



## EXPLORING THE DETERMINANTS OF ENTREPRENEURIAL INTENTIONS AND CAREER ASPIRATIONS AMONG SCIENCE STUDENTS: THE ROLE OF EDUCATIONAL EXPERIENCES AND CAREER PATHWAYS

BY

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### Abstract

*This study explores the determinants of entrepreneurial intentions and career aspirations among science students, emphasizing the role of educational experiences and career pathways. In the context of increasing global emphasis on entrepreneurship as a driver of economic growth, understanding the factors influencing students' entrepreneurial intentions becomes critical. Utilizing a mixed-methods approach, the research investigates how self-efficacy and educational experiences contribute to students' intent to pursue entrepreneurial careers. Data were collected from 300 undergraduate students in Kaduna State through surveys and interviews from a sample of science students in higher education institutions. The findings revealed significant correlations between self-efficacy, educational experiences, and entrepreneurial intentions, indicating that students who perceive themselves as capable of entrepreneurial activities are more likely to express intentions to start their own businesses. Furthermore, the study identifies key educational strategies that enhance students' entrepreneurial mindset and career aspirations. These insights can inform educational policies and curriculum development aimed at fostering entrepreneurial skills among science students.*

**Keywords:** Entrepreneurial intentions, career aspirations, self-efficacy, educational experiences, science students, entrepreneurship educations

### Introduction

Entrepreneurial activity is widely recognized as a driving force for innovation, job creation, and economic development (Audretsch & Belitski, 2021). Among young individuals, particularly science students, entrepreneurship offers a pathway to apply technical knowledge in solving real-world problems through innovation-



driven ventures. However, despite the potential of science students to engage in entrepreneurship, many often follow more traditional career paths, such as research or industry-based employment. Understanding the factors that shape entrepreneurial intentions and career aspirations among science students is therefore critical for fostering a culture of innovation and entrepreneurship in knowledge-based economies (Nowiński & Haddoud, 2019).

Entrepreneurial intentions refer to the commitment to start a new business, which can be influenced by various personal, environmental, and contextual factors (Liñán & Fayolle, 2015). Research has shown that entrepreneurship education and exposure to entrepreneurial activities can significantly shape these intentions (Shirokova, Osiyevskyy, & Bogatyreva, 2016). For science students, the integration of entrepreneurship into their educational experiences through curricula, internships, mentorship, and entrepreneurial role models can either encourage or hinder their entrepreneurial aspirations (Walter, Parboteeah, & Walter, 2013). Yet, many educational institutions continue to emphasize traditional scientific career pathways, potentially overlooking opportunities to nurture entrepreneurial mindsets (Mushtaq & Mobin, 2021).

Additionally, the career aspirations of science students are shaped by their perception of available career pathways, which include both traditional roles (e.g., research, academia, industry employment) and entrepreneurial careers. Career development theories suggest that personal experiences, perceived self-efficacy, and available support structures (such as career counseling and mentorship) play a significant role in career decision-making (Lent, Brown, & Hackett, 2000). These factors influence students' consideration of entrepreneurship as a viable career, and their confidence in pursuing entrepreneurship (Karimi et al., 2016).

Recent studies emphasize the need to investigate how educational experiences—such as exposure to entrepreneurship courses, hands-on learning opportunities, and interaction with industry professionals can promote or inhibit entrepreneurial intentions (Peterman & Kennedy, 2022). Moreover, as economies become increasingly reliant on technological advancements and innovation, understanding how science students navigate their career pathways, particularly in the context of entrepreneurship, is crucial for policy makers and educators aiming to cultivate future entrepreneurs (Ahmed, 2020).

This research aims to explore the role of educational experiences and career pathways in shaping the entrepreneurial intentions and career aspirations of science students. By examining how curricular and extracurricular experiences influence students' attitudes toward entrepreneurship, this study will provide insights into how educational institutions can better support students in pursuing entrepreneurial ventures. The study will also consider the broader socio-economic context in which science students develop their career aspirations, including the increasing demand for innovation and entrepreneurship in scientific fields (Bauman & Lucy, 2021).



