EBER
Entrepreneurial Business and Economics Review
2024, Vol. 12, No. 2
10.15678/EBER.2024.120204

What makes them dream big? Determinants of business growth aspirations among Polish students

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ABSTRACT

Objective: The objective of the article is to explore the concept of business growth aspirations and identify its determinants at an early stage of the entrepreneurial process. In this exploratory study, I focused on the underexplored approach to entrepreneurial process i.e. to study the growth aspirations and its determinants alongside entrepreneurial intentions. Studying growth aspirations and their determinants provides valuable insights into how these aspirations form. This contributes to the literature and future empirical studies on the entrepreneurial process.

Research Design & Methods: On the basis of a literature review, I identified the potential determinants of growth aspirations with a focus on understudied individual and sociocultural dimensions. I tested them empirically using binomial logistic regression on data obtained from 757 students from three universities in northern Poland. The proposed model includes growth aspirations as an endogenous variable and eight exogenous variables. Firstly, I described the sample with descriptive statistics and correlation matrix using appropriate correlation coefficients (Spearman for variables using ordinal scale and Yule's phi for binary variables), which I followed with the collinearity checks with the use of variance inflation factors (VIFs). Finally, I discussed the goodness of fit with the discussion of prediction accuracy.

Findings: The results show that entrepreneurial self-efficacy and entrepreneurial intention proved to be statistically insignificant. Eventually, I found six of the variables to influence the declared growth aspirations of respondents in a statistically significant way, namely: gender, family business background, entrepreneurial role model, declared resistance to stress, and perception of higher income and prestige as the most attractive features of entrepreneurship. Moreover, I identified a gender gap in growth aspirations. Finally, I verified five out of eight proposed research hypotheses and discussed the conclusions.

Implications & Recommendations: The most important finding shows the presence of a gender gap in growth aspirations as early as at the time of studies. Therefore, it is advised that policymakers focus on this gap while designing entrepreneurship courses and take it into account. Secondly, it is important to accurately measure stress resistance among students, to show it as a potential advantage, and to teach safe coping strategies. Furthermore, it is recommended to promote the high social status of entrepreneurs, both in the financial (potentially higher income) and non-financial sense (prestige and satisfaction) while at the same time consciously educating about potential dangers.

Contribution & Value Added: The study makes an original contribution to the literature on growth aspirations by answering the call to further explore their potential antecedents and is one of the first to do so at the earliest stage of the entrepreneurial process. It is achieved by studying determinants pertaining to sociocultural and individual dimensions which – according to some studies – require further investigation. Moreover, it is done in an unexplored context of students in a developing country in Europe. Finally, the article recognises the ambiguity in defining growth aspirations and suggests a clear distinction to be included in the literature and future research.

Article type:	research article
Keywords:	growth aspirations; growth intentions; entrepreneurship; entrepreneurial intention; determinants
JEL codes:	L21, L25, L26

Received: 11 June 2023 Revised: 6 December 2023 Accepted: 16 January 2024

Suggested citation:
Golik, J. (2024). What makes them dream big? Determinants of business growth aspirations among Polish students. *Entrepreneurial Business and Economics Review,* 12(2), 61-77. https://doi.org/10.15678/EBER.2024.120204

INTRODUCTION

In the field of entrepreneurship, probably the most commonly researched dependent variable is new venture creation as the ultimate step in the entrepreneurial process. Its antecedents were extensively analysed in the field using the two most prevailing theories such as Ajzen's theory of planned behaviour (TPB) (Ajzen, 1991, 2011, 2020) or Shapero's entrepreneurial event (SEE) (Shapero & Sokol, 1982) both asserting that the best predictor of action is intention. The most common determinant of new venture creation is considered to be the entrepreneurial intention, which has been studied at every stage of entrepreneurial process (from students and nascent entrepreneurs to actual entrepreneurs) (Meoli *et al.*, 2020). The entrepreneurial intention has been at the centre of the attention of entrepreneurship scholars for quite a while now. However, in this study, I propose to focus on a much less explored approach to entrepreneurial process, namely, to study the growth aspirations and its determinants alongside entrepreneurial intentions.

The prevailing classification of enterprises in both economic and entrepreneurship research is pertaining to their size. Small and medium-sized enterprises (SMEs) are the core term in the statistical analysis of Eurostat (European Statistical Office) as well as leading entrepreneurship reports such as Global Entrepreneurship Monitor (GEM) (Boutaleb, 2023). For both economic growth and intensive job creation, business growth is the essential issue. As Levie and Autio (2013) claim, the proportion of entrepreneurs who want to grow their businesses is a more reliable predictor of economic growth than general start-up rates or self-employment rates. A high self-employment rate or high rate of entrepreneurship may not contribute to higher economic growth, either because of the characteristics of some entrepreneurial ventures (Baumol, 1996) or because of the suboptimal size of businesses if there are too many of them in the economy. For developing economies, there is a clearly negative relation between the level of development and the rate of entrepreneurship (Belso Martínez, 2005; Carree *et al.*, 2007; Wennekers & Thurik, 1999). Therefore, for developing economies, the 'quality' of entrepreneurship (the potential to grow businesses) should be more important than its 'quantity' (the number of businesses operating in the economy). The analysis of business growth and its antecedents seems to be even more important in the recovery phase from the global COVID-19 pandemic.

