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Exploring Entrepreneurial Intention and Subjective Beliefs: A Comparative Analysis of General Education Schools and Commercial Schools

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ABSTRACT

This study examines the entrepreneurial intentions of Austrian secondary school students, specifically comparing students from commercial schools with those from general education schools. We analyzed 2,329 data sets and found that subjective beliefs, primarily behavioral and control beliefs, significantly influence entrepreneurial intentions. In addition, demographic factors such as gender, language, acquaintance with entrepreneurs, and school type play a significant role in explaining the variance in entrepreneurial intentions.

Our detailed analysis shows that students from commercial schools have stronger entrepreneurial intentions and subjective beliefs. Particularly notable are the differences in behavioral beliefs, where students from commercial schools find all aspects of entrepreneurship more attractive, especially job creation, taking calculated risks, and being one's own boss. The differences in control beliefs suggest that commercial school students also feel better prepared for entrepreneurial tasks, especially in identifying market opportunities, securing financial resources, and maintaining relationships.

These findings are consistent with the business and entrepreneurial focus of commercial schools, suggesting that they are effectively nurturing the entrepreneurial potential of their students. In considering instructional improvements for commercial schools, whether they should further increase their focus on aspects where students from both types of schools show minimal or no significant differences.

Keywords: entrepreneurial intention, subjective beliefs, general education schools, commercial schools

The study of entrepreneurial intention and its determinants has a long tradition. Primarily, these studies are based on the theory of planned behavior. Over the past decades, the theory's applicability in the context of entrepreneurial intention has been extensively studied among different target groups and with various thematic foci (Liñán & Fayolle, 2015; Moriano et al., 2012). Extensions have been evaluated, allowing for a comprehensive consideration of potential influencing factors (Al-Harrasi et al., 2014). These findings have contributed to a deeper understanding of individual entrepreneurial intention and have provided important insights for the design of educational interventions.

This paper aims to continue this tradition by examining students' entrepreneurial intention in a comparative analysis, differentiated by school type. In doing so, it examines the entrepreneurial intentions of secondary school students, specifically comparing students from commercial schools, which emphasize business and economics, with those from general education schools, using Austria as an example. This comparison of schools with and without a focus on business and economics provides a starting point for making generalizable statements about the influence of educational emphasis on entrepreneurial intentions. The analysis of the entrepreneurial intention of students from different schools, especially the comparison of commercial and general education schools, is relevant because, contrary to common assumptions, Xuan et al. (2020) discovered a negative relationship between the economic focus of one's academic discipline and entrepreneurial intentions. Having more insights has significant implications for shaping curriculum design, career guidance, and fostering a more diversified and skilled future workforce. Understanding young people's entrepreneurial intentions is crucial, as entrepreneurship is critical to economic growth and innovation. Highlighting differences between school types provides feedback to educational institutions on the potential impact of their educational priorities. In addition, the differentiated analysis by school type helps to understand the education system's impact on the future workforce. These insights can serve as a basis for developing targeted policies to promote entrepreneurship and prepare young people for the challenges of the modern labor market. In doing so, this endeavor can positively contribute to societal development.

Foundations and Objectives of the Study

The Theory of Planned Behavior Applied to Entrepreneurial Intentions

The basis for operationalizing entrepreneurial intention and subjective beliefs about entrepreneurship in this study is Ajzen's Theory of Planned Behavior (Ajzen, 1991, 2020). This theory, central to many scientific studies that seek to explain and predict human behavior, postulates that a person's intention to perform a specific action is an essential indicator of actual behavior. The intention to perform a specific action, such as starting a business, is influenced by three determinants: individual attitude toward the behavior, perceived behavioral control, and subjective norm. If an individual evaluates an action positively, believes that he or she can successfully complete the tasks involved, and perceives social pressure to support the action, the likelihood that the individual will perform the intended action is high.

The emergence of attitude toward behavior perceived behavioral control, and the subjective norm is explained by the Theory of Planned Behavior (Ajzen, 1991, 2020), as shown in Figure 1, through

underlying subjective beliefs. These beliefs consist of subjective expectations in the form of belief expectations and a subjective evaluation of these expectations. Personality traits and demographic characteristics are considered background factors that influence subjective beliefs and thus affect the determinants of entrepreneurial intention. Considering background factors, such as different school types, is expected to provide deeper insights into forming beliefs.

Because behavioral beliefs, control beliefs, and normative beliefs are thought to be able to explain the emergence of attitudes toward behavior, perceived behavioral control, and subjective norm, empirical studies have varied in the constructs they examine. For example, studies such as Liñán and Chen (2009) investigate the determinants of entrepreneurial intention. This approach is referred to by Tegtmeier (2006) as a direct measurement of the influence constructs. In other studies, such as Jaén and Liñán (2013), subjective beliefs are measured instead. According to Tegtmeier (2006), this is an indirect measurement of the influence constructs. In other studies, such as Tegtmeier (2008), both are measured. This approach makes it possible to empirically evaluate whether the direct determinants can be inferred from subjective beliefs.