### **Statement of the Problem**

There is a significant gap in the entrepreneurial intentions and career aspirations of science students, with many opting for traditional career paths like research, academia, or industry roles instead of pursuing entrepreneurial opportunities. This trend, characterized by the significant gap in entrepreneurial intentions and career aspirations among science students, is concerning given the potential of science-driven innovations to address societal challenges. Many science students continue to opt for traditional career paths such as research, academia, or industry roles—instead of pursuing entrepreneurial opportunities. This indicates that the potential of science-driven innovations remains underutilized due to barriers such as limited exposure to entrepreneurship in science curricula, lack of mentorship, and insufficient institutional support for entrepreneurial activities. Factors contributing to this disparity include limited exposure to entrepreneurship in science curricula, lack of mentorship, and insufficient institutional support for entrepreneurial activities (Maritz & Brown, 2013; Bauman & Lucy, 2021). The absence of clear career pathways linking science and entrepreneurship further discourages students from considering entrepreneurship as a viable option (Bae et al., 2014). Research highlights the importance of educational experiences and role models in shaping entrepreneurial intentions (Shirokova et al., 2016), but for science students, such opportunities are often peripheral. This study aims to explore how educational experiences, career counseling, internships, and mentorship can be structured to better support entrepreneurial intentions among science students and bridge the gap in entrepreneurial pathways.

### **Research Objectives**

The primary objective of this study is to explore and identify the key determinants that influence entrepreneurial intentions and career aspirations among science students, with a specific focus on how educational experiences and career pathways shape these outcomes. By examining the role of curricular and extracurricular activities, mentorship, internships, and career counseling, the study aims to provide insights into how educational institutions can foster a supportive environment that encourages science students to pursue entrepreneurial ventures. Specifically, the study :

- i. Examined the influence of self-efficacy on the entrepreneurial intentions of science students.
- ii. Assessed the impact of educational experiences, including entrepreneurship courses and extracurricular activities, on science students' entrepreneurial intentions.
- iii. Explored science students' perceptions of entrepreneurship, specifically their views on integrating entrepreneurship with their scientific education.



- iv. Identified the motivational drivers that influence science students' intentions to pursue entrepreneurship, including financial, personal, and societal motivations.

### **Research Questions**

- i. How does self-efficacy affect the entrepreneurial intentions of science students?
- ii. What is the impact of educational experiences (entrepreneurship courses and extracurricular activities) on science students' entrepreneurial intentions?
- iii. What are science students' perceptions of entrepreneurship, and how do they view the integration of entrepreneurship with their scientific education?
- iv. What are the key motivational drivers behind the entrepreneurial intentions of science students?

### **Literature Review**

#### **Concept of Entrepreneurial Intentions**

Entrepreneurial intentions are the conscious desire and commitment to start a business, serving as a precursor to entrepreneurial behavior and crucial for fostering innovation and economic growth (Ajzen, 2020). The Theory of Planned Behavior (TPB) and Social Cognitive Career Theory (SCCT) highlight factors such as attitudes toward entrepreneurship, social support, self-efficacy, and personal goals as key determinants (Lent et al., 2020). For science students, exposure to entrepreneurship education, practical experiences, and mentorship can significantly enhance their entrepreneurial intentions, empowering them to apply their technical knowledge to business ventures (Shirokova et al., 2021). Additionally, cultural norms, availability of resources, and supportive ecosystems play vital roles in shaping these intentions (Bauman & Lucy, 2021). By understanding and addressing these factors, educators and policymakers can cultivate an entrepreneurial mindset, driving economic growth and technological innovation.

#### **Concept of Career Aspirations**

Career aspirations are long-term professional goals shaped by personal interests, educational experiences, social and cultural contexts, and self-efficacy. These aspirations influence individuals' career decisions and broader labor market trends (Lent, Brown, & Hackett, 2020). Personal interests, such as a passion for science or entrepreneurship, play a key role in shaping aspirations, while educational experiences, mentorship, and internships help refine career goals (Hassan et al., 2021). Cultural norms, family support, and societal perceptions also impact career choices, particularly between traditional employment and entrepreneurship (Huang & Kim, 2022). Self-efficacy, or confidence in one's abilities, further influences the pursuit of ambitious career goals (Bandura, 1997). Understanding career aspirations is vital for educators and policymakers to create supportive



environments that align educational programs with students' goals, fostering economic growth and innovation.