The majority of studies concerning business growth are focused on resource-based factors such as e.g. size, sector, or turnover, and yet they are inconclusive concerning a consistent set of growth determinants (Gancarczyk, 2019; Shepherd & Wiklund, 2009). However, there seems to be no doubt that one of the key predictors of actual business growth is the growth intention of entrepreneurs (Delmar & Wiklund, 2008; Estrin *et al.*, 2022; Gruenwald, 2013; Kolvereid & Isaksen, 2017; Puente *et al.*, 2017; Wiklund & Shepherd, 2003). And conversely, actual business growth is rarely achieved without explicit growth intention (Stam *et al.*, 2012). Interestingly, some studies indicate that the success of newly funded businesses does not necessarily depend on the experience of the funders as entrepreneurs between 25 and 35 years of age are significantly more successful than those between 35 to 45 (Bindewald, 2004; Gruenwald, 2019). Therefore, while I acknowledge the importance of the growth intentions of actual entrepreneurs, the attitude towards the growth of business is also important in the case of early-stage entrepreneurs, such as nascent entrepreneurs or even potential entrepreneurs (Hechavarria *et al.*, 2009). Thus, the early identification of determinants is valuable for research on every stage of the entrepreneurial process. Studying potential entrepreneurs such as business students is justified by the findings of Kolvereid and Bullvag (1996), who claim that past growth intentions are related to present growth intentions, i.e. growth intentions of students may translate into their growth intentions as entrepreneurs, when they start their business, even if total stability of such growth intentions is not maintained over time.

At this point it is important to realise that the terms 'growth intentions' and 'growth aspirations' are often used interchangeably in the literature, and there is no uniform terminology here. Similar labels are used for describing basically the same (or very similar) phenomenon: growth intentions (Estrin *et al.*, 2022), growth aspirations (Wang *et al.*, 2019), growth ambitions (Estrin *et al.*, 2022), growth expectations (Estrin *et al.*, 2022; Stam *et al.*, 2012), growth preference (Siepel *et al.*, 2015), growth motivations and

willingness (Douglas, 2013; Stam *et al.*, 2012). I suggest that the term 'growth intentions' should be attributed to actual entrepreneurs, as they answer the question of 'how big I want my business to be' and focus on concrete actions that can be taken with respect to an existing business. Conversely, the term 'growth aspirations' should be attributed to potential and nascent entrepreneurs, as they answer the question of 'how big I would like my future/fledgling business to be' and focus on rather hypothetical actions that may happen in the future. Intentions are more about plans, whereas aspirations are more about dreams. Therefore, for the sake of clarity and coherence of the article, from this point onward, I am going to refer only to the growth aspirations in the pursuit of factors that shape those aspirations.

It is one of the first studies to explore the determinants of growth aspirations at the earliest stage of the entrepreneurial process. The novelty of the article is threefold. Firstly, it answers the call to explore factors affecting growth aspiration which are understudied in the field (Ali, 2018; Byrne & Fayolle, 2013). Secondly, the research focused on sociocultural antecedents pertaining to contextual and individual factors, which have not yet attracted the research attention they deserve (Levie & Autio, 2013; Puente *et al.*, 2017; Thornton *et al.,* 2011). Finally, the study setting was rare (Puente *et al.*, 2017) as it concerned students in a developing country who are about to enter the labour market or become entrepreneurs. This context is important due to the fact that such insight might be used to accordingly tailor entrepreneurship education to boost growth aspirations or to adopt policies concerning entrepreneurship which – in developing countries – aim mainly at increasing the potential to grow businesses. Therefore, I argue that exploration of antecedents should be made from the earliest stages, in this case, from students who might become entrepreneurs in the near future. Finally, exploring the variables' antecedents is important to understand the underlying process and extend theory development.

This empirical article has an exploratory character and aims to identify determinants of business growth aspirations based on the previous findings in the literature using binomial logistic regression. The examination of growth aspirations and identification of their determinants may offer valuable insights into how such aspirations are formed, and therefore, contribute to the literature and future empirical studies at every stage of the entrepreneurial process.

In the remainder of the article I will present research hypotheses development alongside relevant literature review. Secondly, I will present research methodology including data and sample descriptions. Thirdly, I will present results of binomial logistic regressions together with the summary of research hypotheses verification. Finally, I will discuss conclusions and study limitations.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Growth, and especially high growth is not the goal most entrepreneurs pursue (Estrin *et al.*, 2022; Kolvereid & Bullvag, 1996; Kolvereid & Isaksen, 2017; McKelvie *et al.*, 2017; Stam *et al.*, 2012; Wiklund & Shepherd, 2003). Among actual entrepreneurs, nearly 40% did not want their firms to grow (Kolvereid, 1992). Panel Study of Entrepreneurial Dynamics II suggests that only one in five nascent entrepreneurs want to grow their business to be 'as big as possible' (Hechavarria *et al*., 2009). In a more recent study among start-ups, 75% of respondents stated that 'I want a size I can manage myself or with a few key employees' (Hurst & Pugsley, 2011). Those involved in new firm formation typically show no growth aspirations (Henrekson, 2005; Levie & Autio, 2013; Wiklund & Shepherd, 2003).

