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Beyond Lecture Halls: Learning Preferences, Barriers and Support for Entrepreneurship Education

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Abstract: Entrepreneurship is vital to national economies, particularly in small island states such as Malta, where more than half (58.3%) of registered business units are sole ownerships or partnerships (NSO, 2025). This study examined the attitudes, knowledge gaps and pedagogical preferences of Maltese university students related to academic entrepreneurship. A cross-sectional online survey conducted in May 2024 yielded 71 valid responses from 299 invited students. The study utilised exploratory, descriptive and inferential statistics, as well as exploratory factor analysis. Exploratory factor analysis identified two attitude dimensions: entrepreneurial optimism and entrepreneurial pessimism, indicating that students perceive business creation as exciting and creative, but also as risky and unrealistic, highlighting an intention-action gap. Perceived barriers were centred on educational (knowledge) and financial (business planning) factors, with observed limited funding resources and insufficient entrepreneurship training. Regarding instructional models, students preferred active learning models, including mentoring, discussions with entrepreneurs and experiential courses, over traditional lectures, emphasising the need for learner-centred delivery of entrepreneurship education content. Findings highlight the importance of embedding practical, inclusive and network-rich entrepreneurship education across curricula and providing networking opportunities for students with the business community to strengthen Malta's entrepreneurial and innovative capacity.

Keywords: entrepreneurship education; entrepreneurial attitudes; experiential learning; financial literacy; barriers to entrepreneurship; Malta

Introduction

Entrepreneurship is pivotal in fostering innovation, generating employment and promoting economic resilience. Globally, it is increasingly recognised as a key driver of socio-economic development, particularly in small economies where adaptability and innovation are vital for sustained growth. In Malta, where Small and Medium-sized Enterprises (SMEs) contribute over two-thirds of the national Gross Domestic Product, entrepreneurial activity is especially critical to economic vitality. However, the country faces pressing challenges in retaining its young, educated workforce. Emigration among university graduates continues to pose a risk to Malta's knowledge-intensive sectors and long-term talent development (EY, 2022).

In response to these challenges, there is growing interest in harnessing the entrepreneurial potential of university students. Universities are increasingly expected to educate and foster innovation, develop entrepreneurial mindsets and support students in translating knowledge into socially and economically valuable initiatives. Academic entrepreneurship, pursuing entrepreneurial activity within a university context, represents a promising strategy for addressing skills gaps, stimulating innovation, and cultivating a culture of initiative among young people.

This paper presents findings from a national study on Maltese university students' perceptions of entrepreneurship and their preferences for entrepreneurship education. The research is part of a broader initiative to develop the 'Academic Entrepreneurship Roadmap' (AcEntRoad, 2025), a project designed to support student-led entrepreneurship through tailored educational programs, training resources and support mechanisms. The goal is to establish an evidence-informed foundation for enhancing entrepreneurship education and improving students' capacity to engage in innovative economic activity within and beyond the university setting.

Literature Review

The integration of entrepreneurship within university curricula is a relatively recent phenomenon. In both global and European contexts, the legitimacy of entrepreneurship as a discipline has evolved gradually, gaining significant traction over the last two decades. The European Commission played a pivotal role in elevating its importance. Its 2003 Green Paper on Entrepreneurship in Europe (Bacigalupo et al., 2016) marked a turning point, stressing the strategic necessity of nurturing entrepreneurial capacities among citizens and institutions. This was further entrenched in 2006 when the Commission identified 'a sense of initiative and entrepreneurship' as one of eight key competencies essential for thriving in a knowledge-based society.

Increasingly, research has validated that entrepreneurial skills, knowledge and attitudes can be taught (Gorman et al., 1997). This supports the potential for widespread dissemination of entrepreneurial mindsets and cultures, with beneficial implications at both individual and societal levels. Such a view has stimulated the progressive institutionalisation of entrepreneurship education (EE) within higher education systems.

The evolution of entrepreneurship education

The conceptualisation of entrepreneurship education differs by regional and disciplinary contexts. In Europe, the field has been shaped primarily by British scholarship, particularly in its focus on 'enterprising education'. This idea emphasises personal development and behavioural competence, often linked with small business management and enterprise-related skills (e.g., Jones & Iredale, 2010). Conversely, North American approaches have historically centred on venture creation and the skills required to launch start-ups (Katz, 2003). For this review, entrepreneurship education is treated as an idea encompassing both the start-up-oriented approach and the broader enterprising perspective. This conceptual breadth aligns with frameworks such as the 'Learning Outcomes Framework' (Ministry of Education and Employment, n.d.), which emphasises personal growth, mindset development and skill acquisition.

It is essential to recognise that divergent pedagogical traditions originate from distinct conceptualisations. While European models may favour developmental and behavioural aspects, North American paradigms often emphasise practical business planning and execution. These foundational differences inform both curriculum content and instructional methodologies.

Content development in entrepreneurship education

Entrepreneurship courses during the 1980s tended to be characterised by a lack of curricular coherence (Hägg & Kurczewska, 2016). They largely mirrored prevailing management theories, adapted to small business settings, and typically involved a general course in business development supplemented by consulting projects (Zeithaml & Rice, 1987). By the 1990s, a pedagogical shift had occurred toward a greater emphasis on practical knowledge. Johannisson's (1991) distinctions—know-what, know-how, and know-who—accelerated this shift toward skills-based and experiential learning. The aim expanded beyond merely informing students about entrepreneurship toward equipping them with knowledge applicable to real-world entrepreneurial activity.

In the 2000s, a more nuanced pedagogical discourse emerged. Educators and scholars emphasised not only the 'know-why' and 'know-when', but also the situational awareness and judgment essential for entrepreneurial decision-making. Pedagogical literature from this era underlined the importance of

learning 'in' and 'through' entrepreneurship instead of merely 'about' it (Pittaway & Cope, 2007). Ideas such as 'effectuation' (Sarasvathy, 2001) and 'experiential learning' (Kolb, 1984) gained prominence, leading to educational practices that embraced learning from failure (e.g., Geiger et al., 2023).

By the 2010s, the entrepreneurship curriculum had diversified considerably, integrating scientific and theoretical foundations alongside applied learning approaches (Fayolle & Gailly, 2008). Debates regarding the scope of entrepreneurship education intensified during this period, especially concerning the distinction between the narrow start-up focus and broader enterprising competencies (Jones & Matlay, 2011). Scholars increasingly prioritised understanding how educational content could stimulate learning rather than merely debating what should be taught.

A more critical turn emerged in recent years, reflecting broader socio-political critiques. Scholars in Critical Entrepreneurship Studies (CES) challenged the dominant neoliberal framing of entrepreneurship, which often privileges individualism, market-based values and economic growth (Verduyn et al., 2014). CES advocates for pedagogies that critique these assumptions and expose entrepreneurship's complicity in perpetuating systems of inequality and exclusion (Brush, Bruin & Welter, 2009). This approach calls for reframing entrepreneurship as a socially embedded, collective practice (Johannisson, 2011) and emphasises reflexivity, imagination and collaboration.

Pedagogical shifts in entrepreneurship education

The pedagogical journey of entrepreneurship education mirrors broader educational transformations. In the 1980s, teaching practices were largely traditional and teacher-centred. Standard methods included lectures, case studies and guest speakers (Hills, 1988). These techniques offered limited opportunities for active engagement or practical application. Educators and researchers quickly began questioning the appropriateness of such methods for fostering entrepreneurial competencies (Sexton & Bowman, 1984).

By the 1990s, pedagogical innovation became more pronounced. Experiential and immersive learning approaches gained traction (Ronstadt, 1985; Sexton & Bowman-Upton, 1987, 1988). The business plan emerged as a central pedagogical tool, facilitating structured thinking about venture creation. Educators increasingly incorporated action learning, simulations and real-life entrepreneurial case studies into their teaching (Wolfe & Bruton, 1994). This era transitioned from passive reception to active engagement, reflecting the principles of constructivist education.

