT\_4 (= 0.954) and INT\_5 (= 0.916), while the lowest is for PBC\_1 (= 0.593). Moreover, the average extracted variance (AVE) in the constructs ranges from 0.722 for entrepreneurial intentions to 0.526 for perceived behavioural control, thus, in each case, exceeding the cutoff line set at 0.5 (Fornell & Larcker, 1981).

The AVE values were then utilised for discriminant validation, assuming that their square roots should exceed the correlations between constructs (Fornell & Larcker, 1981), while the correlations themselves should not exceed 0.85 (Kline, 2005). Consistent with the TPB assumptions, there are significant yet moderate interrelationships among attitude towards entrepreneurship, perceived behavioural control, and subjective norms (Table 3) – the highest being between attitude towards entrepreneurship and perceived behavioural control (0.539) and the lowest linking perceived behavioural control with subjective norms (0.295). Simultaneously, each of these correlations does not surpass the square roots of AVE, which range from 0.725 (for perceived behavioural control) to 0.839 (for subjective norms).

**Table 2. Results of confirmatory factor analysis (CFA)**

| Domain / Item  | AVE   | CR    | FL    | C.R.     | M    | SD   |
|--|-------|-------|-------|----------|------|------|
| Entrepreneurial Intentions (INT)   | 0.772 | 0.953 |       |          |      |      |
| INT_1: I am ready to do anything to be an entrepreneur   |       |       | 0.762 | –        | 4.15 | 1.58 |
| INT_2: My professional goal is to become an entrepreneur   |       |       | 0.843 | 13.86*** | 4.41 | 1.52 |
| INT_3: I will make every effort to start and run my own firm   |       |       | 0.881 | 14.65*** | 4.34 | 1.61 |
| INT_4: I am determined to create a firm in the future  |       |       | 0.954 | 16.06*** | 4.63 | 1.64 |
| INT_5: I have very seriously thought of starting a firm  |       |       | 0.916 | 15.24*** | 4.80 | 1.66 |
| INT_6: I have the firm intention to start a firm someday   |       |       | 0.903 | 14.96*** | 4.79 | 1.70 |
| Attitude Towards Entrepreneurship (ATT)  | 0.673 | 0.911 |       |          |      |      |
| ATT_1: Being an entrepreneur implies more advantages than disadvantages to me  |       |       | 0.736 | –        | 4.94 | 1.24 |
| ATT_2: A career as an entrepreneur is attractive to me   |       |       | 0.871 | 13.33*** | 5.18 | 1.26 |
| ATT_3: If I had the opportunity and resources, I would like to start a firm  |       |       | 0.817 | 12.29*** | 5.80 | 1.19 |
| ATT_4: Being an entrepreneur would entail great satisfaction for me  |       |       | 0.851 | 12.82*** | 5.49 | 1.25 |
| ATT_5: Among various options, I would rather be an entrepreneur  |       |       | 0.819 | 12.34*** | 4.65 | 1.48 |
| Subjective Norms (SN)  | 0.704 | 0.877 |       |          |      |      |
| SN_W1: My close family would approve of my decision to become an entrepreneur * The opinions of my close family about my career choice are important to me.                              |       |       | 0.786 | –        | 8.84 | 6.95 |
| SN_W2: My friends would approve of my decision to become an entrepreneur * The opinions of my friends about my career choice are important to me.  |       |       | 0.833 | 13.09*** | 7.82 | 5.54 |
| SN_W3: People who are important to me would approve of my decision to become an entrepreneur * The opinions of people who are important to me about my career choice are important to me |       |       | 0.893 | 13.48*** | 9.01 | 5.75 |
| Perceived Behavioural Control (PBC)  | 0.526 | 0.844 |       |          |      |      |
| PBC_1: To start a firm and keep it working would be easy for me  |       |       | 0.593 | –        | 3.61 | 1.25 |
| PBC_2: If I tried to start a firm, I would have a high probability of succeeding   |       |       | 0.882 | 9.43***  | 3.79 | 1.39 |
| PBC_3: I can control the creation process of a new firm  |       |       | 0.840 | 9.10***  | 3.95 | 1.32 |
| PBC_4: I know the necessary practical details to start a firm  |       |       | 0.644 | 7.59***  | 3.95 | 1.40 |
| PBC_5: I know how to develop an entrepreneurial project  |       |       | 0.617 | 7.36***  | 4.16 | 1.35 |

Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

AVE – average variance extracted; CR – composite reliability; FL – Factor loadings; C.R. – critical ratio; M – mean; SD – standard deviation.

$\chi^2(df) = 277.387 (144)$ ,  $p < 0,001$ ;  $\chi^2/df = 1.926$ , RMSEA = 0.064, CFI = 0.963, TLI = 0.956, SRMR = 0.049.