Business growth is a result of purposeful actions carried out over time (Ali, 2018; Wiklund & Shepherd, 2003). In the case of small or fledgling firms (which are generally small because of their age) those actions are undertaken when they are consistent with the entrepreneur's personal goals. Therefore, the entrepreneurs' aspirations to grow their businesses are necessary (yet not sufficient) for actual growth, especially in the small business sector and they are the central predictor of the actual growth (Kolvereid & Bullvag, 1996; Stenholm, 2011). If growth aspirations are necessary for business growth itself, then the exploration of their determinants constitutes a viable research subject.

One of the earliest studies on this topic was published by Kolvereid (1992), who used the term 'growth aspirations.' Kolvereid found those growth aspirations not to be related to entrepreneurs' gender and experience, business location, or size. On the other hand, factors that mattered included entrepreneurs' higher level of education, type of business (manufacturing rather than service), and a higher

number of competitors. Venugopal (2016) examined some cognitive and contextual factors influencing growth aspirations on the basis of the theory of planned behaviour (TPB). Among them, entrepreneurial self-efficacy (ESE) is defined in seminal work by Boyd and Vozikis (1994) as a person's belief in his or her capability to perform a task. It was found to be especially important for growth aspirations, as well as for family support, although its impact was different depending on the phase of the business life cycle. Various factors rooted in the concept of social capital and their impact on growth aspirations were studied in an interesting specific context of post-conflict countries (Efendic *et al.*, 2014; Tominc & Rebernik, 2007a). Growth aspirations were also analysed in the context of gender entrepreneurship in high-growth firms (Bulanova *et al.*, 2016), as well as in terms of differences between women and men entrepreneurs across their life course (Davis & Shaver, 2012). The cognition-based model of the evolution of growth aspirations should also be mentioned here (Dutta & Thornhill, 2008).

Puente and colleagues (2017) proposed a clear division of determinants affecting growth aspirations into three categories. The first category concerns environment (context) and includes sociocultural factors *i.a.* social and cultural norms, entrepreneurship as a desirable career or recognition. The second category pertains to individual characteristics *e.g.* skills, motivation, education, age, or gender. The last one concerns the business itself and includes factors such as size, number of owners, capital, or innovativeness. The authors indicate that among them, sociocultural determinants are investigated the least (Levie & Autio, 2013; Puente *et al.*, 2017; Thornton *et al.*, 2011). In my study, I followed the abovementioned framework and intend to contribute to the stream of entrepreneurship literature focusing on individual and sociocultural determinants of growth aspirations (Levie & Autio, 2013; Puente *et al.*, 2017).

I propose eight hypotheses related to potential factors influencing growth aspirations based on the review of prior research. Four of them pertain to the individual dimension, *i.e.*: gender; entrepreneurial self-efficacy (ESE) & entrepreneurial intention (EI); and self-reported resistance to stress. The remaining four are related to the socio-cultural dimension, *i.e.*: the perception of high income & prestige as potential attractive advantages of running own business; the fact of family running a business; and the presence of role models among parents.

The first one is gender as an obvious exogenous variable present in the majority of models, however not merely for control purposes. There is a vast and still growing gender literature in the field of entrepreneurship. On the nexus of gender and business growth literature, a recent study by BarNir (2021) emerges with findings such that, for instance, perceived gender stereotyping affects the type of ventures women prefer to start. Women are less likely to run growth-oriented ventures and lean towards more communal-type ventures often with lower expectations for growth than those started by men (BarNir, 2021; Puente *et al.*, 2017; Wang *et al.*, 2019). Another study concerning gender and growth aspirations is by Wang and colleagues (Wang *et al.*, 2019), who prove that the institutional environment of an entrepreneurial ecosystem fosters the gender gap in entrepreneurial growth aspirations in China. Furthermore, Ng and Fu (2018) indicate that gender differences with regard to enterprise growth require further investigation. However, due to the fact that China is both geographically distant and culturally different from Poland, an example of a study on gender impact on growth aspirations from more similar countries should be identified. Works by Tominc (Širec *et al.*, 2010; Tominc & Rebernik, 2007a; 2007b) explore, among others, entrepreneurship and growth aspirations in Slovenia, Hungary, and Croatia – countries both geographically and culturally closer to Poland. Their results are interesting as they find out that among early-stage entrepreneurs in these countries, men are more likely to perceive and exploit business opportunities than women, while women on average are less likely to start new firms. However, once started, woman entrepreneurs have similar growth aspirations as men. It shows that there exists an ambiguity in current knowledge about gender and growth aspirations providing another argument for further investigation.

However, based on the abovementioned research and other studies (*e.g.* Manolova *et al.*, 2012) suggesting that women students are less likely to pursue high growth in their future businesses, I hypothesised:

H1: Gender influences growth aspirations in the way that women students are less likely to express high growth aspirations in comparison to men.