### **Concept of Educational Experiences**

Educational experiences encompass the range of formal and informal learning activities that students undergo during their academic careers. These experiences include classroom learning, participation in entrepreneurship-related courses, involvement in internships, access to mentorship, and exposure to real-world business challenges (Nabi et al., 2017).

Entrepreneurship education refers to both formal and informal educational processes designed to equip individuals with the knowledge, skills, and mindset necessary to identify opportunities, create innovative solutions, and pursue entrepreneurial ventures (Peterman & Kennedy, 2022). It encompasses a wide range of activities, including classroom instruction, experiential learning, mentorship, and networking opportunities, all aimed at fostering entrepreneurial competencies and attitudes (Dyer et al., 2020). Classroom instruction provides theoretical foundations in business concepts and strategies, while experiential learning offers hands-on experiences that allow students to apply these concepts in real-world settings (Gorman et al., 2020). Mentorship, often provided by experienced entrepreneurs or industry professionals, offers valuable guidance, practical insights, and networking opportunities that can help students navigate the challenges of starting and running a business (Shirokova et al., 2021). Furthermore, networking opportunities enable students to connect with potential partners, investors, and other entrepreneurs, which can be crucial in turning entrepreneurial ideas into viable business ventures (Bauman & Lucy, 2021)., all aimed at fostering an entrepreneurial spirit and preparing individuals for entrepreneurial careers. The importance of entrepreneurship education has gained significant recognition in recent years as economies increasingly rely on innovation and entrepreneurship to drive growth, create jobs, and address societal challenges.

### **Impact of Entrepreneurship Education**

Research consistently demonstrates the positive impact of entrepreneurship education on students' entrepreneurial intentions and behaviors. Studies show that students who participate in entrepreneurship education programs are more likely to develop entrepreneurial intentions, pursue entrepreneurial careers, and engage in entrepreneurial activities (Bae et al., 2014; Liñán et al., 2011). Additionally, entrepreneurship education can enhance students' self-efficacy, enabling them to feel more confident in their ability to start and manage a business. This increased self-efficacy can lead to higher levels of entrepreneurial activity and innovation in the long run (Karimi et al., 2016).

### **Challenges and Considerations**

Entrepreneurship education is fundamental to equipping individuals with the skills, knowledge, and mindset essential for entrepreneurial success, which in turn fosters



economic growth and drives innovation (Fayolle & Liñán, 2020). However, several challenges hinder the effectiveness of entrepreneurship education, including a lack of qualified instructors who possess both theoretical knowledge and practical experience in the entrepreneurial world (Nabi et al., 2020). Furthermore, many entrepreneurship programs still rely on generic curricula that fail to consider the specific economic needs and entrepreneurial challenges of local communities (Kuckertz & Wagner, 2020).

To address these challenges, educational institutions should collaborate with local businesses and industry experts to ensure that entrepreneurship programs are both relevant and impactful (Peterman & Kennedy, 2022). By aligning educational content with local market demands and providing practical insights through mentorship and internships, these collaborations can bridge the gap between theory and practice, making entrepreneurship education more applicable and effective (Shirokova et al., 2021). Additionally, fostering an entrepreneurial mindset through real-world experiences, such as business incubators and innovation hubs, can increase the likelihood of students pursuing entrepreneurial ventures (Bauman & Lucy, 2021).

Ultimately, with proper support from educators, policymakers, and communities, entrepreneurship education can empower students to pursue entrepreneurial paths and contribute meaningfully to economic development and societal well-being. This holistic approach will create a supportive ecosystem that nurtures the next generation of entrepreneurs, capable of tackling both local and global challenges (Ahmed, 2020; Nabi et al., 2020).