Source: own study.

**Table 3. Discriminant validation**

| Construct                               | INT          | ATT          | SN           | PBC          |
|---|--------------|--------------|--------------|--------------|
| Entrepreneurial Intentions (INT)        | <i>0.879</i> |              |              |              |
| Attitude Towards Entrepreneurship (ATT) | 0.862***     | <i>0.820</i> |              |              |
| Subjective Norms (SN)                   | 0.297***     | 0.352***     | <i>0.839</i> |              |
| Perceived Behavioural Control (PBC)     | 0.637***     | 0.539***     | 0.295***     | <i>0.725</i> |

Notes: \*\*\* $p < 0.001$ . The table presents correlation coefficients between constructs, while the italicised values denote the square roots of AVE values for the given constructs.

Source: own study.

However, the correlation between the attitude towards entrepreneurship and entrepreneurial intentions, which stands at 0.862, is potentially problematic. Although this relationship is typical in the Polish context (as observed previously by, e.g., Amofah et al., 2024), from the perspective of the discriminant validation of the entire model, it leads to the recommended level of correlations between constructs being exceeded and surpassing the square root of AVE for attitude towards entrepreneurship (= 0.820). Nevertheless, considering that the criterion itself for the relationship between correlations and AVE is sometimes criticised as overly conservative (Rönkkö & Cho, 2022), in addition to the highly satisfactory results of the other validation actions regarding the scale, we accept the entirety of the CFA results as acceptable and the scale suitable for further estimations.

### 3.2. Structural equation modelling

The overall fit indices of the structural model demonstrate satisfactory fit to the empirical data [ $\chi^2(225) = 293.986$  ( $p < 0.001$ );  $\chi^2/df = 1.307$ ; RMSEA = 0.058, CFI = 0.954, TLI = 0.945, SRMR = 0.096]. Entrepreneurial intentions were explained to a high degree ( $R^2 = 0.763$ ).

According to the results presented in Table 4, we did not find confirmation for H1, which assumed the direct influence of subjective norms on entrepreneurial intentions ( $\beta = -0.052$  [n.s.]). However, hypotheses H2 and H3, regarding the occurrence of this influence indirectly through the attitude towards entrepreneurship and perceived behavioural control, were confirmed. Subjective norms moderately influences attitude toward entrepreneurship ( $\beta = 0.342$  [ $p < 0.001$ ]), which, in turn, is a powerful predictor of entrepreneurial intentions ( $\beta = 0.787$  [ $p < 0.001$ ]). The influence of subjective norms on perceived behavioural control is slightly weaker than on the attitude towards entrepreneurship ( $\beta = 0.266$  [ $p < 0.001$ ]), and the direct effect of per-



ceived behavioural control on entrepreneurial intentions is significantly weaker than through the attitude towards entrepreneurship ( $\beta = 0.301$ ) but still statistically significant ( $p < 0.001$ ). Therefore, we obtained explicit confirmation of the significance of subjective norms for entrepreneurial intentions, albeit the pathway of this influence passes through the other components of TPB.

Regarding the antecedents of subjective norms, we did not find confirmation of the influence of either one's own work experience (H5:  $\beta = -0.020$  [n.s.]) or own entrepreneurial experience (H6:  $\beta = 0.037$  [n.s.]). However, the influence of the entrepreneurial experience of close individuals is more complex. The mere fact of such experiences does not lead to changes in subjective norms (H4a:  $\beta = 0.094$  [n.s.]). Only when their entrepreneurial activity is perceived as successful does it begin to stimulate subjective norms positively (H4b:  $\beta = 0.200$  [ $p < 0.05$ ]). Overall, subjective norms seem susceptible to the influence of favourable external patterns, but we have no basis for claiming that they can be self-shaped through one's own experiences.

While it has no impact on subjective norms, own entrepreneurial experience remains a significant indirect predictor of entrepreneurial intentions. This happens through favourable stimulation of both perceived behavioural control ( $\beta = 0.292$  [ $p < 0.001$ ]) and, to a lesser extent, the attitude towards entrepreneurship ( $\beta = 0.198$  [ $p < 0.01$ ]). It differs from own work experienc-