Next two factors are connected to the previously mentioned, two predominantly used theories for researching the entrepreneurial process, *i.e.* the theory of planned behaviour (TPB) (Ajzen, 1991, 2011, 2020) and Shapero's entrepreneurial event (SEE) (Shapero & Sokol, 1982). According to them, attitudes successfully predict intentions and subsequently, intentions successfully predict behaviour (Krueger *et al.*, 2000). Both models contain elements of perceived self-efficacy. The proposed factors to be included in this research are entrepreneurial intention (EI) and entrepreneurial self-efficacy (ESE). The link between those two concepts can be found in Shapero's model of entrepreneurial event (SEE) (Shapero & Sokol, 1982). It is known that entrepreneurial self-efficacy plays a pivotal role in determining entrepreneurial intentions and outcome expectations, therefore, usually the higher the individual's entrepreneurial self-efficacy, the higher the entrepreneurial intentions (Liguori *et al.*, 2018; Uansa-Ard & Wannamakok, 2022; Udayanan, 2019; Zięba & Golik, 2018). In line with the theory and previous empirical research, it is viable to hypothesise that if entrepreneurial self-efficacy influences the entrepreneurial intention and the latter is considered a good predictor of actual action, therefore both of these factors might affect the growth aspiration. In the context of students, one can argue that those who have already decided to start their own business may be more entrepreneurial and proactive than those who have not made such decision yet. They may also be more success-oriented and more willing to grow their business. Moreover, the suggestion to include entrepreneurial self-efficacy in the research on growth aspirations was also stated by Venugopal (2016). All of the above translates into the second and third research hypotheses involving the entrepreneurial intention (EI) and entrepreneurial self-efficacy (ESE) respectively:

H2: Students who express higher entrepreneurial intentions are more likely to express high growth aspirations.

H3: Students who declare higher levels of entrepreneurial self-efficacy are more likely to express high growth aspirations.

Another factor pertains to the stream of research on family background and succession. It is especially important while studying students as they are more likely to have recent experiences and direct contact with their families and entrepreneurs among their relatives. In turn, this exposure might affect their intentions and aspirations. Family business background is known as a factor contributing to development of the entrepreneurial intention (Carr & Sequeira, 2007). This holds also in the case of students (Georgescu & Herman, 2020), especially when it is manifested through involvement in family business operations (Murphy & Lambrechts, 2015; Wang *et al.*, 2018). Fahed-Sreih and colleagues found that family participation in the form of employment and investment positively impacts entrepreneurial growth intentions and expansion plans (2009). Moreover, Ali (2018) highlights the importance of family background to the growth and success of small businesses while acknowledging that being raised in an entrepreneurial family greatly impacts growth aspirations. Similarly, family support and direct family involvement positively moderate the relationship between attitude to growth and growth aspirations (Venugopal, 2016). However, it might not always be the case as the study on new venture teams shows that the presence of family members in the team is negatively related to growth aspirations (Muñoz-Bullón *et al.*, 2020). Nevertheless, as the previous research suggests that a family business background helps in developing entrepreneurial intentions, I hypothesised that it may also contribute to higher growth aspirations. Therefore, it translates into the fourth hypothesis regarding family business background:

H4: Students who have family business backgrounds are more likely to express high growth aspirations.

In line with the previous factor pertaining to the family background, I proposed to consider the influence and exposure to role models as the subsequent factor. If one has a family business background, there is a substantial likelihood that we may find a role model affecting one's attitudes. For instance, in the light of social learning theory, parents' entrepreneurial role model is intricately connected with choosing an entrepreneurial career through increased education and training aspirations, and improved self-efficacy (Scherer *et al.*, 1989). There is also a stream of research indicating that role models positively affect the entrepreneurial intention (Abbasianchavari & Moritz, 2021; Austin &

Nauta, 2016; Bosma *et al.*, 2012; Karimi *et al.*, 2014; Laviolette *et al.*, 2012). In the context of Polish students, Nowiński and Haddoud suggest that the interplay of inspiring role models, attitudes towards entrepreneurship and entrepreneurial self-efficacy is the key to fostering entrepreneurial intention (2019). When it comes to role models influence on growth aspirations, there is evidence that role models tend to increase these aspirations (Capelleras *et al.*, 2019). Moreover, some recent studies confirm the importance of entrepreneurial learning from role models (Abbasianchavari & Moritz, 2021; Cardella *et al.*, 2020; Zozimo *et al.*, 2017). Lastly, role models are also crucial for developing entrepreneurial passion (Fellnhofer, 2017), which contributes to business growth. Taking all of the above into consideration, I propose to include family role models as a next factor potentially influencing growth aspirations. Therefore, it translates into the fifth research hypothesis:

H5: Students who have family business backgrounds are more likely to express high growth aspirations.

The last three factors are connected with the perception of selected features of entrepreneurship. In line with the theory of planned behaviour (TPB) and Shapero's entrepreneurial event (SEE), they pertain to the elements of these theories such as expected values and perceived desirability which translate into intentions formulation. The way how individuals perceive certain aspects of running own business affects their intentions and aspirations. Often, nascent entrepreneurs are driven by the vision of high income and/or prestige. I based the next two hypotheses on achievement orientation (*i.e.* when an individual feels a need to perform their tasks to an elevated level of excellence). I focused on two dimensions of achievement orientation in running own business: financial and social (Arshad *et al.*, 2020). In line with this perspective, I argued that those students who seek financial reward would naturally like their business to be big, as the stream of profits for entrepreneurs is usually positively related to the business size. Therefore, I formulated the sixth research hypothesis related to the perception of high income as a potentially attractive feature of entrepreneurship:

H6: Students who perceive high income as one of the most attractive features of entrepreneurship are more likely to express high growth aspirations.