### **Entrepreneurial Intentions among Science Students**

Science students often have underdeveloped entrepreneurial intentions due to limited exposure to entrepreneurship education and a lack of field-specific role models (Nowiński & Haddoud, 2019). While entrepreneurial intentions are shaped by external factors like education, support, and experiences (Karimi et al., 2016), much research has focused on business students, overlooking the unique potential of science students. These students have the technical skills and innovative potential crucial for technological ventures, but the traditional focus on theory and research careers limits their exposure to entrepreneurship, resulting in lower entrepreneurial aspirations (Nabi et al., 2017; Peterman & Kennedy, 2022).

### **The Role of Educational Experiences in Shaping Entrepreneurial Intentions**

Ahmed (2020) emphasizes the role of educational experiences, including formal entrepreneurship education, internships, and mentorship, in shaping students' entrepreneurial intentions and career aspirations. This research particularly focuses on STEM (science, technology, engineering, and mathematics) students and how their educational experiences can influence their entrepreneurial ambitions.





Similarly, Nabi et al. (2017) examine the role of entrepreneurship education and other educational experiences in shaping career aspirations, but their focus is broader. They discuss how formal education, personal background, and external factors such as family or societal influence contribute to students' entrepreneurial intentions. This study places more emphasis on the challenges within entrepreneurship education and highlights the need for curricula to be tailored to effectively nurture entrepreneurial behavior. Both studies underscore the importance of integrating entrepreneurship into education to better support students' entrepreneurial goals. While entrepreneurship education positively influences entrepreneurial intentions (Shirokova et al., 2016), its impact is shaped by personal factors like self-efficacy and institutional support. For science students, interdisciplinary learning and practical experiences, such as internships, are essential to cultivate entrepreneurial mindsets. However, science programs generally lack these components, leaving students less prepared for entrepreneurship than their peers in business fields, where vocational training is emphasized (Maritz & Brown, 2013; Bae et al., 2014).

### **Career Aspirations and Pathways for Science Students**

Science students' career aspirations are typically directed toward traditional paths in research, academia, or industry, as educational systems emphasize academic and technical achievements over entrepreneurial pursuits (Bauman & Lucy, 2021). However, career counseling and mentorship can broaden these aspirations by exposing students to alternative pathways like entrepreneurship (Walter et al., 2013). Access to entrepreneurial role models and mentors encourages science students to view entrepreneurship as a viable option, highlighting the need to integrate career counseling with entrepreneurship education in science fields where entrepreneurial opportunities are often underemphasized (Shirokova et al., 2016).

### **Theoretical framework**

The theoretical framework for this study on the determinants of entrepreneurial intentions and career aspirations among science students, particularly in the context of educational experiences and career pathways, is grounded in several key theories and models that elucidate the relationships between education, self-efficacy, entrepreneurial intentions, and career aspirations. The primary theories informing this research include the Theory of Planned Behavior (TPB), the Social Cognitive Theory (SCT), and the Entrepreneurial Event Model (EEM).

### **Theory of Planned Behavior (TPB)**

The Theory of Planned Behavior (TPB) was propounded by Icek Ajzen in 1985. It is an extension of the Theory of Reasoned Action (TRA), which he developed earlier with Martin Fishbein. It explains entrepreneurial intentions through three main components: attitude toward entrepreneurship, subjective norms (social support or pressure), and perceived behavioral control (confidence in one's ability)



(Ajzen, 1991). In this study, TPB is used to examine how educational experiences, such as entrepreneurship courses and hands-on projects, affect students' attitudes toward entrepreneurship, shape social norms around entrepreneurial careers, and strengthen their confidence in starting a business. This framework helps clarify the role of educational influences in shaping students' entrepreneurial intentions and career aspirations.

### **Research Methodology**

This study uses a mixed-methods approach, combining quantitative surveys and qualitative interviews, to investigate factors influencing entrepreneurial intentions and career aspirations among science students. The quantitative survey assesses students' entrepreneurial intentions, self-efficacy, and educational experiences, while in-depth interviews provide qualitative insights into their aspirations and education's role in shaping these aspirations. Targeting undergraduate and postgraduate science students in Nigeria, the study focuses on this group due to their potential to drive innovation and entrepreneurship in science and technology sectors. Triangulating data from both methods strengthens the validity and reliability of the findings.