**Table 4. Results of structural equation modelling—coefficients and standard errors (in parentheses)**

| Variable / Measure                   | Entrepreneurial Intentions |                  | Subjective Norms (SN) |                  | Attitude Towards Entrepreneurship (ATT) |                  | Perceived Behavioural Control (PBC) |                  |
|--------------------------------------|----------------------------|------------------|-----------------------|------------------|---|------------------|-------------------------------------|------------------|
|                                      |                            | (Standard Error) |                       | (Standard Error) |   | (Standard Error) |                                     | (Standard Error) |
| SN                                   | -0.052                     | (0.058)          | -                     | -                | 0.342***                                | (0.067)          | 0.266***                            | (0.070)          |
| ATT                                  | 0.787***                   | (0.039)          | -                     | -                | -                                       | -                | -                                   | -                |
| PBC                                  | 0.301***                   | (0.052)          | -                     | -                | -                                       | -                | -                                   | -                |
| Work experience                      | -                          | -                | -0.020                | (0.069)          | 0.084                                   | (0.064)          | 0.051                               | (0.065)          |
| Entrepreneurial experience:          |                            |                  |                       |                  |   |                  |                                     |                  |
| Own (yes = 1)                        | -                          | -                | 0.037                 | (0.070)          | 0.198**                                 | (0.063)          | 0.292***                            | (0.062)          |
| Among close individuals (yes = 1)    | -                          | -                | 0.094                 | (0.081)          | -0.007                                  | (0.075)          | 0.084                               | (0.076)          |
| Close individuals* Success (yes = 1) | -                          | -                | 0.200*                | (0.080)          | 0.054                                   | (0.076)          | 0.052                               | (0.078)          |
| Gender (women = 1)                   |                            |                  | 0.030                 | (0.069)          | -0.073                                  | (0.063)          | -0.071                              | (0.065)          |
| <b>R-squared</b>                     | <b>0.763</b>               |                  | <b>0.070</b>          |                  | <b>0.190</b>                            |                  | <b>0.209</b>                        |                  |

Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

Source: own study.

es, for which no evidence was found regarding either the attitude towards entrepreneurship or perceived behavioural control. Similarly, the successes of close individuals, although stimulating subjective norms, do not affect any other TPB components.

H7 regarding the potential significance of gender for shaping subjective norms was also not confirmed ( $\beta = 0.030$  [ $p < 0.001$ ]). Furthermore, in the context examined here, gender remains without any influence on entrepreneurial intentions and does not affect the attitude towards entrepreneurship nor perceived behavioural control.

Additionally, we also tested a model that did not include the weighting of subjective norms. Its results remained consistent with the version we adopted and presented above (with the correction proposed by Kolvareid, 1996). This alternative model also meets the criteria of CFA. In structural modelling, it presents acceptable fit indices [ $\chi^2(225) = 404.778$  ( $p < 0.001$ );  $\chi^2/df = 1.799$ ; RMSEA = 0.06, CFI = 0.952, TLI = 0.943, SRMR = 0.090] and effectively describes the entrepreneurial intentions of students ( $R^2 = 0.770$ ). Like the weighted model, subjective norms do not directly influence entrepreneurial intentions but act through the attitude towards entrepreneurship and perceived behavioural control. The only significant difference is the influence on subjective norms by the entrepreneurial experiences of close individuals (at the significance level of only  $p < 0.1$ ), at the expense of conditioning this factor with successes. The significance of the other variables remains unchanged. Detailed results are available from the authors.

## 4. Discussion

The study's main goal was to determine the influence of subjective norms on entrepreneurial intentions among Polish students. The secondary goal was to examine how these subjective norms are influenced by entrepreneurial experiences among students' close individuals, their personal self-employment history and work experiences, and their gender.

The study's primary conclusion concerns the indirect (through the attitude towards entrepreneurship and perceived behavioural control) rather than the direct influence of subjective norms on students' entrepreneurial intentions. Although this confirms the results of some studies on international students (Barba-Sánchez et al., 2022; González-Serrano et al., 2018; Heuer & Liñán, 2013), it is the first conducted on Polish students. Previous studies on the latter, based on the TPB model and utilising SEM analysis, either did not consider the possibility of indirect influence (Kobylińska, 2022) or found no such influence (Moriano et al., 2012). Noting that, in the study

by Moriano and co-authors (2012), the concept of self-efficacy substituted perceived behavioural control. Importantly, in both of these studies the direct influence was insignificant. In our study, the indirect influence of subjective norms on intentions is more substantial through attitude than perceived behavioural control, which is similar to the results of Liñán and Chen (2009) and González-Serrano et al. (2018). Furthermore, the scale of this influence for Polish students in our study is similar to that of students from Spain and lower than that of students from Taiwan in Liñán and Chen's study (2009). This confirms the conclusion of the latter researchers about the lesser influence of subjective norms on research intentions in more individualistic cultures. Moreover, in both Polish and Spanish contexts, the perception of entrepreneurs is somewhat ambiguous, with students noting the darker sides of entrepreneurship. However, as indicated in the case of Poland, this perception becomes more positive when focusing on individual entrepreneurs rather than viewing them as collective economic actors (de la Cruz Sánchez-Escobedo et al., 2011; Glinka et al., 2023). This helps explain why subjective norms do not directly influence entrepreneurial intentions but instead exercise their effect through personal evaluations of entrepreneurship and the perception of it as an achievable endeavour.