The 2000s further cemented the value of experiential learning as a core pedagogical paradigm (Pittaway & Cope, 2007; Dhliwayo, 2008). An approach that blended lectures, cases, multimedia and venture projects became

widespread (Henry et al., 2005). Scholars emphasised the need for 'lived experience' in entrepreneurial learning, reinforcing the values of creativity and collaboration. Venture creation projects and start-up simulations have become central teaching methods (Rasmussen & Sørheim, 2006) as educators seek to recreate the unpredictability and complexity of real-world entrepreneurship.

A key pedagogical trend of the 2010s was the growing emphasis on student-centred and constructivist learning (Mueller & Anderson, 2014). Entrepreneurship was no longer taught; it was experienced. The curriculum moved beyond start-up logic to encompass systemic perspectives considering the interplay between individual agency and the social context (Lourenço et al., 2015; Wyness et al., 2015). Pedagogical practices began integrating emerging theories of entrepreneurship. Concepts such as effectuation, design thinking, lean start-up and the business model canvas entered the classroom (e.g., Osterwalder & Pigneur, 2010). These tools emphasised iterative and user-centred practices, aligning well with entrepreneurial practice. The period also brought heightened awareness of ethical and moral responsibilities within entrepreneurial practice. High-profile corporate scandals triggered calls for values-based entrepreneurship education (Toledano & Karanda, 2017).

Assessment and impact measurement became dominant themes in the late 2010s. Scholars emphasised the importance of evaluating educational outcomes and aligning them with stakeholder expectations (Duval-Couetil, 2013; Nabi et al., 2017). This highlighted an ongoing challenge: balancing the experiential and unpredictable nature of entrepreneurship with the structured demands of curriculum design and evaluation (Fayolle & Gailly, 2015).

The evolution of entrepreneurship education pedagogy reflects a broader trajectory - from teacher-directed instruction to student-centred models grounded in constructivist epistemologies (Hägg & Gabrielsson, 2019; Mizzi, 2024; Moshman, 1982; Piaget, 2000). Influences from experiential learning theory (Kolb, 1984), Dewey's philosophy of education (1946), problem-based learning (Barrows & Tramblyn, 1980), situated learning (Lave & Wenger, 1991) and action learning (Revans, 1982) have all played significant roles. These theoretical foundations underscore the transition toward learning environments that foster autonomy, critical reflection and collaborative inquiry.

The literature on entrepreneurship education demonstrates a dynamic field that has matured over the past four decades. It has evolved from content-driven, teacher-led instruction to experience-based learning rooted in theory and reflective practice. Contemporary entrepreneurship education aims to cultivate a range of competencies, including venture creation, opportunity recognition, social consciousness and collaborative problem-solving.

Methodology

This study explored ways to enhance students' engagement and success in entrepreneurial activities by developing a student-centred understanding of their needs, interests and perceptions. The research addressed four central questions:

1. How do university students perceive entrepreneurship and different forms of entrepreneurship education?
2. How do they assess their entrepreneurial knowledge and skills?
3. Which knowledge bases and forms of learning about entrepreneurship do students prefer?
4. Are there any differences in the responses of students with different demographic characteristics regarding their attitudes toward entrepreneurship?

A cross-sectional survey was conducted using an online questionnaire that gathered quantitative and qualitative data to address the established research questions. The survey was designed to capture university students' attitudes toward entrepreneurship, preferences in learning, engagement with innovation-related work and perceived barriers to starting a business. It included a combination of closed-ended questions (using Likert scales and multiple-choice questions) and open-ended items to collect qualitative data for the thematic exploration of students' opinions on entrepreneurship.

The questionnaire was distributed electronically to university students during the 2024-2025 academic year. Participation was voluntary, anonymous and open to students regardless of age and gender. Ethical approval was obtained from the Faculty Research Ethics Committee at the University of Malta (EDUC-2024-00186). Data collection began in early May 2024, and out of 299 invited participants, 71 completed the survey, resulting in a response rate of 24%.

Quantitative data analysis in the study included exploratory, descriptive and inferential statistics to describe and identify differences between various groups of participants (Agresti et al., 2018; Tukey, 1977). Statistical analyses were performed using IBM SPSS Statistics, Version 27 (IBM Corporation, 2020) and jamovi (The jamovi project, 2024). The descriptive analysis results were mainly reported using percentages and means. Inferential statistics and difference tests among various groups of participants were conducted by using comparisons between the means, t-tests and chi-square tests for nominal and ordinal data comparisons. In addition, data visualisation techniques (Evergreen, 2019) were combined with qualitative data analysis to illustrate the main patterns of participants' responses and explain the identified tendencies.

Factor analysis was applied to explore the structure of students' attitudes toward entrepreneurship, employment and perceived barriers to entrepreneurship. Principal component analysis was selected for the extraction of factors, and parallel analysis was selected for determining the number of factors. The parallel analysis was applied as a criterion for extracting factors, as eigenvalues may lead to overfactorisation responses from relatively small samples of participants (Costello & Osborne, 2005; Floyd & Widaman, 1995). The extracted factors were rotated to identify the robustly loading ones and minimise cross-factor loading (Parsons, 2017). Both orthogonal and oblique rotations of the extracted factors provided similar results. The factorisation findings include the results of oblique rotations. The Kaiser-Meyer-Olkin (KMO) coefficients were used to determine the sampling adequacy of the collected data. Bartlett's sphericity tests were used to test the suitability of correlation matrices for factorisation. Both KMO and Bartlett's coefficients demonstrated the suitability of the collected data for factorisation.

The internal consistency of the identified factors was determined by Cronbach's α and McDonald's coefficient ω (Taber, 2018). The McDonald's coefficient was used in addition to the standard Cronbach's alpha, as this coefficient considers the strength of association between items and constructs, as well as item-specific measurement errors, resulting in more realistic estimates of the scale's true reliability (Lance et al., 2006).

The thematic analysis approach was applied to identify the main themes within the collected qualitative data (Creswell, 2007, 2009). Qualitative data analysis aimed to identify the main themes and better understand students' perceptions of barriers to entrepreneurship activities (Creswell, 2009, p. 183). The themes were identified through an inductive 'bottom-up' approach, where relevant responses and patterns of related responses were coded to reveal the main themes. Based on this inductive data-driven approach, the identified initial codes were organised into themes (Braun & Clarke, 2013). The analysis was conducted using Maxqda software for computer-assisted qualitative data analysis (Kuckartz & Rädiker, 2019).

The combined methodological approach employed in this study, drawing on statistical patterns and thematic interpretations, ensures a deeper understanding of students' entrepreneurial mindsets and the pedagogical approaches required to support their learning. The results provided a strong empirical basis for developing the academic entrepreneurship roadmap and designing responsive and engaging entrepreneurship education programs in Malta.

Results

This section presents the study's key findings. The results are organised into thematic areas that reflect students' demographic characteristics, interest in entrepreneurship, preferred forms of employment, perceptions of support systems, and engagement with innovation-related activities. The section also details students' self-assessed knowledge and skills, their preferences for learning and training formats, and their perceived barriers to pursuing entrepreneurial ventures. The analysis draws on descriptive and factor-analytical approaches to identify patterns and dimensions, such as entrepreneurial optimism, entrepreneurial pessimism, employment disillusionment and perceived barriers to entrepreneurship.

Demographic characteristics of participants in the Maltese AcEntRoad study

Figure 1 presents the demographic characteristics of the participants, revealing a notable gender imbalance, with females making up 77% of the sample and males comprising only 22.7%. Regarding student status, the majority (66%) are full-time students, while the remaining 34% are part-time students. Regarding self-reported academic achievement, a slight majority (53%) consider themselves average or below average, while almost half (47%) rate their academic achievement as above average.