Figure 1: Theory of Planned Behavior

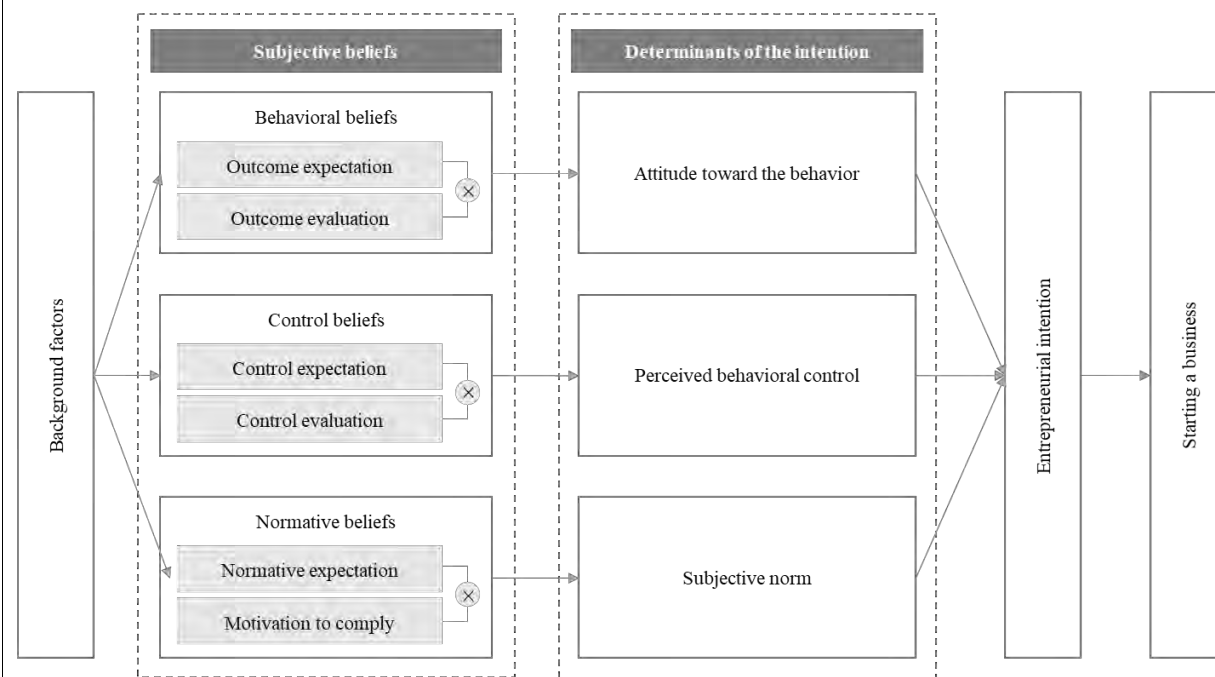


Figure 1. Theory of planned behavior applied to entrepreneurial intentions (based on Lange 2019: 67).

As also pointed out by Tegtmeier (2006), the main difference between the approaches is that in a direct measurement, individuals provide summary judgments. In an indirect measure, individuals provide both specific expectations and evaluations, which results in a positively or negatively expressed belief. Thus,

the composite measure has the potential to provide deeper insights into the composition of subjective beliefs as central influencing variables, as was intended in the underlying study.

The Importance of Economic Education in the Context of Entrepreneurial Intention

The relevance of economic education as an influencing factor on students' entrepreneurial intention has gained attention in research and practice. Previous works, such as those of Liñán (2004) and Liñán and Fayolle (2015), already highlight that there is a growing body of research focusing on the influence of education from different perspectives.

The studies discussed in earlier literature are frequently cited for their foundational contributions to understanding the effects of entrepreneurship education on entrepreneurial intention. For instance, Barba-Sánchez and Atienza-Sahuquillo (2018) demonstrated the positive impact of entrepreneurship education on the entrepreneurial intentions of engineering students, while Rauch and Hulsink (2015) affirmed the positive behavioral changes and increased entrepreneurial intention resulting from participation in such programs. Fayolle and Gailly (2015) highlighted the powerful effect of entrepreneurship education on individuals with no prior exposure to entrepreneurship, contrasting with Graevenitz et al.'s (2010) findings of a slight decrease in entrepreneurial intention but a significant increase in entrepreneurial skills. However, Oosterbeek et al. (2010) found no significant effects of entrepreneurship education on skills or entrepreneurial intentions, reflecting mixed outcomes in earlier studies. Moreover, Sánchez (2013) illustrated the beneficial impact of entrepreneurship education on both skills and intentions among secondary school students, aligning with the slightly positive relationship between entrepreneurship education and entrepreneurial intention reported in the meta-analysis by Bae et al. (2014).