Our study also reveals a significant and positive impact that entrepreneurial experience among students' close ones has on subjective norms, but only when the student is convinced of the success of these close entrepreneurs (mainly in contrast to the belief in mixed effects of this experience or a lack of information about its outcomes). This finding is further explained by the previously mentioned distinction between how entrepreneurs are perceived on an individual versus a collective level. However, in our sample, the number of students assessing the effects of entrepreneurship among their close ones predominately as failures was too low for inference. This is a potential direction for future research. In previous studies in the Polish context, the focus was mainly on the mere presence of entrepreneurial role models among close ones (primarily parents as entrepreneurs or family businesses). In these cases, positive correlations were found between the presence of such individuals and a higher level of all constructs of the theory of planned behaviour (Wach, 2015).

Prior work experience (measuring employment other than self-employment) in our study had no significant impact on any of the three main determinants of entrepreneurial intention. This contradicts the findings of Liñán and Chen (2009), who showed a positive influence of this experience on perceived behavioural control (though only for students from Taiwan, not from Spain). However, prior entrepreneurial experience matters in our study, albeit only for attitude towards entrepreneurship and perceived behavioural control, contrary to the study of Liñán and Chen, where this experience only influenced subjective norms.

In our study, gender does not significantly influence any of the determinants of entrepreneurial intention and, thus, entrepreneurial intentions. This result is consistent with the Global Entrepreneurship Monitor reports, which show that the ratio of women to men among early-stage entrepreneurs and business owners in Poland is one of the highest in European countries covered by the study (GEM, 2024). This may relate to the high level of masculinity in Polish society, which reduces gender-related stereotypes associated with entrepreneurship and makes Polish women confident and willing to take risks (Pawlak, 2016). This would confirm the study's findings by Rantanen et al. (2015), in which subjective norms in Poland were not influenced by gender but rather by the sense of individual responsibility.

## Conclusions

The study helps understand the role of subjective social norms in shaping students' entrepreneurial intentions in the Polish socio-cultural context. The influence of norms on intentions is indirect, mediated by changes in attitude towards entrepreneurship and perceived behavioural control. This is a significant finding in the field of entrepreneurship research in Poland, which has previously struggled to identify such an influence (primarily directly on intentions). Equally important is the perceived quality of entrepreneurial experiences among close individuals influences subjective norms.

The theoretical implications of our study, also with the regard to international literature, concern scientific inquiries into entrepreneurial intention based on the theory of planned behaviour. There are three such implications. Firstly, from the perspective of conceptual consistency with this theory, it is advisable to consider complex measures of subjective norms (even if the statistical fit of the SEM model with simplified subjective norms measures is similar, as also seen in the work of Heuer & Liñán, 2013). Additionally, this approach allows for a more granular analysis of entrepreneurial experiences among close individuals. Secondly, the potential indirect influence of subjective norms should be considered in order to assess their impact on intentions correctly, especially in more individualistic countries and in countries with a discrepancy between perceptions of individual and collective entrepreneurship. Thirdly, as the antecedents of entrepreneurial intent and the relationships between them are shaped by cultural values, these values should be accounted for in cross-country research and entrepreneurship-related policymaking.

The practical implications relate to confirming the value of actions that influence subjective norms by organisations developing entrepreneurial ecosystems. This is particularly relevant in the education sector, where there is

an opportunity to indirectly influence individuals' attitudes towards entrepreneurship by shaping the beliefs of their close ones, such as friends, acquaintances, and teachers. Achieving this involves exposure to successful entrepreneurial role models or access to support infrastructure. In doing so, it is crucial to recognise the complementarity of subjective norms with attitude and perceived behavioural control (Nowiński & Haddoud, 2019).

The results and implications of our study must also be interpreted in light of its limitations. These primarily include the non-random sampling of the study from a specific management programme at a Polish university. A characteristic feature of the study is the homogeneity of the research sample in terms of age, education, university environment, and geographical location, which allowed for better control over the influence of variables addressed by the research hypotheses, at the expense of generalisability. Consequently, the results may not be fully transferable to the student population in Poland, and they may serve only as guidance for further studies on student populations in other countries.

In future research, the research sample could be diversified, including other groups besides students or high school students, who are overrepresented in studies of entrepreneurial intentions (Batista-Canino et al., 2024). A more heterogeneous sample could not only allow the inclusion of additional variables in the model but also deepen the conclusions about the impact of negative experiences in this area among close entrepreneurs on entrepreneurial intentions (which may not have only negative effects, Zapkau et al., 2017), as well as the quality of previous self-employment experience (which was not considered in this study). It would also be advisable to extend the analysis of the model's moderating effects (Barbera & Ajzen, 2020).

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