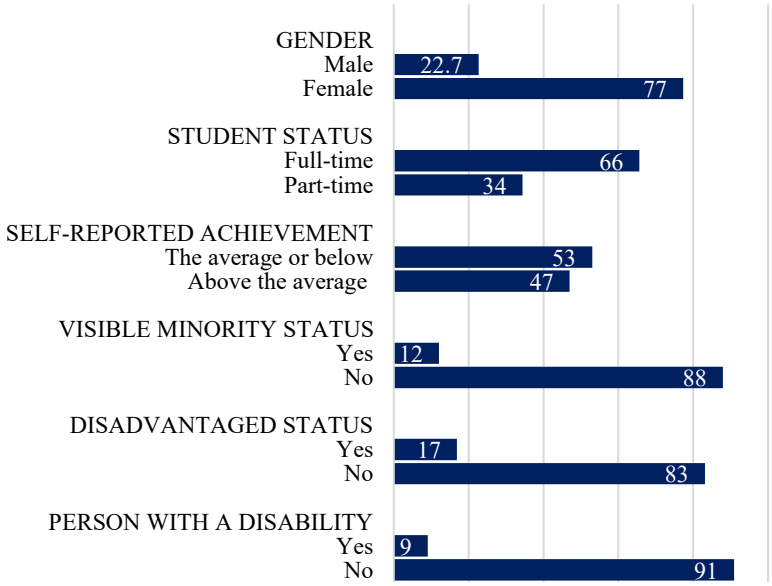

Figure 1. *Participants' demographic characteristics (%)*

Figure 1 also highlights the diversity and socioeconomic status of the participants. Only 12% identify as a visible minority, and a larger proportion (88%) were domestic students. Additionally, 17% of participants reported

being disadvantaged for some reason, whereas 83% did not report any disadvantages. Lastly, a small fraction (9%) of the participants reported having a disability, while the vast majority (91%) did not. These demographic characteristics provide an overview of the sample's composition, illustrating a predominantly female, full-time student population with varied academic self-perceptions and a low representation of minorities, disadvantaged individuals and persons with disabilities.

LIVING ARRANGMENTS	%
Living with both parents	46
Living with one parent	13
Living with a partner	25
Other arrangement	16
PLACE OF RESIDENCE	
Rural area	24
Small city or town	58
Large city	18
EMPLOYMENT STATUS	
Employed full-time	43
Employed part-time	28
Self-employed	5
Seeking employment	23
ACADEMIC ASPIRATIONS	
Bachelor's degree	9
Master's degree	61
Doctoral degree	30
CURRENT LEVEL OF STUDY	
Undergraduate	32
Master	62
PhD	6

Table 1. *Students' living arrangements, employment and education (%)*

Further analysis of the demographic characteristics of the student participants, as illustrated in Table 2, shows a diverse array of living arrangements, places of residence, employment statuses, academic aspirations and current levels of

study. Nearly half of the students (46%) live with both parents, while a smaller proportion (13%) live with one parent. A significant portion (25%) lives with a partner, and 16% are in other living arrangements. This distribution suggests a mix of traditional and non-traditional living situations among the student body. Most participants reside in small cities or towns (58%), with 24% living in rural areas and 18% in large cities. Employment status varies widely, with 43% employed full-time, 28% employed part-time, and 23% actively seeking employment. Self-employment is less common, with only 5% of students in this category.

Family Background	%
MOTHER'S EMPLOYMENT	
Full-time employee	35
Part-time employee	12
Self-employed in trades	11
Other	42
FATHER'S EMPLOYMENT	
Full-time employee	49
Self-employed in trades	20
Other	31
MOTHER'S EDUCATION	
Primary	8
Secondary	44
Post-Secondary	24
Tertiary	24
FATHER'S EDUCATION	
Primary	15
Secondary	37
Post-Secondary	15
Tertiary	32
SELF-RATED FAMILY INCOME	
Average	73
Above average	27
FAMILY ADDITIONAL INCOME	
Yes	23
No	77

Table 2. *Family background of survey participants (%)*

Most students were involved in master's-level studies (62%), followed by undergraduates (32%), and a smaller percentage at the PhD level (6%). The study also shows that a substantial proportion of participants (61%) aspire to achieve a master's degree, 30% aim for a doctoral degree, and 9% focus on obtaining a bachelor's degree. These statistics highlight the high academic aspirations of the student participants and the diverse employment situations they face.

Table 2 describes the family background of survey participants, showing diverse parental employment and educational levels. Among mothers, 35% are full-time employees, 12% work part-time, 11% are self-employed in trades, and 42% fall into other categories, most often unemployed homemakers or temporarily part-time employed.

Fathers are predominantly full-time employees (49%), with 20% self-employed in trades and 31% having other employment arrangements. Regarding educational attainment, 44% of mothers and 37% of fathers have a secondary level of education, while 24% of mothers and 32% of fathers have a tertiary level of education. Most participants rate their family income as average (73%), with 27% reporting above-average income and 23% indicating additional family income sources.

Students' interest in different forms of employment

Table 3 presents the distribution of students' interest in various forms of employment. The data shows an evident preference for full-time employment, with 57% of students expressing a high level of interest (Very interested) and 24% indicating moderate interest (Interested).

	Not Interested at all	Not Interested	Interested	Very Interested
Full-time employment	1	18	24	57
Self-employment	3	15	55	27
Combined full-time & self-employment	12	16	45	27
Combined part-time & self-employment	17	15	46	22
Micro business (< 10 people)	21	18	44	17
Part-time employment	9	21	58	12
Small business (< 50 people)	36	36	16	12
Large business (< 250 people)	57	26	11	6
Medium-sized business (< 250 people)	50	30	14	6
Co-operatives	41	24	30	5

Table 3. *Students' interest in different forms of employment (%)*

This result suggests a substantial preference among students towards traditional, stable, full-time employment. Similarly, self-employment is notably appealing to many students, with 55% of students 'Interested' and 27% 'Very Interested', reflecting a significant interest in entrepreneurial activities among the student population.

Hybrid employment models, such as combined full-time and self-employment (45% Interested, 27% Very Interested) and combined part-time and self-employment (46% Interested, 22% Very Interested), also attract considerable interest, indicating a propensity for flexible career paths.

In contrast, larger business entities and co-operative employment models are significantly less attractive as employment options for the participants. Only 6% of students express a high level of interest (Very Interested) in working in large businesses, with a significant majority (57%) indicating a categorical lack of interest (Not Interested at All) and an additional 26% indicating a lack of interest in this form of employment. Medium-sized businesses are also less attractive to the students who participated in this study, with 50% 'Not Interested at All' and just 6% 'Very Interested'. Co-operative models are similarly unattractive, with 41% 'Not Interested at All' and only 5% 'Very Interested'. This data indicates a clear student preference for smaller, more adaptable employment structures over traditional, larger corporate models. The results also indicate a tendency among many participants to combine the security of regular employment with the advantages of self-employment or owning a business.

Expected support to open a business

Regarding expected support, should the participants decide to open their own business, as shown in Table 4, most participants believe they can expect support from their parents. A great majority of respondents (85%) indicated confidence in receiving either definite (Definitely Yes) or probable (Probably Yes) support from parents. Similarly, most respondents expect support from relatives and friends, with 81% and 79%, respectively. Results demonstrate the crucial role of immediate family and the firm expectation of support from extended family and social circles. University staff, such as professors and lecturers, are also considered a significant support system, with 58% of respondents expecting probable or definite assistance, underlining the importance of academic networks.

In contrast, the support expected from other organisations and educational institutions is moderate, with around half of the respondents anticipating some level of assistance. However, support from Technology Transfer offices and post-secondary lecturers is perceived as limited, with less than half the respondents expressing confidence in receiving support from them. Secondary

school teachers are perceived as the least supportive group, with only 27% expecting probable or definite support, reflecting low expectations for assistance from this source. Overall, immediate family, relatives and friends form the primary expected support network, while institutional support varies significantly in perceived reliability.