Recent research further corroborates the influence of entrepreneurship education on various outcomes. Mei et al. (2020) observed that higher levels of entrepreneurship education among university students were associated with increased self-efficacy and stronger entrepreneurial intentions. Yousaf et al. (2021) identified a sequential mediation effect, indicating that entrepreneurship education influences entrepreneurial intention through increased levels of self-efficacy. Shah et al. (2020) noted the moderating role of entrepreneurship education on the relationship between attitude, subjective norms, and self-efficacy, while more recent studies focusing on secondary school students remain limited. Garrido-Yserte et al. (2020) identified a notable proportion of potential entrepreneurs among secondary school students, underscoring entrepreneurship as a viable career option across various disciplines. Brüne and Lutz (2020) highlighted gender and age sensitivity in the impact of entrepreneurship education in schools, noting potential adverse effects on female and older pupils compared to their male and younger colleagues. Additionally, Shahin et al. (2021) emphasized the importance of soft-skills development in fostering entrepreneurial attitudes among female secondary school students. In line with earlier meta-analyses, such as that conducted by Bae et al. (2014), Martínez-Gregorio et al. (2021) reported small effect sizes for entrepreneurship education in increasing entrepreneurial intentions and self-efficacy, emphasizing the nuanced nature of its impact across different contexts.

In conclusion, both older and recent literature highlight the significant impact of entrepreneurship education on entrepreneurial intention. While older studies laid the groundwork for understanding this relationship, recent research has further elucidated its complexities and nuances. Moving forward, it is crucial to acknowledge the heterogeneity of outcomes across different contexts, genders, and age groups and to tailor educational interventions accordingly.

In Austrian schools, entrepreneurship education is not an independent subject but a teaching guideline for different subjects. The teaching guidelines apply to all types of schools. Especially at the upper secondary level, students can voluntarily choose between different types of schools that offer entrepreneurial education to varying degrees. Two of these types of schools are commercial schools and general education schools. A particular focus on business education characterizes commercial schools in Austria. They offer students in-depth insights into business and economic topics that prepare them, among other things, for entrepreneurial activities. They also emphasize practical applications promoted through internships and cooperation with companies. In contrast, general education schools in Austria offer a comprehensive general education and a wide range of humanities and natural sciences subjects. Students in general education schools can acquire a broad range of general knowledge. The upper level of general education schools lasts four years, and the commercial schools last five years. Both types of schools enable students to study at universities.

The Importance of Other Background Factors in the Context of Entrepreneurial Intention

Previous research on entrepreneurial intentions has also shed light on the significance of various demographic characteristics as background factors. These encompass age, gender, educational background, migration background, and exposure to role models.

For example, Paray and Kumar (2020) delved into the effects of age, gender, and educational background on entrepreneurial intention. Their findings revealed a lack of significant relation between age and entrepreneurial intention among students while emphasizing a positive relation between educational level and entrepreneurial intention. Moreover, they observed a tendency for male students to exhibit higher entrepreneurial intentions than their female counterparts. Gender disparities in entrepreneurial intention are a focal point within demographic characteristics research. A robust body of literature, including studies by Gupta et al. (2009), Kumar et al. (2021), Salavou et al. (2021), and Strobl et al. (2012), consistently highlights a stronger entrepreneurial intention among males compared to females. The specific impact of age on entrepreneurial intentions remains inconclusive, mirroring the findings of Liñán and Chen (2009) and Kolvereid and Isaksen (2006), who similarly found no significant relationship between age and entrepreneurial intention. Educational factors, notably higher levels of education, are often linked to heightened intentions to pursue entrepreneurship. For instance, Xuan et al. (2020) found a positive influence of educational attainment on entrepreneurial intention. However, their findings also point to a negative relationship between the economic orientation of one's field of study and entrepreneurial intention, suggesting that specific disciplines may discourage entrepreneurial pursuits.

In addition to age, gender, and education, migration background and exposure to role models significantly shape entrepreneurial intentions. Mestres (2010) reported slightly higher entrepreneurship rates among immigrants than natives in most OECD countries. However, Austria stood out as a country where individuals with a migration background exhibited slightly lower entrepreneurship rates than natives. Recent data from Austria suggests that this trend persists. For instance, in 2022, the proportion of self-employed individuals in the non-agricultural sector was 10% among natives and 8% among individuals with a migration background (Statistik Austria, 2023). Abbasianchavari and Moritz (2021) conducted a literature review, revealing that the impact of role models on entrepreneurial intentions has been explored from various perspectives. Their review supports the positive impact of role models on entrepreneurial intentions. Recent investigations by Amofah and Saladrigues (2022) and Kong et al. (2020) corroborate these findings. However, Amofah and Saladrigues (2022) also highlight that the reinforcing effect is more pronounced among males. The significance of role models suggests that knowing an entrepreneur, having initial work experience, or potentially parents' education and occupation could influence entrepreneurial intention.

Objectives of the Study

Previous research on the entrepreneurial intentions of secondary school students, particularly concerning the importance of economic education, is limited, as noted above. There is extensive evidence on targeted interventions in entrepreneurship education, but there is a lack of evidence on the impact of different school types and their educational emphasis. Contrary to common belief, it is not inherently evident that individuals focusing on business and economics in their education automatically exhibit stronger entrepreneurial intentions. Xuan et al. (2020) highlight a negative association between the economic emphasis on one's academic background and entrepreneurial intentions. This suggests that a concentrated study of business and economics may deter individuals from engaging in entrepreneurial pursuits. This study aims to address this issue by answering the following question:

How do the entrepreneurial intentions and subjective start-up-related beliefs of students in commercial schools differ from those of students in general education schools?