Conversely, some individuals may be more interested in the social dimension of achievement. This would be associated with social recognition and the high prestige of a successful entrepreneur (Anderson & Jack, 2000; Arshad *et al.*, 2020; Ayodele *et al.*, 2020). Plenty of previous research has confirmed prestige as one of the driving factors in the pursuit of an entrepreneurial career, in particular some of them among students (Anderson & Jack, 2000; Ayodele *et al.*, 2020; Chan *et al.*, 2019; Constant & Shachmurove, 2006; Constant & Zimmermann, 2006; Giannetti *et al.*, 2003; Kaur & Bawa, 1999; Kontogiannis *et al.*, 2019). Analogically to the previous factor, in this case, the level of recognition and prestige should be dependent on the business size, making growth more attractive and desired. Thus, I formulated the seventh research hypothesis related to entrepreneurship being a potential source of prestige:

H7: Students who claim that prestige belongs to the most attractive features of entrepreneurship are more likely to express high growth aspirations.

Finally, the last factor concerned potentially negative aspects of entrepreneurship. The two most commonly stated negative aspects of entrepreneurship are stress and work-life balance (Ziemiański & Golik, 2020). Students who would like to grow their future businesses should realise that it is associated with a lot of stress. Conversely, if they perceive themselves as stress-resistant, they may not find it as a growth obstacle. Therefore, I formulated the last research hypothesis pertaining to the declarative stress resistance:

H8: Students who declare higher stress resistance are more likely to express high growth aspirations.

Having presented the relevant literature review and research hypotheses stemming from it, in the following part of the article, I will present the description of the data used, the research methodology, and the estimations results.

RESEARCH METHODOLOGY

The data used in the research came from a SEAS Project (Survey on Entrepreneurial Attitudes of Students). The SEAS Project started in 2008 as a longitudinal study of students' entrepreneurship attitudes, their determinants, and antecedents, combined with a career choice study, education process evaluation, and other student-related issues. Questions in the SEAS questionnaire have been designed to measure or investigate *i.a.* students' entrepreneurial intentions, entrepreneurial self-efficacy, work experience, and the presence of entrepreneurs in the family. The project is conducted in the form of an annual quantitative study.

The research sample consisted of 757 students of courses such as economics, econometrics, management, business studies, and other related courses from three universities in northern Poland. The vast majority (more than 82%) were full-time students. Bachelor or engineering students constituted 64.3% of the sample, while master students – 35.7%. Regarding work experience, 74% of all respondents indicated to have work experience, while 48.2% of students were employed at the moment of survey distribution. Finally, only 13 students (less than 2%) owned a company.

Based on the presented theory, literature review, data availability from the project, and previous experience, I used a binomial logistic regression model with growth aspirations as an endogenous variable and eight exogenous variables mentioned in the research hypotheses, *i.e.*: gender, entrepreneurial intention, entrepreneurial self-efficacy family business, role model, high income, prestige, and

Table 1. Variables description and measurement

Variable	Description *examples of questions (translated from Polish)*	Scale	Measurement	Level
GA	Growth Aspirations – endogenous variable	ordinal	binary	0 = 'low' 1 = 'high'
If you were to start a business, ultimately in terms of size you would like it to be: *0 – big enough to be able to manage it by myself or with the help of a few key employees* *1 – as big as possible*				
SEX	Gender	nominal	binary	0 = 'man' 1 = 'woman'
EI	Entrepreneurial Intention – average value from 5 items	continuous	Likert-5	1 = 'low' to 5 = 'high'
Please indicate to what extent you agree with the following statements: *I do intend to start my own business one day. (1 of 5 statements)*				
ESE	Entrepreneurial Self-efficacy	ordinal	Likert-5	1 = 'low' to 5 = 'high'
Please indicate to what extent you agree with the following statement: *I am convinced that I would be able to successfully start a new venture.*				
FB	Family business: family running a business	nominal	binary	0 = 'NO' 1 = 'YES'
Is anyone from your close family (parents and/or grandparents) running a business?				
RM	Role model: one of the respondent's parents owns and runs a business	nominal	binary	0 = 'NO' 1 = 'YES'
Does your father or mother own and run a business?				
HI	High income: considering *high income* as one of the most attractive advantages of running own business	nominal	binary	0 = 'NO' 1 = 'YES'
PREST	Prestige: considering *prestige* as one of the most attractive advantages of running own business	nominal	binary	0 = 'NO' 1 = 'YES'
Please indicate which of the following advantages of running your own business you consider as the most attractive to you (select max. 3). (out of 8)				
STRESS	Stress: self-reported resistance to stress	ordinal	Likert-5	1 = 'low' to 5 = 'high'
Please indicate to what extent do you agree with the following statement: *I am resistant to stress.*				

Source: own study.

stress. As the final model has been created through the use of a backward elimination method (sequentially eliminating statistically insignificant variables with regard to the p-value), altogether, I will present three models to show the whole process. For the convenience of the reader, I described all variables in Table 1, including information regarding the used scale and the level of measurement.

The questionnaires in the SEAS Project are administered personally to the students in the traditional pen and paper form, hence, I had to check the data for logical inconsistencies within selected questions and missing values. After the data clean-up, the initial research sample of 757 was free from logical mistakes. However, some missing values were present in the questions of interest (such observations were omitted in the regression as the question type did not allow for a reasonable attempt at data imputation). Therefore, the models presented below have a lower number of observations than the initial sample, ranging from 700 in Model 1 to 705 in Model 2 and Model 3.