	Definitely Yes	Probably Yes	Probably No	Definitely No
Parents	**59**	**26**	8	8
Relatives	**45**	**36**	13	6
Friends	**29**	**50**	15	6
Other organisations	**15**	**35**	35	15
Educational institutions	**15**	**31**	49	4
Technology Transfer Office at the university	**13**	**36**	31	19
University staff (e.g. professors, lecturers)	**9**	**49**	30	12
Secondary school teachers	**3**	**24**	55	18
Post-secondary professors and lecturers	**3**	**27**	56	14

Table 4. *Expected support to open a business*

Essential support systems for aspiring entrepreneurs

Analysis of the open-ended question from the survey related to the kind of support that would be most important for people who intend to start their own business identified six main themes related to the essential support systems for aspiring entrepreneurs: financial support, knowledge and educational support, emotional and moral support, practical and logistical support, networking and mentorship, and government support and incentives.

Financial support is the most frequently mentioned type of support. According to the participants' responses, support can come from various sources, including banks, financial institutions, government grants, angel investors, seed funds, and family and friends. Financial support is crucial for securing the necessary resources and funding for the initial phases of the business, and this topic should be emphasised in entrepreneurship education programs.

Knowledge and educational support are also prominent themes in the participants' opinions about the kind of support for entrepreneurial activities. Many responses emphasise the importance of having the proper knowledge and educational background obtained through business courses, mentorship from experienced entrepreneurs, expert professional advice and guidance on legal and tax-related issues. The need for mentorship from experienced

entrepreneurs and professional advice from business experts is nicely articulated in a response from an aspiring young entrepreneur:

> *People providing insights from their life experiences are the most valuable form of support. Additionally, the encounter they had with the product or service being offered. All of this can be taken into account to develop a better business that provides consumers with quality products.*

Emotional and moral support from family, friends and peers is perceived as vital, boosting confidence and reassuring new entrepreneurs during challenging times of establishing and managing a business.

Practical and logistical support includes creating a business plan, handling documentation and paperwork, securing premises or working space, and understanding the logistics of starting a business. Support from Technology Transfer offices, service hubs and established entrepreneurs was perceived as highly valuable in this regard.

The next identified theme is networking and mentorship**.** Many study participants perceive building a network of professional contacts and having access to mentors who can offer guidance and share their experiences as essential support. Another theme, government support and incentives**,** indicates participants' needs and hope that government programs and subsidies can provide financial aid and other resources necessary for starting and sustaining a business, which many participants mention as possibilities or needs.

Overall, the support needed spans financial, educational, emotional, practical and networking aspects. It can be provided by various sources, including financial institutions, educational entities, family and friends, experienced entrepreneurs and government bodies. A response from a survey participant provides a good illustration of the challenges and complexities of starting a new business and the essential forms of support that can mitigate such challenges:

> *Financial support could help me start by purchasing the necessary resources for the business, but emotional and motivational support could help me build my confidence.*

The survey results provide a basis for developing a learner-centred education program or training for potential entrepreneurs, as they identify a selection of knowledge bases deemed important for entrepreneurship development.

Sources of inspiration for young people to start their businesses

Table 5 illustrates the extent to which various sources inspire young people to start their businesses. The most significant inspiration comes from the initiative of young people, with 88% of respondents indicating that it motivates them either 'To a great extent' (52%) or 'Somewhat' (36%). Following this, successful

local business owners (88%, including 'To a great extent' 41% and 'Somewhat' 47%) and widely known business owners (91%, including 'To a great extent' 32% and 'Somewhat' 59%) are also significant sources of inspiration for young people to start their own business.

Conversely, sources such as university professors, educational institutions, school teachers and Technology Transfer offices are less influential. For instance, 44% of respondents report that professors' 'Somewhat' (39%) and 'To a great extent' (5%) inspire students to open a business. Additionally, one in four participants (a total of 38%, Somewhat, 35%, and To a great extent, 3%) indicated that their educational institutions inspired them. Results suggest that while personal initiative and local business role models are crucial in inspiring young entrepreneurs, traditional educational institutions and educators are perceived as less impactful.

	Not at all	Very little	Somewhat	To a great extent
The own initiative of young people	6	6	36	**52**
Successful local business owners	0	12	47	**41**
A widely known business owner	0	9	59	**32**
Parents	1	18	52	**28**
Friends	4	19	57	**19**
Relatives	7	21	55	**16**
University professors	24	32	39	**5**
Secondary school teachers	23	50	23	**5**
Educational institutions	18	44	35	**3**
Technology Transfer Office	31	42	26	**2**

Table 5. *Sources of inspiration for young people to start their own business*

Attitudes toward entrepreneurship and employment

Figure 2 compares students' attitudes toward having their own business versus being employed by a company across various dimensions of the applied semantic differential scales, showing that the university students from Malta perceive entrepreneurial activity as more exciting (6.1 vs. 3.9), active (6.1 vs. 4.1), creative (5.9 vs. 3.7), satisfactory on the scale 'good – bad' (5.8 vs. 4.7), strong (5.6 vs. 4.4), interesting (5.6 vs. 4.2), pleasant (5.6 vs. 4.2), innovative (5.4 vs. 3.3), and more profitable (5.4 vs. 4.3) than employment or work for a company. Regarding sustainability, employment and business ownership are perceived as virtually the same (5.1 vs. 5.0, respectively). However, employment is considered more realistic (5.9) than owning a business (4.8) and safer (5.9 vs. 3.8). Also, employment is perceived as easier (4.7) than owning a business (2.9).

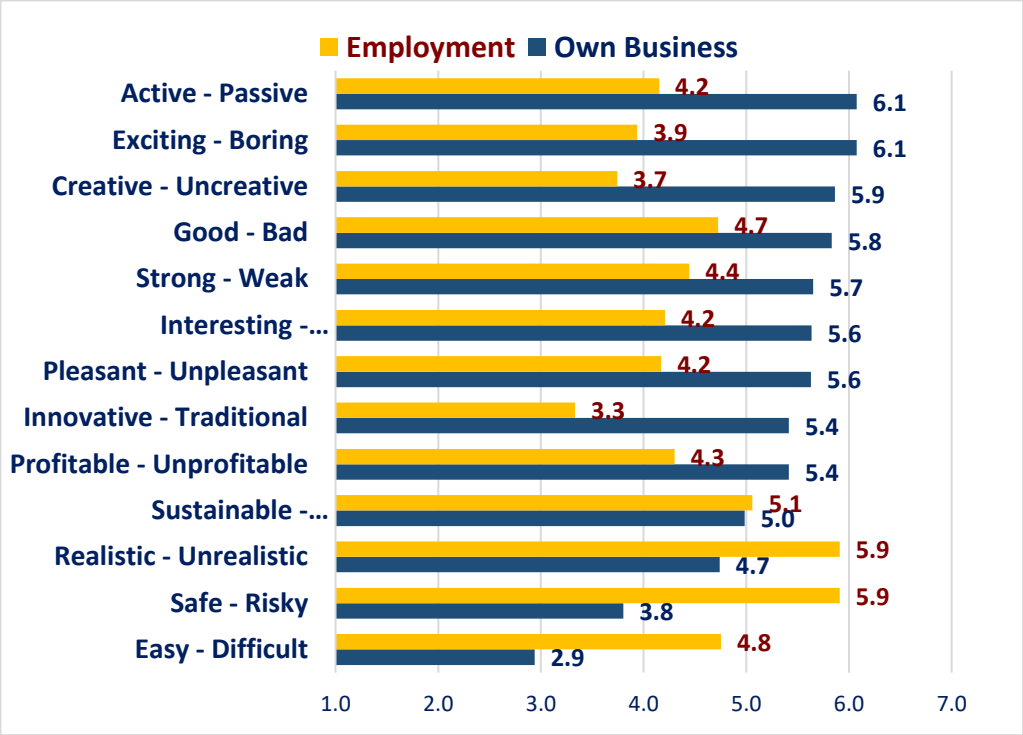

Figure 2. *Students' attitudes toward entrepreneurship and employment*

Overall, students have a more favourable attitude toward owning a business in terms of excitement, activity, creativity, goodness, strength, interest, pleasantness, innovation and profitability. However, they view employment as more sustainable, realistic, safer and easier.