The relevance of exploring the entrepreneurial intention of secondary school students lies in the importance of entrepreneurship and the promotion of entrepreneurial skills in modern society. At a time when innovation and the creation of new business opportunities are critical to economic growth, it is important to understand how students are positioned in terms of business creation and entrepreneurship.

Comparing students from commercial and general education schools is particularly relevant, as these two schools have significantly different educational foci. By identifying similarities and differences between students in commercial and general education schools, insights can be gained into the impact of different school emphases, and recommendations can be derived for the design of educational initiatives. In summary, this research will help deepen the understanding of the role of educational focus in fostering entrepreneurship and assist policymakers in developing future educational strategies.

Empirical Investigation

The survey was conducted among Austrian secondary school students attending commercial or general education schools. Firstly, school administrators were contacted by e-mail to present the research project and request them to cooperate briefly. The participating classes were selected in consultation with the teachers at the school sites. An online survey instrument was evaluated in advance. Printed questionnaires were distributed to schools for completion. Participation was voluntary and anonymous. Students were given 50 minutes to complete the questionnaire. The sample represents all nine Austrian federal states.

The questions on entrepreneurial intention and its influencing factors are based on the Entrepreneurial Intention Questionnaire (EIQ) by Jaén et al. (2013) and Jaén and Liñán (2013), which was initially designed for university graduates. The present study was translated into German and adapted to the younger target group with linguistic and content simplifications. The demographic characteristics collected as background factors include age, gender, type of school, level of schooling, language most spoken at home, parents' level of education, presence of first work experience, and presence of entrepreneurs in the personal environment.

Content validity was ensured by having the entire questionnaire reviewed by subject matter experts, as described as one option by Sireci (1998). To ensure the comprehensibility of the content for the target group, interviews were also conducted with students using the think-aloud method (van Someren et al., 1994). Reliability was evaluated by calculating Cronbach's alphas, as shown in Table 1. Taber (2018) impressively shows that Cronbach's alpha values are interpreted very differently. For the aim of this research, an acceptable threshold for scales is 0.7, and all scores except for behavioral beliefs were above this threshold. However, omitting items would have only marginally improved Cronbach's alpha for behavioral beliefs.

Table 1
Reliability statistics

	Entrepreneurial intention	Behavioral beliefs	Control beliefs	Normative beliefs
Cronbach's Alpha	.924	.596	.768	.710
Number of Items	4	6	6	3

Standardized conditions of data collection, closed-ended questions, precise instructions for data entry, and clear descriptions of the multi-item scales ensured objectivity of administration, scoring, and interpretation, with measures as Colton and Covert (2007) recommended.

All scale scores were asked on a 5-point response scale and coded from 1 to 5. Subjective beliefs were measured with two sets of items each. To calculate the scores, the responses of the sets were multiplied at the item level, and scale averages were formed.

Questionnaires that showed a lack of motivation or seriousness, or where even one question about the entrepreneurial intention or subjective beliefs was left unanswered, were excluded from the analysis. Furthermore, the necessary prerequisites were checked before conducting the regression and variance analyses (Backhaus et al., 2021; Sirkin, 2006; Stevens, 2009). Based on the selection, 2,329 of the total 2,634 datasets were included in the following analysis.

Given the potential violations of homoscedasticity and normal distribution assumptions, robust statistical techniques were employed in our analysis. Specifically, the bootstrapping procedure was utilized for the regression analysis, while the variance analyses employed the Welch ANOVA and the Games-Howell post-hoc test. These statistical methods were chosen to accommodate the aforementioned assumptions and address potential biases stemming from unequal group sizes. By incorporating these robust techniques, our study aims to enhance the validity and reliability of our statistical analyses and findings.

Results

Sample Characteristics

As shown in Table 2, the 2,329 participants were divided into two groups according to their school type. The dominance of students from commercial schools in the sample is due to the economic focus, as these schools showed a higher willingness to participate.

In addition, there is an increased number of older students in commercial schools due to the one-year longer duration of their educational pathway compared to the four-year upper secondary level in general education schools. Other characteristics reveal differences between the two types of schools in terms of the language most spoken at home by students, their previous work experience, and the educational level of their parents.

It is noticeable that a more significant proportion of students at commercial schools speak a language other than German at home, which indicates a higher proportion of students with a migration background. Around 40% of students at general education schools have a mother and/or a father with a university degree, compared to approximately 15% of students at commercial schools. This shows that the two groups of students grow up in households with significant differences in educational background. There are hardly any differences between the two groups regarding the proportion of entrepreneurs in their social environment.