Firstly, correlations and variance inflation factors (VIF) have been checked for all variables included in all estimated models. Descriptive statistics and correlation matrix can be found in Table 2 below.

Table 2. Descriptive statistics: Mean, standard deviations, Spearman and Yule's phi correlation coefficients

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. GA	0.194	0.396								
2. SEX	0.643	0.479	-0.204***							
3. EI	3.100	0.926	0.116**	-0.035						
4. ESE	3.480	0.805	0.084*	-0.063	0.513***					
5. FB	0.154	0.361	-0.021	-0.049	0.159***	0.129***				
6. RM	0.236	0.425	0.078*	-0.026	0.188***	0.127***	0.559***			
7. HI	0.487	0.500	0.109**	-0.131***	0.141***	0.057	0.091*	0.074*		
8. PREST	0.104	0.306	0.112**	-0.098**	-0.001	0.026	-0.024	0.024	0.030	
9. STRESS	3.220	1.090	0.147***	-0.123***	0.181***	0.331***	0.033	0.026	0.002	-0.010

Note: significant codes: 0 '***' 0.001 '**' 0.01 '*'; Due to the binary character of variables SEX; FB; RM; HI and PREST, Yule's phi correlation coefficient was used for them instead of Spearman. For reader's convenience, variables not included in the final Model 3 have been greyed out.
Source: own study.

All correlations of exogenous variables with endogenous variables (growth aspiration) were statistically significant except for the variable family business (FB). The highest correlation (in absolute terms) between exogenous variables was between the pair of variables role model (RM) and family business (FB) and was equal to 0.559. The correlation matrix did not indicate any serious correlation concerns.

RESULTS AND DISCUSSION

Ultimately, the following binomial logistic regression models presented in Table 3 have been estimated. The variance inflation factors (VIFs) for all exogenous variables in all three models did not exceed 1.64 (the highest VIF was found for the variable ESE in Model 1) which met the strictest VIF thresholds regarding testing for collinearity (Johnston *et al.*, 2018).

The results of the first estimation (Model 1) show that surprisingly, from the set of included exogenous variables, some turned out to be statistically insignificant. These were entrepreneurial self-efficacy (ESE), high income (HI), and the entrepreneurial intention (EI) (from highest to lowest p-values). Therefore, the backward elimination method of statistically insignificant variables was introduced resulting in the estimation of Model 2 and the final Model 3. In the process, I eliminated two variables, namely entrepreneurial self-efficacy (ESE) and entrepreneurial intention (EI) from the initial set of regressors and I did not include them in the final Model 3. Table 3 includes goodness of fit measures, which summarise all estimations. Noteworthy, all models are overall statistically significant and have decent values of pseudo-R-squared being close to 0.13. I used pseudo-R-squares in logistic regressions to imitate R-squared from traditional regression models (based on the proportion of variance explained by the model). However, they differ in both typical values and interpretations.

Table 2. Binomial logistic regressions: Sequential elimination of statistically insignificant variables from Model 1 to Model 3

Predictors	Model 1 n = 700				Model 2 n = 705				Model 3 n = 705			
	Odds ratio	**β coeff**	**SE**	**p-value**	**Odds ratio**	**β coeff**	**SE**	**p-value**	**Odds ratio**	**β coeff**	**SE**	**p-value**
const.	0.0867	-2.445	0.535	< 0.001***	0.0685	-2.681	0.4859	< 0.001***	0.105	-2.257	0.4019	< 0.001***
SEX	0.4175	-0.873	0.205	< 0.001***	0.4073	-0.898	0.2035	< 0.001***	0.406	-0.902	0.2027	< 0.001***
EI	1.2603	0.231	0.134	0.084	1.2010	0.183	0.1131	0.105				
ESE	0.8654	-0.145	0.158	0.359								
FB	0.3823	-0.962	0.355	0.007**	0.3848	-0.955	0.3489	0.006**	0.396	-0.927	0.3462	0.007**
RM	1.8840	0.633	0.270	0.019*	1.9460	0.666	0.2678	0.013*	2.048	0.717	0.2641	0.007**
HI	1.4206	0.351	0.206	0.088	1.4378	0.363	0.2049	0.076	1.503	0.407	0.2027	0.044*
PREST	1.9951	0.691	0.287	0.016*	1.9480	0.667	0.2866	0.020*	1.931	0.658	0.2855	0.021*
STRESS	1.3552	0.304	0.106	0.004**	1.3098	0.270	0.0999	0.007**	1.357	0.305	0.0971	0.002**
Nagelkerke's R^2			**0.129**				**0.133**				**0.127**	
Deviance			630				636				639	
AIC			648				652				653	
Overall Model p-value			< 0.001***				< 0.001***				< 0.001***	

Note: Significant codes: 0 '***' 0.001 '**' 0.01. '*'; Estimates represent the log odds of 'GA = 1' vs. 'GA = 0.'

Source: own calculation.

The achieved odds ratios in Model 3 supported hypotheses 1, 5, 6, 7, and 8. I could not verify hypotheses 2 and 3 due to the corresponding variables (EI and ESE) having been dropped in the backward elimination process. Furthermore, I did not find support for the fourth hypothesis stating that students who have family business backgrounds are more likely to express high growth aspirations, as the odds ratio for the variable FB was 0.396 (lower than one) indicating that such students are less likely to express high growth aspiration.