Attitudes toward entrepreneurship (private business)

The factor analysis of attributes revealed that university students perceive private businesses as interesting, innovative, profitable, exciting, creative, pleasant, active and strong. We define this factor as 'entrepreneurial optimism'. It encompasses a positive outlook towards starting and running one's own business, highlighting perceptions of excitement, creativity, innovation and profitability. This factor reflects an enthusiastic and confident attitude towards entrepreneurial ventures, emphasising the perceived benefits and strengths. The internal consistency of entrepreneurial optimism as measured by two methods was above 0.8 (Cronbach's $\alpha = 0.836$ and McDonald's $\omega = 0.854$). These are significantly above the threshold value of 0.7, which is considered satisfactory (Taber, 2018). The advantage of McDonald's omega compared to Cronbach's alpha is that the former considers the strength of association between items and constructs as well as item-specific measurement errors, making for more realistic estimates of the true reliability of the scale (Lance et al., 2006).

The attitudes identified through our descriptive and factor analysis (Table 6), which reveal perceptions of one's own business as unrealistic, risky and complex, can be defined as 'entrepreneurial pessimism'. This factor captures a negative attitude towards starting and running a business, emphasising views of impracticality, high risk and significant difficulty. It also reflects a sceptical attitude toward the feasibility and risk of entrepreneurial endeavours. The internal consistency of the factor entrepreneurial pessimism was above 0.7 (Cronbach's $\alpha = 0.765$ and McDonald's $\omega = 0.768$) and above the minimal threshold value of 0.7. Bartlett's Test of Sphericity = Chi-square = 340, $p < .001$, and the overall KMO Measure of Sampling Adequacy = 0.785 indicated the suitability of the collected data for factorisation.

	Entrepreneurial Optimism	**Entrepreneurial Pessimism**
Exciting - Boring	0.864	
Active - Passive	0.756	
Creative - Uncreative	0.746	
Good - Bad	0.699	
Strong - Weak	0.694	
Pleasant - Unpleasant	0.629	
Innovative - Traditional	0.605	
Interesting - Uninteresting	0.479	
Profitable - Unprofitable	0.475	
Easy – Difficult		0.832
Safe - Risky		0.783
Realistic - Unrealistic		0.724
Sustainable - Unsustainable		0.560

Table 6. Structure of students' attitudes toward their own business

Structure of students' attitudes toward employment

Data analysis identified perceptions of employment or working for someone else as less interesting, traditional, unprofitable, boring, uncreative, unpleasant, bad, passive and weak (Table 7). Given the negative attributes of employment or working for someone else identified in the analysis, this type of attitude is defined as 'employment disillusionment' or a pessimistic perception of employment. This factor reflects a pessimistic attitude towards traditional employment, highlighting negative perceptions and a lack of enthusiasm. It captures the negative outlook towards working for someone else, emphasising the view of traditional employment as less interesting, less innovative, less profitable and less satisfying. The internal consistency of the factor employment disillusionment was above 0.9 (Cronbach's $\alpha = 0.917$ and McDonald's $\omega = 0.924$), significantly above the required threshold value.

	Employment Disillusionment	Employment Pragmatism
Exciting - Boring	0.889	
Good - Bad	0.831	
Interesting - Uninteresting	0.815	
Creative - Uncreative	0.809	
Pleasant - Unpleasant	0.802	
Innovative - Traditional	0.79	
Active - Passive	0.754	
Strong - Weak	0.748	
Profitable - Unprofitable	0.606	
Safe - Risky		0.877
Realistic - Unrealistic		0.794
Easy - Difficult		0.565
Sustainable - Unsustainable		0.528

Table 7. Structure of students' attitudes toward employment

The analysis also identified favourable employment attributes, including perceptions of working for someone else as a safer, more realistic, easier form of employment. This factor is defined as 'employment pragmatism', reflecting students' preference for job security. It captures the practical and realistic outlook towards working for someone else, emphasising perceptions of safety, realism and the less demanding nature of traditional employment. This factor also highlights students' preferences for the stability and practicality of conventional jobs. The internal consistency of employment pragmatism, measured by two methods, was above 0.7 (Cronbach's $\alpha = 0.713$ and McDonald's $\omega = 0.742$). These were very slightly above the minimal threshold value. Bartlett's Test of Sphericity = Chi-square = 479, $p < 0.001$, and the overall KMO Measure of Sampling Adequacy = 0.826 indicated the suitability of the collected data for factorisation.

Involvement in planning innovative work practices

Since innovative products, services or work practices are crucial for the success of a new business or enterprise, in addition to exploring students' attitudes toward entrepreneurship, the researchers also explored student involvement in planning various innovation-related work activities. Table 8 presents the frequency with which participants considered various innovative activities related to their future work. The most frequently contemplated activities include generating original solutions for business-related problems (41%) and searching out new work methods (38%). Also, 39% of participants sometimes consider searching out new work methods, while 35% often consider generating original solutions.

RESPONSES	Never	Rarely	Seldom	Someti -mes	Often
Searching out new work methods	6	5	12	**39**	**38**
Generating original solutions for problems	3	6	15	**35**	**41**
Creating new ideas for complex issues	2	11	17	**36**	**35**
Discussing new ideas with your colleagues	5	9	18	**39**	**29**
Evaluating the effectiveness of new ideas	5	18	14	**42**	**22**
Introducing innovative ideas	6	12	22	**40**	**20**
Transforming innovative ideas into practice	5	17	20	**45**	**14**
Making people enthusiastic about new ideas	9	12	29	**32**	**18**
Acquiring approval for innovative ideas	8	11	36	**24**	**21**

***Table 8**. Students' involvement in planning innovative work practices*

Acquiring approval for innovative ideas is least frequently considered, with 55% of respondents never, rarely or seldom thinking about obtaining support for their innovative ideas, and only 21% often contemplating it. Introducing innovative ideas elicits a balanced response, with 40% 'sometimes' and 22% 'often' considering it, but still, 22% 'rarely' or 'seldom' do so.

Activities involving the application of innovative ideas and the communication of new concepts suggest that participants tend to think less frequently about these aspects of their innovative efforts. Discussing new ideas with colleagues and evaluating their effectiveness are considered by only 39% and 42% of participants, respectively. Even fewer participants contemplate making others enthusiastic about their innovative ideas (18%) and transforming them into practice (14%). These results suggest a general inclination towards innovation and problem-solving, but typically lower levels of promoting and implementing new ideas.

Interest in learning about innovative work practices

Since research and numerous examples from domestic and international business activities demonstrate a strong positive association between learning and innovative work practices, one study objective was to explore students' interests in learning about innovative work practices and the process of implementing innovative solutions in business practice. The researchers also

investigated students' involvement in planning various innovation-related work activities.

The results presented in Table 9 indicate a strong interest among participants in learning about various activities related to their future work, with a significant majority of responses leaning toward positive responses. For example, 58% of participants expressed a definite interest in learning about searching out new work methods, and an additional 34% indicated probable interest, making it the most positively received activity. Similarly, generating original solutions for problems also garnered high interest, with 52% responding definitely yes and 44% probably yes. This trend continues with the creation of new ideas for complex issues and the evaluation of their effectiveness, which are of interest to 50% and 49% of participants, respectively, indicating a definite interest.

RESPONSES	Definitely No	Probably No	Probably Yes	Definitely Yes
Searching out new work methods	0	8	34	58
Generating original solutions for problems	0	5	44	52
Creating new ideas for complex issues	0	6	44	50
Evaluating the effectiveness of new ideas	0	6	44	49
Transforming innovative ideas into practice	0	6	47	47
Introducing innovative ideas	0	6	50	44
Making people enthusiastic about your ideas	0	6	50	44
Discussing new ideas with your colleagues	3	5	51	42
Acquiring approval for innovative ideas	0	14	45	41

Table 9. *Students' interests in learning about innovative work practices*

Discussing new ideas with colleagues resulted in 3% of participants responding 'Definitely No' and 5% responding 'Probably No'. Despite these slight variations, the overall pattern suggests a strong enthusiasm for learning about innovative and creative processes, with almost all innovative activities being enjoyable to more than 90% of participants in this study.