Table 2
Sample Characteristics

		Commercial schools		General education schools		Total	
Age (years)	<= 15	281	16.3%	165	27.4%	446	19.1%
	16	402	23.3%	236	39.2%	638	27.4%
	17	451	26.1%	167	27.7%	618	26.5%
	>= 18	593	34.3%	34	5.6%	627	26.9%
Gender	Female	1041	60.3%	346	57.5%	1387	59.6%
	Male	686	39.7%	256	42.5%	942	40.4%
Language	German	1139	66.0%	503	83.6%	1642	70.5%
	Equal German and other	85	4.9%	19	3.2%	104	4.5%
	Other	503	29.1%	80	13.3%	583	25.0%
Work experience	Yes	1298	75.2%	359	59.6%	1657	71.1%
	No	429	24.8%	243	40.4%	672	28.9%
Knows entrepreneur	Yes	1107	64.1%	382	63.5%	1489	63.9%
	No	620	35.9%	220	36.5%	840	36.1%
Highest education mother	Compulsory school	244	14.1%	26	4.3%	270	11.6%
	Vocational school or apprenticeship	626	36.2%	127	21.1%	753	32.3%
	Secondary school	422	24.4%	144	23.9%	566	24.3%
	University	261	15.1%	260	43.2%	521	22.4%
	I do not know	174	10.1%	45	7.5%	219	9.4%
Highest education father	Compulsory school	196	11.3%	23	3.8%	219	9.4%
	Vocational school or apprenticeship	795	46.0%	171	28.4%	966	41.5%
	Secondary school	293	17.0%	130	21.6%	423	18.2%
	University	249	14.4%	224	37.2%	473	20.3%
	I do not know	194	11.2%	54	9.0%	248	10.6%
Total		602		1727		2329	

Regression Analysis

To illustrate the extent to which subjective beliefs influence the entrepreneurial intention together with selected demographic variables, a regression analysis was first conducted in three models. The demographic variables were selected analytically so that only those that were significantly correlated with the entrepreneurial intention were included in the regression analysis. This implies that the variables of age and parental education did not feature in the regression analysis due to their lack of

significant association with entrepreneurial intention. The calculation of a regression analysis for the whole sample and separately for students from commercial schools and students from general education schools can be justified because entrepreneurial intention could be influenced by varied factors for subgroups.

The results of the regression analysis for the whole sample, presented in Table 3, show that behavioral beliefs and control beliefs, but not normative beliefs, significantly contribute to explaining the variance in the entrepreneurial intention. This result suggests that a higher intention to start a business is associated with positive attitudes towards entrepreneurship and strong perceived behavioral control. The regression analysis also shows that among the demographic variables, gender, language spoken at home, and knowing an entrepreneur ($p < .001$), but also school type ($p < .01$) is significantly related to the entrepreneurial intention.

The regression analyses conducted separately for the two school types show that behavioral and control beliefs are key variables influencing the entrepreneurial intention in both groups. Normative beliefs do not contribute to explaining the variance in the entrepreneurial intention in the overall analysis and for the commercial schools. However, they significantly influence students' entrepreneurial intention in general education schools. Furthermore, there are gender differences in both subgroups. However, the most spoken language at home and the acquaintance with an entrepreneur emerge as highly significant influencing variables ($p < .001$) only for students at commercial schools.

Table 3

Regression analyses for entire sample, commercial and general education schools

	Total sample		Commercial schools		General education schools	
	B	Sig	B	Sig	B	Sig
(constant)	-0.457	.004	-0.154	.401	-0.438	.142
Behavioral beliefs	0.095	<.001	0.101	<.001	0.072	<.001
Control beliefs	0.083	<.001	0.078	<.001	0.101	<.001
Normative beliefs	0.004	.291	-0.002	.743	0.025	<.001
Gender (1 = Female)	0.408	<.001	0.415	<.001	0.346	<.001
Language (1 = German)	0.130	<.001	0.132	<.001	0.102	.043
Work experience (1 = Yes)	-0.036	.381	0.004	.931	-0.144	.042
Knows entrepreneur (1 = Yes)	-0.326	<.001	-0.370	<.001	-0.190	.010
School type (1 = General education school)	0.116	.009	-	-	-	-
R-squared	.353		.343		.346	
Adjusted R-squared	.351		.341		.338	-

$n = 2,329$. Dependent Variable: Entrepreneurial intention. Regression coefficient: B. Bootstrap results are based on 1,000 bootstrap samples.

Since the R-squared of all three models is above the cut-off value of 26.0%, the variance explanation can be described as high, according to Cohen (1988). The fact that school type and at least two of the three subjective beliefs significantly contribute to explaining the variance in the intention to start a business suggests that it makes sense to conduct a detailed and differentiated analysis of the entrepreneurial intention and students' subjective beliefs separately by school type.

General Analysis of Variance for Intention and Beliefs

Analyses of variance were conducted to investigate what group differences emerge when differentiated by school type. The results, summarized in Table 4, show that students in the two school types differ significantly from each other on all four factors but that these differences are minor in magnitude.

Table 4
Entrepreneurial intention and subjective beliefs

	Commercial schools		General education schools		Welch test		Cohen's d
	M	SD	M	SD	Diff	Sig	
Entrepreneurial intention	3.02	1.12	2.65	1.04	0.38	<.001	0.34
Behavioral beliefs	16.32	3.52	15.19	2.98	1.12	<.001	0.33
Control beliefs	16.09	3.77	14.77	3.81	1.32	<.001	0.35
Normative beliefs	13.84	4.85	13.08	4.71	0.76	<.001	0.16

The results show that commercial school students have higher entrepreneurial intentions, suggesting that, on average, they are more likely to consider starting their own business. In addition, they have significantly higher mean scores for all three subjective beliefs related to entrepreneurship, which can be interpreted as meaning that the higher intention to start a business is due to more than one determinant. The results at the level of entrepreneurial intention and its determinants suggest significant differences between the groups, but they do not shed light on how these differences arise. For this reason, the analysis continues at the level of the components and underlying items.