Overall prediction accuracy of the Model 3 was satisfactory (accuracy equal to 0.701) ranging from 0.601 in sensitivity to 0.725 in specificity with a cut-off value set to 0.22. Noteworthy, both sensitivity (true positive rate) and specificity (true negative rate) are important for the model's prediction purposes. Therefore, I subjectively selected a cut-off value of 0.22 to balance the model's positive and negative prediction powers. Table 4 presents a detailed classification of prediction accuracy.

Table 4. Prediction accuracy and classification table of Model 3

Observed	**Predicted**		**% correct**
	0	**1**	
0	411	156	72.5
1	55	83	60.1
Accuracy	**Specificity**	**Sensitivity**	**AUC**
0.701	0.725	0.601	0.698

Note: the cut-off value has been set to 0.22.
Source: own study.

To summarise the results upfront for the reader in a convenient way, I created Table 5, which summarises research hypotheses and their verification according to the results.

Table 5. Summary of research hypotheses verification

Nr	**Hypothesis**	**Verification**
H1	Gender influences growth aspirations in the way that woman students are less likely to express high growth aspirations in comparison to men.	supported
H2	Students who express higher entrepreneurial intentions are more likely to express high growth aspirations.	not supported
H3	Students who declare higher levels of entrepreneurial self-efficacy are more likely to express high growth aspirations.	not supported
H4	Students who have family business backgrounds are more likely to express high growth aspirations.	not supported
H5	Students who have entrepreneurial role models in their families are more likely to express high growth aspirations.	supported
H6	Students who perceive high income as one of the most attractive features of entrepreneurship are more likely to express high growth aspirations.	supported
H7	Students who claim that prestige belongs to the most attractive features of entrepreneurship are more likely to express high growth aspirations.	supported
H8	Students who declare higher resistance to stress are more likely to express high growth aspirations.	supported

Source: own study.

The results show that the entrepreneurial intention (EI) does not influence growth aspirations and neither does entrepreneurial self-efficacy (ESE). Therefore, I found no support for hypotheses 2 and 3. The former lack of influence may be interpreted in such a way that having the entrepreneurial intention does not necessarily imply this intention to be connected to growth because, as shown at the beginning of the literature review, the majority of people involved in new venture formation typically show no growth aspirations. However, it remains an important question why this is the case. On the other hand, it comes as no surprise that without the entrepreneurial intention, there are no growth intentions, as they were expressed regardless of whether the respondent has already decided to start

a business or not. Therefore, the entrepreneurial intention in the setting of my study had no statistically significant influence on growth aspirations. The latter lack of influence (concerning ESE) is more difficult to explain. However, one possible explanation is the highly contextual character of ESE (Liguori *et al.*, 2018). In my study, I asked about ESE on a general level, without the focus on business growth. However, as ESE is usually treated as a direct antecedent of EI in studies of the entrepreneurial process (*i.e.* ESE positively affects EI) based on the theory of planned behaviour, this is in line with the previous result stating that EI does not influence growth aspirations.

Another interesting result of the study is the negative (in a sense of lowering probability) influence of family business background. As the odds ratio for FB predictor (family business – family running a business) is lower than one and the estimates represent the log odds of high vs low growth aspirations, it means that having a family business background lowers the probability of high growth intentions. I expected it to have a positive influence on growth aspirations and a similar effect to the role model which contrary to family business positively influences the probability of higher growth aspirations. Especially since those two variables are correlated (Table 2). We may find possible explanations in previous works on family business background and its impact on career choice (Wang *et al.*, 2018; Zellweger *et al.*, 2011). The discrepancy between effects of these two variables (FB negative and RM positive) can be explained on the basis of other studies. Arguably, when exposed to the business reality through their family business, respondents may become more realistic about growth possibilities and hence family business background may actually lower their growth aspirations. This difference might also stem from the fact that the question pertaining to the family business (FB) concerned two generations (parents and grandparents), while the question of role model (RB) only one *i.e.* parents. Importantly, grandparents of current students might have started their businesses in a pre-transformational era in Poland (*i.e*. prior to 1989). As the image and sociocultural status of an entrepreneur in Poland has changed dramatically since then, it might be one of the potential explanations for the differences between these two results. Nevertheless, this aspect requires further investigation in future studies both in the context of Poland and other countries.

Other variables included in my study influence the growth aspirations of students in line with the expectations based on the literature. According to the proposed logistic model where estimates represent the log odds of high vs low growth aspirations, odds ratios higher than 1 indicate that the higher values of the particular predictor increase the probability of having high growth intentions. Conversely, an odds ratio lower than one indicates that higher values of this predictor lower the probability of having high growth aspirations. As the odds ratio is lower for the predictor SEX, and the variable took the value of 0 for man and 1 for woman, it means that high growth aspirations are less likely among women. This result is of special importance, as it is in line with the stream of research concerning the gender gap and lower growth aspirations of women in comparison to men across various stages of the entrepreneurial process (Ali, 2018; Ng & Fu, 2018; Puente *et al*., 2017; Wang *et al*., 2019). Therefore, my results showcase that we can notice this gender gap already at the studies stage.