A slightly lower interest in learning about acquiring approval for innovative ideas (with 86% of participants indicating some level of interest, 'Probably' or 'Definitely Yes') and a slightly higher negative response (14% of responses as

'Probably No') likely stem from students' interest in self-employment or small enterprises, where hierarchical organisational structures and decision-making processes are less dependent on higher managerial structures.

Skills and knowledge about various business activities

The participants' responses in Table 10 indicate a generally low self-assessment of their knowledge and skills across various business-related areas. For example, many university students rated their knowledge of business-related legislation as 'Very Poor' (32%) or 'Poor' (26%). Similarly, most respondents rated the accounting knowledge required for managing a business as 'Very Poor' (27%) or 'Poor' (24%). Also, approximately half of the participants reported a considerable lack of confidence regarding the financial aspects of a business, with 22% rating their skills as 'Very Poor' and 28% as 'Poor'.

Certain areas exhibit slightly better self-assessed competencies. For instance, in the domain of environmentally friendly business practices, 34% of participants rated their knowledge as 'Good' and 14% as 'Very Good'. Socially responsible business practices also had relatively higher positive ratings, with 28% rating their knowledge as 'Good' and 22% as 'Very Good'.

RESPONSES	**Very Poor**	**Poor**	**Accepta -ble**	**Good**	**Very Good**
Legislation related to business	32	26	18	17	6
Accounting related to one's own business	27	24	22	24	3
Financial aspects of a business	22	28	15	28	8
Creating own start-up	23	25	29	18	5
Marketing of new products/services	11	29	26	18	15
Product innovation	9	29	26	32	3
Process innovation	3	28	34	32	3
Environmentally friendly business	8	18	26	34	14
Socially responsible businesses	5	20	26	28	22
Innovative work practices	2	18	37	35	8

Table 10. *Students' self-reported knowledge and skills about various business activities*

Regarding innovative work practices, 35% of participants rated their skills as 'Good' and 8% as 'Very Good', showing considerable confidence compared to other areas. However, more than 60% of participants evaluated their knowledge about product and process innovations as very poor, poor, or just acceptable. Also, a considerable proportion of participants (15% to 37%) feel that their knowledge is only acceptable or poor in most innovation-related

activities. The results provide a basis for developing a roadmap for the entrepreneurial education of university students.

Students interested in learning about starting and managing a business

The survey results in Table 11 reveal that participants have a strong interest in starting and managing a business. The topics with the highest levels of interest (combining 'Interested' and 'Very Interested' responses) include basic aspects of business planning (83%), risk management (83%), marketing and sales information (82%), acquisition of financial support (82%), networking and business collaboration (82%), and socially responsible businesses (80%). These topics indicate a strong inclination towards practical business operations, ethical business practices and foundational business planning.

Topics such as human resources management, legislative and legal information, and financial and accounting information received slightly lower levels of high interest, with percentages of 75%, 74% and 74%, respectively. Despite this, a significant majority, approximately three-quarters of participants, showed some degree of interest in these areas, with fewer participants expressing disinterest. The results underscore a broad interest across all business-related topics, emphasising marketing, ethical practices and foundational business-related knowledge.

RESPONSES	Not at all Interested	Not Intere-sted	Nei-ther	Interested	Very Interested
Risk management	5	3	9	52	31
Basic aspects of business planning	2	9	6	49	34
Marketing and sales information	3	6	9	45	37
Acquisition of financial support	5	6	8	49	32
Networking and business collaboration	6	8	5	49	32
Socially responsible businesses	3	6	11	37	43
Development of entrepreneurship skills	5	9	8	48	31
Information on business management	3	8	12	48	29
Financial aspects of a business	5	6	12	46	31
Environmentally friendly business	3	6	14	41	36
Human resources management	3	6	15	40	35
Legislative and legal information	5	6	15	43	31
Financial and accounting information	5	8	14	43	31

Table 11. *Students interested in learning about starting & managing a business (%)*

Preferences for various forms of learning about entrepreneurship

In addition to the topics related to learning about entrepreneurship, one of the study objectives was to identify students' preferences for various forms of learning about entrepreneurship. The results presented in Table 12 indicate varying preferences or suitability for different forms of entrepreneurship learning among participants. 79% of students perceived individualised guidance and mentoring as most suitable, with 42% finding it suitable and 37% finding it very suitable. This form of learning also had the lowest unsuitability ratings, with only 3% considering it unsuitable and 8% not.

	Not Suitable at all	Not Suitable	Neutral	Suitable	Very Suitable
Individualised guidance and mentoring	3	8	11	42	37
Seminars (presentations and discussions)	6	8	14	49	23
Workshops (group discussion & activity)	5	6	19	39	31
Online lectures (30 with certification)	6	12	22	37	23
Self-directed learning (individual reading)	5	12	26	35	22
Combined in-class & online (30 hours with certification)	12	11	25	37	15
In-class lectures (30 hours with certification)	14	20	40	18	8

Table 12. *Preferences for various forms of learning about entrepreneurship*

The results suggest a strong preference for personalised and tailored learning experiences. Other forms of learning, such as seminars (73%) and workshops (70%), had moderate suitability levels. Seminars and workshops were relatively well-received compared to online lectures (60%), self-directed learning (57%), and combined in-class and online formats (52%).

In contrast, in-class lectures with certification were deemed the least suitable, with 20% of participants finding them 'Unsuitable' and 14% finding them 'Not Suitable at all'. Only 18% found in-class lectures 'Suitable', and a mere 8% found them 'Very Suitable'. The results indicate that students prefer more interactive and engaging forms of learning over traditional lecture-based approaches.

Preferences for various training options for entrepreneurship

In addition to the content and forms of learning about entrepreneurship, the participants also indicated their preferences for various options of entrepreneurship training. The responses in Table 13 indicate a clear preference among participants for interactive and specialised forms of entrepreneurship training. Both specialised courses and discussions with entrepreneurs are highly favoured, with 91% of respondents considering these options suitable. This finding additionally suggests a strong inclination towards structured and experiential learning environments that provide direct insights from experts and practitioners in the field.

Digital learning materials are also well-regarded, with 88% of participants finding them suitable, reflecting the increasing acceptance and utility of online educational resources. Similarly, while internships, visits to businesses, and access to media channels are perceived as suitable by a majority (84%, 83% and 86%, respectively), they are not as highly rated as specialised courses or direct discussions with entrepreneurs. This suggests that while practical experience and media resources are valuable, participants may prioritise structured learning and direct mentorship opportunities more.

	Suitable (%)	**Not suitable (%)**
Discussions with entrepreneurs	91	9
Specialised courses	91	9
Digital learning materials	88	13
Access to media channels	86	14
Internships	84	16
Visits businesses	83	17
Printed learning materials	58	42

Table 13. *Students' preferences for various training options for entrepreneurship*

Similar to the other results, traditional and less interactive methods like printed learning materials are deemed less suitable, with only 58% of participants in favour and 42% considering them unsuitable. This notable divide indicates a shift towards more dynamic and engaging forms of learning.

Perceived obstacles to starting a private business

Table 14 presents the participants' responses to the question: '*How significant an obstacle do you think it is for someone starting a private business?* Most participants view the lack of their financial resources as a major challenge, with 70% considering it 'Very Significant' and 25% deeming it 'Significant'. This suggests that financial constraints pose a significant barrier to aspiring entrepreneurs. Similarly, the lack of information about funding opportunities is also seen as a considerable obstacle, with 53% labelling it 'Very Significant'

and 39% 'Significant', highlighting a substantial gap in access to information funding for new enterprises.