Detailed Analysis of Variance for Behavioral Beliefs

As previously shown in Figure 1, behavioral beliefs consist of two components: outcome expectation and outcome evaluation. The outcome expectation of the behavioral beliefs was measured with the question, "Do you think the following aspects have anything to do with starting a business?" (Not at all - very much). Outcome evaluation was measured with the question, "Are these aspects something you wish for your own life?" (Not at all - very much).

To calculate the measure of behavioral beliefs, the responses of the two components were multiplied at the item level, and scale averages were formed. The detailed results, as presented in Table 5, therefore,

provide information on why the behavioral beliefs of the students at commercial schools are more pronounced and to what extent the students also differ at the item level.

Table 5
Components of behavioral beliefs

	Commercial schools		General education schools		Welch test		
	M	SD	M	SD	Diff	Sig	Cohen's d
Outcome expectations	4.16	0.46	4.04	0.43	0.12	<.001	0.26
Embracing new challenges.	4.50	0.74	4.38	0.77	0.12	<.001	0.16
Creating jobs for others.	3.86	1.00	3.73	1.01	0.13	.004	0.13
Being creative and innovative.	4.38	0.77	4.31	0.80	0.08	.022	0.10
Earning a high income.	3.50	1.04	3.33	1.00	0.18	<.001	0.17
Taking calculated risks.	4.31	0.83	4.18	0.88	0.13	<.001	0.16
Being one's own boss.	4.42	0.84	4.34	0.86	0.07	.039	0.08
Outcome evaluations	3.85	0.60	3.70	0.51	0.15	<.001	0.26
Embracing new challenges.	4.06	0.84	3.99	0.85	0.07	.037	0.09
Creating jobs for others.	3.14	1.14	2.91	1.02	0.23	<.001	0.21
Being creative and innovative.	4.07	0.98	4.05	0.93	0.02	.321	0.02
Earning a high income.	4.41	0.79	4.32	0.76	0.09	.005	0.12
Taking calculated risks.	3.39	1.04	3.18	0.99	0.21	<.001	0.20
Being one's own boss.	4.06	1.06	3.77	1.03	0.28	<.001	0.27

The results show that the students at commercial schools have higher mean scores for the outcome expectations and the evaluation of results both at the level of the component and at the level of each individual item. This result indicates that the students at commercial schools associate the selected aspects more strongly with entrepreneurial activity and consider the selected aspects more attractive.

According to Cohen (1988), an effect of $d = 0.2$ is considered small. The differences in how strongly students of the two school types associate the selected aspects with entrepreneurial activity (outcome expectation) are, therefore, minimal at the item level. However, the differences in the extent to which students of the two school types want the selected aspects for their own lives (outcome evaluation) show a different picture. Here, we see that students at commercial schools find the aspects of creating jobs for others, taking calculated risks, and being one's own boss not only significantly but also, to a relevant extent, more attractive than students at general education schools. This finding suggests that not only do students at commercial schools seem to have a stronger general entrepreneurial orientation, but specific aspects of entrepreneurship are perceived as desirable and particularly fuel this orientation. If it were only the attractiveness of new challenges, the desire to be creative and innovative, or the desire for a high income, differences between the school types would be smaller.

Detailed Analysis of Variance for Control Beliefs

Control beliefs are also composed of control expectation and evaluation, as shown earlier in Figure 1. Control expectation was measured by asking, "How well could you perform these exact tasks?" (Not at all - very well). The control evaluation was measured with the question, "Do you think the following tasks have anything to do with starting a business?" (Not at all - very much).

To calculate the measure of control beliefs, the responses of the two components were again multiplied at the item level, and scale averages were formed. The detailed results presented in Table 6, therefore, show why and in which aspects the control beliefs of the students at commercial schools are more pronounced.

Table 6
Components of control beliefs

	Commercial schools		General education schools		Welch test		Cohen's d
	M	SD	M	SD	Diff	Sig	
Control expectation	3.65	0.65	3.43	0.72	0.22	<.001	0.33
Recognizing opportunities for new products/services in the market	3.46	0.89	3.17	0.92	0.28	<.001	0.31
Developing an own business idea for a company.	3.58	1.02	3.44	1.05	0.14	.002	0.14
Determining a strategy for implementing the business idea.	3.65	0.97	3.47	1.04	0.17	<.001	0.18
Securing financial resources from investors and banks.	3.48	0.99	3.16	1.11	0.32	<.001	0.32
Maintaining good relationships with investors and banks.	3.87	0.99	3.60	1.10	0.27	<.001	0.26
Keeping track of individual steps during the startup process.	3.90	0.96	3.74	1.04	0.16	<.001	0.16
Control evaluation	4.35	0.50	4.25	0.50	0.10	<.001	0.20
Recognizing opportunities for new products/services in the market	4.38	0.72	4.21	0.79	0.17	<.001	0.22
Developing an own business idea for a company.	4.50	0.70	4.38	0.76	0.12	<.001	0.17
Determining a strategy for implementing the business idea.	4.45	0.71	4.42	0.69	0.03	.225	0.04
Securing financial resources from investors and banks.	4.10	0.86	3.99	0.87	0.11	.005	0.12
Maintaining good relationships with investors and banks.	4.22	0.84	4.15	0.85	0.07	.041	0.08
Keeping track of individual steps during the startup process.	4.47	0.70	4.35	0.79	0.12	<.001	0.16