In terms of the sociocultural determinants, the results clearly indicate that the perception of potential high income and prestige stemming from being an entrepreneur can be considered as drivers of growth aspirations. A straightforward explanation is that if an individual is enticed by potential high income, it can be associated with and achieved by the growth of the business. Therefore, it translates into higher growth aspirations. Analogously, if an individual has a similar view of the prestige connected with being an entrepreneur, he or she will strive to grow as it can be assumed that the bigger the company, the higher the prestige of being its owner. Thus, the environment and social norms can be valuable predictors of growth aspirations.

Finally, as being an entrepreneur can be stressful itself, running a company with the intention to grow can elevate that stress further. Unsurprisingly, the results indicate that individuals characterised by higher stress resistance (a self-reported measure) are more likely to express higher growth aspirations as they might claim to have the necessary capabilities to manage the related stressful situations connected to firm growth.

Recapitulating, based on the proposed model, the factors that positively affect growth aspirations (*i.e.* increase them) are: being a man; having an entrepreneurial role model in the family; perception

of high income as an attractive feature of entrepreneurship; perception of prestige as an attractive feature of entrepreneurship; and finally, declarative high stress resistance.

We may consider the abovementioned factors as good candidates for predictors of growth aspirations. Therefore, potentially contributing to economic growth through potential future entrepreneurs. In the light of my findings, it would be advisable to develop stress resistance among students and promote entrepreneurs' high social status, both in the financial (potentially higher income in comparison to wage jobs) and non-financial sense (prestige and satisfaction). That would encourage high growth aspirations. Nevertheless, the gender gap in growth aspirations is clearly visible in the example of this study and this should be the target of decision-makers and entrepreneurship educators at all levels.

CONCLUSIONS

The study contributes to the literature on growth aspirations by answering the call to further explore their potential antecedents (Ali, 2018; Byrne & Fayolle, 2013). I achieved it by studying eight determinants pertaining to sociocultural (perception of high income & prestige as potential attractive advantages of running own business; the fact of family running a business; and the presence of role models among parents) and individual (gender; entrepreneurial self-efficacy (ESE) & the entrepreneurial intention (EI); and self-reported resistance to stress) dimensions which according to some studies require further investigation (Levie & Autio, 2013; Puente *et al.*, 2017; Thornton *et al.*, 2011). Moreover, I did it in an unexplored context of students in a developing country in Europe. Finally, the study modestly indicates the need for clear and cohesive definitions of notions pertaining to growth as currently multiple terms are being used interchangeably.

The results show that from individual determinants only declarative resistance to stress and the fact of being a man increase the chances of having high growth aspirations. The latter result is of vital importance, as it shows the presence of a gender gap in growth aspirations as early as at the time of studies. Therefore, one of the most important study recommendations is to focus on this gap while designing entrepreneurship courses. To begin with, it ought to be done by raising awareness of gender gaps pertaining not only to growth aspirations, by teaching of its roots, and finally by showing the solutions to mitigate them. When it comes to stress resistance, it is important to accurately measure it among students (by different than self-reported measures), show it as a potential advantage, but most of all, teach all students safe strategies for coping with stress regardless of their stress resistance level.

Regarding sociocultural determinants, the image and perception of entrepreneurship, it is important to highlight that when students perceive entrepreneurship as a way to achieve high income as well as a source of prestige and recognition, it increases the chances of them having higher growth aspirations. These variables are important and may be highly contextual as their impact and significance might differ in different countries (representing diverse cultures and images of entrepreneurs). Therefore, the context of this study adds novelty to the topic. However, most importantly they should be treated with caution as their impact especially on young or aspiring entrepreneurs might be twofold. In other words, raising or confirming these perceptions (of higher income and prestige) without educating about associated risks and consequences might bring more harm than good. Therefore, I advise focusing on these aspects of sociocultural determinants to foster growth aspirations while at the same time consciously educating about potential dangers.

This study is certainly not free from limitations. First of all, I was able to conduct the study in one region of a single country. Therefore, the findings cannot be used for general conclusions. However, the sample size was quite big and based on the universities from the same region (northern Poland), thus making it representative locally at least to some extent. Secondly, the data availability was somewhat limited, and that resulted in a reduced number of predictors used in the models. Another limitation was the fact of using self-reported measures, *i.e.* declarative resistance to stress. Self-reported measures are usually less accurate and prone to biases. Furthermore, I used a general measure of entrepreneurial self-efficacy and a more specific and contextual type could probably yield different results. It should be considered as both a limitation and a potential new research path. Finally, I administered the survey via traditional pen and paper form, which made it impossible to randomise the questions.

However, I believe that the article contributes to a better understanding of the growth aspirations and offers valuable insights into its predictors. Future research avenues could include: finding more antecedents of growth aspiration, testing the model on different group of respondents (*e.g.* active entrepreneurs), investigating different regional contexts as well as sociocultural predictors and incorporating different statistical methods. Moreover, judging from the literature review, I assert that the field requires either a clear distinction or a consensus on definition regarding the terms 'growth intentions' and 'growth aspirations.' With this regard, I propose to make a clear distinction between actual actions aimed at achieving growth and the hypothetical ones.

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Acknowledgements and Financial Disclosure

The author would like to thank the anonymous referees for their useful comments, which allowed to increase the value of this article.

Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Ministry of Education and Science
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.