	Not Signifi-cant at all	Not Significant	Neither	Significant	Very Significant
Lack of own financial resources	2	0	3	25	70
Lack of information about funding opportunities	2	0	6	39	53
High risk of running one's own business	2	3	6	47	42
Lack of knowledge of how to run one's own business	2	5	6	38	50
Difficulty in accessing bank loans	2	0	11	33	54
Difficulties in developing a business plan	2	5	8	54	32
Lack of education about risk management	3	5	9	41	42
Lack of entrepreneurship education at the university	3	0	17	41	39
Lack of entrepreneurship education at the post-secondary level	3	2	19	44	33
Lack of national institutional funding support	2	3	19	32	44
Lack of entrepreneurship education during secondary school	6	5	17	41	31
Difficulties in finding adequate employees	2	13	16	41	30
Lack of funding support at the EU level	2	5	25	34	34
Lack of knowledge about HR management	3	8	24	38	27
Difficulties in finding business partners	6	9	22	31	31

Table 14. *Perceived obstacles to starting a business*

Other notable obstacles include the high risk of running one's own business and the lack of knowledge about business operations. Nearly half of the participants (47%) find the high risk 'Significant', and 42% consider it 'Very Significant'. This reflects a pervasive fear of business failure among potential entrepreneurs. Additionally, 50% of respondents view the lack of knowledge on how to run a business as 'Very Significant', with 38% finding it 'Significant'. This suggests that educational and informational deficiencies are prominent concerns for most participants in this study.

Access to bank loans and difficulties in developing a business plan are also perceived as significant hurdles. A combined 87% of respondents regard the difficulty in accessing bank loans as either 'Significant' or 'Very Significant'. Furthermore, 54% find developing a business plan 'Significant', and 32% see it as 'Very Significant'. The findings highlight the importance of education on financial planning and support in the early stages of business development, which, according to this study's findings, are essential learning topics.

Educational shortcomings in entrepreneurship are evident in students' answers to several questions, with the lack of entrepreneurship education at universities and post-secondary institutions being a significant concern. Four out of ten (41%) participants find the lack of university-level entrepreneurship education 'Significant', and 39% deem it 'Very Significant'. Regarding education about entrepreneurship at the post-secondary level, 44% consider it 'Significant', and 33% consider it 'Very Significant'. The results indicate the need for enhanced entrepreneurial education at secondary, post-secondary and university levels.

Structure of students' perceptions of obstacles to starting a private business

The first factor identified through the factorisation of the items related to students' perception of the obstacles to starting a private business (Table 15) is 'educational and knowledge barriers to entrepreneurship'. This factor encompasses various items related to inadequate educational opportunities and knowledge, which students perceive as significant barriers to starting a business. The items associated with this factor reflect a lack of entrepreneurship education at different educational levels, inadequate risk management education and human resource challenges. The specific items with high loadings on this factor include lack of entrepreneurship education during secondary school, lack of entrepreneurship education at the post-secondary level, high risk to run one's own business, lack of education about risk management, difficulties in finding business partners, difficulties in finding adequate employees, and lack of knowledge about human resources management. The internal consistency of 'educational and knowledge barriers

to entrepreneurship' was above 0.9 (Cronbach's α = 0.917 and McDonald's ω = 0.924), significantly above the minimal threshold value.

Items / Components	Educational and Knowledge Barriers	Financial and Planning Barriers
Lack of entrepreneurship education during secondary school	.722	
Lack of entrepreneurship education at the post-secondary level	.924	
Lack of entrepreneurship education during university	.847	
High risk of running one's own business	.420	
Lack of education about risk management	.729	
Difficulties in finding business partners	.387	
Difficulties in finding adequate employees	.409	
Lack of knowledge about human resources management	.641	
Lack of own financial resources		.609
Lack of national institutional funding support		.935
Lack of funding support at the EU level		.841
Difficulty in accessing bank loans		.653
Lack of information about funding opportunities		.590
Difficulties in developing a business plan		.432
Lack of knowledge of how to run one's business		.530

Table 15. Structure of students' perceptions of obstacles to starting a business

The factorisation of the questionnaire identified a second factor that can be best defined as 'financial and planning barriers to entrepreneurship'. This factor captures the financial constraints and planning challenges students perceive as significant obstacles to starting a business. The aspects associated with this factor reflect a lack of financial resources, difficulties accessing funding, and challenges in business planning and management. The specific items with high saturation with this factor include a lack of own financial resources, a lack of national institutional funding support, a lack of funding support at the EU level, difficulty accessing bank loans, a lack of information about funding opportunities, and difficulties in developing a business plan. The internal consistency of the factor' Financial and Planning Barriers to Entrepreneurship' was above 0.7 (Cronbach's α = 0.713 and McDonald's ω = 0.742), and these values were slightly above the required minimal threshold value.

The identified factors, 'Educational and Knowledge Barriers to Entrepreneurship' and 'Financial and Planning Barriers to Entrepreneurship', provide directions for developing a roadmap in entrepreneurship education.

Discussion

This study provides insights into the attitudes of Maltese university students toward entrepreneurship, their educational needs and preferences for learning approaches in entrepreneurship education. This discussion situates the key findings in broader theoretical and empirical contexts, highlighting their implications for entrepreneurial pedagogy, policy and future research.

Entrepreneurial aspirations and motivations

The survey reveals that Maltese university students demonstrate a high interest in entrepreneurship and self-employment, with enthusiasm for employment models that combine regular jobs with entrepreneurial activities. These findings align with broader European trends where younger generations seek career autonomy, flexibility and purpose (Nabi et al., 2017). Students' preference for combining security with independence mirrors emerging research that suggests young people no longer view entrepreneurship and employment as mutually exclusive options (Lackéus et al., 2016).

The high degree of entrepreneurial optimism reported in the study is notable. Students associate entrepreneurship with excitement, creativity, innovation and profitability. This aligns with Fayolle and Gailly's (2008, 2015) proposition that successful entrepreneurship education must foster affective, cognitive and behavioural dimensions of entrepreneurship. The affective enthusiasm reported by the participants provides a strong foundation upon which educational programs can build practical knowledge and skills. However, this optimism is tempered by equally strong entrepreneurial pessimism - students simultaneously regard starting a business as unrealistic, risky and complex. The simultaneous presence of positive and negative beliefs indicates an intention-action gap: students may wish to start a business but lack the confidence, knowledge or resources to do so. Bridging this gap requires carefully designed programs that address cognitive, emotional and socio-cultural barriers.

Perceptions of employment

Students perceive traditional employment as safer, more realistic and easier, but less exciting, creative and fulfilling. This ambivalence about employment, defined in the study as employment disillusionment and employment pragmatism, resonates with the idea of career compromise that often occurs in post-industrial economies. While students acknowledge the safety and predictability of employment, they simultaneously critique its lack of innovation and personal fulfilment.

These insights suggest that many students may pursue employment not out of preference, but out of perceived necessity or a lack of entrepreneurial readiness. This underscores the importance of entrepreneurship education that celebrates entrepreneurship and prepares students for its risks and realities. In this sense, education should equip students with the mindset and practical tools needed to weigh entrepreneurship as a viable career path, not merely as a dream, but as a disciplined process involving strategic thinking, resilience and adaptability (Neck & Greene, 2011).

Barriers to entrepreneurship

The analysis of perceived barriers reveals two dominant types: financial and planning obstacles and educational and knowledge barriers. The primacy of financial barriers - lack of personal funds, limited access to loans and inadequate awareness of funding opportunities - confirms the research that financial capital remains a key constraint in entrepreneurial ecosystems (Nabi et al., 2017).

Students cited inadequate entrepreneurship education at the secondary, post-secondary and university levels as significant obstacles. They also reported insufficient training in risk management, human resources and business operations. These findings mirror critiques within the entrepreneurship education literature that highlight a misalignment between what is taught and what students perceive as necessary (Duval-Couetil, 2013). The study's evidence indicates that existing entrepreneurship curricula may not be sufficiently practice-oriented or tailored to student needs.