The results show that, once again, students at commercial schools have higher mean scores both at the component level and for each individual item. This result indicates that the students at commercial schools not only are more confident in mastering these tasks, but they also associate the selected tasks

more strongly with entrepreneurial activity. The effect is evident at the level of both components. However, it is more pronounced at the level of control expectation, which again underscores the greater confidence of students at commercial schools in their own abilities.

Differences in how strongly students associate the selected tasks with an entrepreneurial activity (control evaluation) are noteworthy at the item level only for the first task. Students at commercial schools associate identifying opportunities for new products and services on the market more strongly with entrepreneurial activity than students at general education schools. A larger number of significant differences of relevant magnitude can be seen regarding the extent to which students believe they can cope with the selected tasks (control expectations). This shows that commercial school students are visibly more optimistic when identifying new product or service opportunities, raising funds from investors and banks, or maintaining good relations with investors and banks. This finding suggests that not only do commercial school students have stronger control beliefs in general, but there are specific entrepreneurial tasks for which they feel comparatively better prepared. If it were only a matter of developing one's own business idea, developing a strategy for implementing the business idea, or keeping track of the steps involved in setting up a business, there would be less difference between the types of schools.

Detailed Analysis of Variance for Normative Beliefs

The normative beliefs are composed of two components: normative expectation and motivation to comply, as shown in Figure 1. The normative expectation was measured with the question, "How much would people around you approve of your decision to start a business?" (Not at all approve - very strongly approve). Motivation to follow the norm was measured with the question, "How important would the opinion of these people be to you when it comes to starting your own business?" (Not at all important - very important). As before, the responses of the two components were multiplied at the item level, and scale averages were formed. The detailed results, as shown in Table 7, provide in-depth insights.

Table 7
Components of normative beliefs

	Commercial schools		General education schools		Welch test		
	M	SD	M	SD	Diff	Sig	Cohen's d
Normative expectation	4.02	0.76	3.85	0.77	0.17	<.001	0.23
My immediate family (parents and siblings).	4.23	0.93	4.06	0.93	0.16	<.001	0.17
My close friends.	4.19	0.89	4.00	0.94	0.19	<.001	0.21
My other friends and acquaintances.	3.65	1.00	3.48	0.95	0.17	<.001	0.17
Motivation to comply	3.32	0.94	3.29	0.91	0.03	.261	0.03
Opinions of my immediate family (parents and siblings).	4.15	1.18	4.06	1.16	0.09	.051	0.08
Opinions of my close friends.	3.58	1.20	3.60	1.14	-0.02	.373	-0.02
Opinions of my other friends and acquaintances.	2.23	1.11	2.22	1.08	0.01	.414	0.01

The results show that the students of the two school types differ significantly less from each other in their normative beliefs. Significant differences can only be found in the normative expectation. For example, although commercial school students are more likely to believe that their environment would support their entrepreneurial independence, this is only reflected to a relevant extent in their close friends. The remaining differences, while significant, have negligible effect.

Summary

This study examines the entrepreneurial intention of Austrian students in secondary schools, focusing the analysis on differences between students in commercial and general education schools. The analysis was based on 2,329 data sets and shows first for the whole sample that students' subjective beliefs, especially behavioral and control beliefs, significantly contribute to explaining the variance in entrepreneurial intention. Consequently, it can be assumed that a more pronounced entrepreneurial intention is associated with a positive attitude towards entrepreneurship and a pronounced perceived behavioral control. In addition, demographic variables such as gender, language spoken at home, acquaintance with an entrepreneur, and school type, have a significant influence on entrepreneurial intention. Indeed, not all differences in entrepreneurial intent can be ascribed to the type of school; however, some are likely explicable by the school type.

The variance analyses show that, on average, students from commercial schools have a higher intention to start a business and more strongly hold subjective beliefs about entrepreneurial activity. The differences within the behavioral beliefs show that students from commercial schools find all selected aspects of entrepreneurship more attractive. The differences are particularly pronounced regarding the possibility of creating jobs for others, taking calculated risks, or being one's own boss. The differences in control beliefs show that students at commercial schools are likely to feel better prepared to manage selected entrepreneurial tasks. This more pronounced self-confidence in successfully mastering tasks

was particularly evident regarding recognizing market opportunities for products or services, securing financial resources from banks and investors, and maintaining good relationships with banks and investors.

Thus, the results of the present study make it clear that students' entrepreneurial intentions and subjective beliefs differ depending on the type of school they attend. This supports the idea that educational institutions should specifically target their programs and support measures to meet student groups' needs and preferences to promote entrepreneurial skills more effectively.