Moreover, these barriers highlight a systemic problem: entrepreneurship education appears to be late, insufficient and disconnected from the broader educational ecosystem. Entrepreneurship must be introduced earlier and integrated more coherently across levels and disciplines. This is especially pertinent for a small island economy like Malta, where diversifying economic pathways is essential for long-term resilience.

Support networks and the role of universities

The findings reveal students' perceptions of the support sources they can utilise in their entrepreneurial journeys. While parents, relatives and friends were perceived as the most reliable support systems, institutional actors - including secondary school teachers, Technology Transfer offices and university lecturers - were perceived as less supportive or inspirational. This perception is particularly concerning because it may imply a failure on the part of formal education institutions to position themselves as enablers of entrepreneurial development.

This aligns with research suggesting that educational institutions may struggle to translate their support systems into meaningful entrepreneurial engagement

for students (e.g., Brant & Killar, 2025; Nabi et al., 2017). Many students may not be aware of existing resources, or such resources may be inaccessible or poorly designed. Moreover, as Brush et al. (2009) argue, entrepreneurship support systems may privilege specific profiles - typically male, economically secure and socially connected - while neglecting broader, more inclusive engagement.

Universities must rethink their approach to entrepreneurship education in curriculum design and build mentorship, incubation and peer network structures. An important implication here is the need to foster entrepreneurial ecosystems within the university that connect students to role models, funders, legal experts and peers in meaningful and sustained ways. This should help bridge the gap between economically secure and well-connected students and those who are not.

Pedagogical implications and learning preferences

Students preferred personalised, interactive, and experiential learning formats, such as mentoring, discussions with entrepreneurs and specialised courses. Traditional lecture-based methods were perceived as the least suitable. These findings are consistent with a constructivist view of entrepreneurship education, which emphasises learning 'through' entrepreneurship, not merely 'about' it (Hägg & Gabrielsson, 2019).

Experiential learning theories (Kolb, 1984; Pittaway & Cope, 2007) support the idea that entrepreneurship is best learned through hands-on experience, involving engagement in projects, simulations, case studies and real-life challenges. Students' preference for mentoring and discussions with entrepreneurs also echoes the 'know-how' and 'know-who' dimensions of entrepreneurial competence proposed by Johannisson (1991).

Furthermore, students' interest in entrepreneurship-related knowledge spans business planning, marketing, financing, networking and social responsibility. This suggests they perceive entrepreneurship as an economic activity and a multidimensional practice involving ethics, sustainability and social impact. This aligns with contemporary trends toward entrepreneurship as a societal practice and reinforces the importance of integrating values-based frameworks into entrepreneurship education (Geiger et al., 2023).

The Role of Innovation and Creativity

The findings suggest a strong student interest in learning about innovation and problem-solving, particularly in generating original solutions and exploring new work methods. However, there is less engagement with activities involving promoting, approving or implementing innovative ideas. This discrepancy indicates a gap between ideation and execution—a common challenge in early-stage entrepreneurship education (Neck and Corbett, 2018).

Entrepreneurial education must, therefore, scaffold not only creativity and ideation but also the process of turning ideas into actionable and sustainable ventures. This includes guiding students on how to pitch, secure funding, conduct market validation and manage uncertainty. Design thinking and lean startup methodologies, increasingly used in entrepreneurial pedagogy, can offer useful frameworks for guiding students from imagination to implementation (Brown, 2003).

Toward a roadmap for academic entrepreneurship

The study's results underscore the urgent need for a learner-centred, evidence-based roadmap for entrepreneurship education in Malta. Such a roadmap needs to address entrepreneurship's cognitive (knowledge and skills) and affective (attitudes and beliefs) dimensions, prioritise early and continuous exposure to entrepreneurship across educational levels, incorporate diverse and inclusive support systems, integrate experiential and reflective pedagogies that develop real-world competencies, and emphasise innovation, resilience, ethical entrepreneurship and social value creation.

This roadmap proposed by this study should not merely be an educational framework but a systemic intervention - a way to link students with mentors, communities, funders and opportunities. It must also be flexible and responsive to evolving student needs, labour market trends and technological innovation.

In this respect, entrepreneurship education in Malta should not be limited to centres such as business faculties. It must adopt a transdisciplinary approach, embedded within STEM, humanities and social science curricula, reflecting the understanding that entrepreneurship is not merely about starting a business but about creating value in uncertain contexts across any domain.

Conclusion

This study provides insights into the entrepreneurial attitudes, aspirations and educational needs of university students in Malta, revealing a promising yet challenging landscape. Students exhibit strong enthusiasm for entrepreneurship, seeing it as a pathway to creativity, independence and self-fulfilment. However, this enthusiasm is counterbalanced by apprehension about the practicalities and risks of starting a business. These conflicting perceptions - captured through the factors of entrepreneurial optimism and pessimism - highlight a crucial intention-action gap that education systems must address.

While students admire entrepreneurship and express a desire to pursue self-employment or hybrid work models, they often lack the knowledge, skills and

confidence to translate these intentions into concrete action. The data suggest that students are motivated and inspired by success stories and local role models, but they often find limited guidance and support within formal educational structures. This gap highlights the need for more visible, integrated and responsive support mechanisms within universities and the broader ecosystem.

Universities, higher education institutions, secondary schools and educational policymakers have a critical role in shaping students' entrepreneurial pathways. The findings underscore the importance of embedding entrepreneurship education early in the academic journey and designing it to be practical, engaging and reflective of students' lived experiences. Instead of relying on traditional, lecture-driven models, institutions must offer mentoring, experiential learning, startup simulations, collaborative projects and real-world exposure. The alignment of pedagogy with students' preferred learning styles is not merely a matter of educational preference; it is essential for building self-efficacy, demystifying entrepreneurial processes and fostering resilience.

A recurring theme throughout the study is the significant importance of non-institutional support, particularly from family and peers, in shaping entrepreneurial aspirations. While this support is encouraging, it also highlights a shortfall in institutional engagement. Educational institutions must not only provide technical knowledge but also act as incubators of confidence, creativity and community. They should foster a culture where entrepreneurship is achievable and accessible, supported by networks of experienced mentors, practical resources, and inclusive opportunities.

At the same time, systemic barriers such as lack of access to funding, inadequate awareness of financial instruments and weak connections to the entrepreneurial ecosystem must be addressed. Entrepreneurship education should go beyond classroom instruction to include clear pathways to funding, information about local and EU-level resources, and mechanisms for students to navigate the early stages of venture creation.

This study's proposed academic entrepreneurship roadmap is an opportunity to operationalise these findings into meaningful change. The roadmap can guide the development of entrepreneurship education in Malta by being flexible, inclusive and adaptive. It should acknowledge the diversity of student backgrounds and ambitions and promote entrepreneurship not just as business creation but as a mindset applicable across fields, industries, and societal challenges.

Despite the study’s valuable insights, some limitations must be acknowledged. While adequate for exploratory factor analysis, the sample was relatively small

and skewed in terms of gender and academic level, predominantly comprising females and master's level students. This limits the generalisability of the findings across the broader student population in Malta. Additionally, the cross-sectional nature of the research captures student perceptions at a single point in time, raising the question of how these attitudes may evolve over the course of their academic or professional careers. Future research can consider larger, more diverse samples, longitudinal designs and comparative studies with other national contexts. Furthermore, qualitative inquiries into student narratives, identity formation and psychological enablers of entrepreneurial action—such as self-efficacy, resilience, and fear of failure—can enrich the understanding of what drives or hinders youth entrepreneurship in small economies.

Fostering entrepreneurship among university students presents both an educational challenge and a national opportunity. In a small, innovation-dependent economy such as Malta, the ability to nurture young entrepreneurs can generate transformative economic and social benefits. By aligning curricula with real-world needs, enhancing institutional support and recognising the multifaceted nature of entrepreneurial development, Malta's higher education institutions can serve as key drivers of innovation, resilience and sustainable growth.

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