Discussion

The findings of our investigation provide significant insights into the entrepreneurial intentions of upper-secondary-level students and underscore notable distinctions between students attending commercial and general education institutions. While one might presume that higher entrepreneurial intentions among commercial school students were foreseeable, given their voluntary selection of educational paths based on personal interests, our results are particularly intriguing considering current evidence. Recent research by Xuan et al. (2020) revealed a negative association between an emphasis on economics and business within one's academic background and entrepreneurial intentions among students. In contrast, our study demonstrates the opposite trend. This finding strengthens the argument for the pivotal role of relevant education in fostering entrepreneurship.

Delving further into our analysis, we confirmed the widely recognized gender gap, as documented in the literature (Kumar et al., 2021; Salavou et al., 2021), as well as the significance of acquaintance with an entrepreneur as a role model (Abbasiachavari & Moritz, 2021; Amofah & Saladrignes, 2022) for both groups of students. Furthermore, we found that the most spoken language at home, serving as a proxy for migration, also emerged as a relevant influencing factor for entrepreneurial intentions. This influence was even more pronounced among students attending commercial schools and aligns with reported slightly higher rates of entrepreneurship among immigrants compared to natives in most OECD countries (Mestres, 2010). However, a disparity arose in comparison to the data in Austria, where individuals with a migration background exhibited slightly lower entrepreneurship rates than natives (Statistik Austria, 2023).

Regarding implications for practice, both commercial and general education schools could leverage the diversity and varied backgrounds of their student populations as a strength. To address gender differences, targeted programs could be devised to support and empower female entrepreneurs. Initiatives might include mentoring programs wherein successful female entrepreneurs serve as role models, sharing their insights and experiences. Additionally, workshops and training sessions could be tailored to address women's specific challenges and opportunities in initiating and managing ventures. As a proxy for migration, the language spoken presents another avenue for entrepreneurship promotion. Language-diverse environments in schools could be utilized to cultivate an appreciation for multicultural perspectives and foster cross-cultural collaboration among students, enriching their entrepreneurial potential. Furthermore, initiatives could be implemented to highlight the entrepreneurial achievements of individuals from diverse linguistic backgrounds, inspiring students to

explore entrepreneurial pathways irrespective of their migration status. Exposure to entrepreneurs can significantly influence entrepreneurial intentions. Therefore, interventions such as guest lectures, networking events, and experiential learning opportunities could be organized to connect students with entrepreneurial role models, providing firsthand insights into the entrepreneurial journey and reinforcing their aspirations towards entrepreneurship.

Moreover, the heightened entrepreneurial intention and more pronounced subjective beliefs identified among commercial school students can be partly attributed to the unique educational environment provided by these institutions. This observation aligns with the prevalent emphasis on economic and entrepreneurial disciplines within commercial schools. As highlighted earlier, research by Xuan et al. (2020) indicated that a generic focus on economics and business in one's academic background might not adequately cultivate heightened entrepreneurial intentions among students. Contrarily, our study contrasts recent findings and indicates that these effects extend to students' beliefs.

Our results indicate that commercial schools are already on the right track in fostering the entrepreneurial potential of their students. However, translating these findings into actionable strategies reveals the need for further enhancements to capitalize on areas where students from different educational backgrounds demonstrate comparable proficiencies. The similarity between students at commercial and general education schools in their readiness to confront new challenges and exhibit creativity signals the importance of prioritizing the development of problem-solving abilities, creative thinking, and a culture of innovation. Moreover, the slight disparity in confidence levels between commercial school students and their counterparts in certain entrepreneurial tasks, such as idea generation and strategic planning, highlights the importance of tailored interventions. To maximize entrepreneurial preparedness, targeted exercises, and hands-on projects should be integrated into the curriculum to improve idea development, strategic planning, and project management skills. Schools focusing on business and economics can empower students from diverse backgrounds to thrive as future entrepreneurs by addressing these specific areas and instilling the necessary self-assurance.

Limitations and Future Research

Although valuable insights were gained from this study, several limitations may limit its interpretation and generalizability. First, the sample consists only of Austrian students from two specific types of schools, which may limit its applicability to students from other types of schools. Second, there is a risk of social desirability bias due to self-report measures. Finally, the cross-sectional design does not allow for causal inferences.

Additional limitations arise from the selection of the underlying items. First, the items used to measure subjective beliefs always represent a subset of all the beliefs that could potentially be included. In addition, the items used are based on an existing survey instrument and are, therefore, subject to pre-selection. In addition, only subjective beliefs and not direct determinants were collected to keep the questionnaire manageable.

In future research, studies could consider expanded geographical coverage and include additional school types to provide a more comprehensive picture of students' entrepreneurial intentions. Longitudinal studies could help to understand the development of entrepreneurial intentions throughout students' educational careers. In addition, it would be interesting to examine intervention programs or educational initiatives to determine how targeted interventions can influence students' entrepreneurial intentions and skills. Finally, further research could shed light on the role of curriculum and pedagogical approaches in promoting entrepreneurial mindsets and skills.

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