### **Data Analysis**

Below is the data representation of the demographic characteristics of the respondents based on the case study.

**Table 1:**

*Demographic Characteristics of Respondents*

Demographic Variable	Frequency (n)	Percentage (%)
Gender		
Male	180	60%
Female	120	40%
Age Group		
18-22	150	50%
23-27	100	33.33%
28 and above	50	16.67%
Academic Level		
Undergraduate	250	83.33%
Postgraduate	50	16.67%
Prior Entrepreneurship Education		
Yes	130	43.33%
No	170	56.67%

Source: SPSS output

The demographic data of study participants show a diverse sample of science students, with males representing 60% and females 40%, consistent with trends in entrepreneurship studies. Most participants are aged 18-22 (50%), followed by 23-





27 (33.33%), and 28+ (16.67%), reflecting the younger age groups typically engaged in career planning. Undergraduates make up 83.3% of the sample, aligning with the study's focus on shaping career aspirations, while postgraduates account for 16.7%. Regarding entrepreneurship education, 43.33% have received it, whereas 56.67% have not, indicating a need for broader curriculum integration to support entrepreneurial skills. This diverse demographic overview supports an in-depth analysis of factors affecting entrepreneurial intentions among students.

**Table 2:**

*Descriptive Statistics for Key Variables*

Variable	Mean	Standard Deviation
Entrepreneurial Intentions	4.12	0.75
Self-Efficacy	3.85	0.82
Perceptions of Educational Experience	4.05	0.77

Source: SPSS output.

**Table 3:**

*Regression Analysis for Predictors of Entrepreneurial Intentions*

Model	Unstandardized Coefficients (B)	Standard Error	t	Sig.
Constant	1.23	0.21	5.85	0.000
Self-Efficacy	0.38	0.07	5.43	0.000
Educational Experiences	0.29	0.06	4.83	0.000

The regression model highlights the significant roles of self-efficacy and educational experiences in shaping entrepreneurial intentions or career aspirations. The constant term ( $B = 1.23$ ,  $p < 0.001$ ) suggests an inherent interest in entrepreneurship among students, even before external influences. Self-efficacy has the strongest influence ( $B = 0.38$ ,  $p < 0.001$ ), with higher confidence significantly boosting entrepreneurial intentions, aligning with the Theory of Planned Behavior. Educational experiences also positively impact entrepreneurial intentions ( $B = 0.29$ ,  $p < 0.001$ ), emphasizing the importance of entrepreneurship education. Both factors are crucial, with self-efficacy having a slightly stronger effect, supporting the need for education that builds both confidence and entrepreneurial skills.



## Thematic Analysis of Interviews

The thematic analysis of interviews conducted with science students yielded five prominent themes that provide insight into their entrepreneurial intentions, motivations, and perceived challenges. A total of 15 science students were interviewed to gather qualitative insights into their entrepreneurial intentions. These themes include: 1) Perceptions of Entrepreneurship, 2) Influence of Educational Experiences, 3) Self-Efficacy and Confidence, 4) Motivational Drivers, and 5) Structural and Practical Barriers. Each theme reflects key aspects of the students' understanding and experiences regarding entrepreneurship,

offering a comprehensive look at the factors shaping their career aspirations.

### Perceptions of Entrepreneurship

The thematic analysis of interviews with science students revealed various insights into their perceptions of entrepreneurship. The first theme highlights the diverse ways in which science students view entrepreneurship, especially in relation to their field of study.

1. **Innovation and Problem-Solving:** Many students associated entrepreneurship with innovation and problem-solving, seeing it as a natural extension of their scientific training. They recognized the potential of entrepreneurship to apply technical knowledge to real-world challenges, such as developing new products or translating research into practical, commercially viable solutions. One student expressed, *“Entrepreneurship is a way to make real-world impact with the knowledge we acquire in science, like developing something that can solve actual problems.”* This aligns with findings from Nabi et al. (2017), who found that students in technical fields often perceive entrepreneurship as a way to leverage their expertise for societal benefit.
2. **Perceived Gap between Science and Entrepreneurship:** Despite recognizing the value of entrepreneurship, some students expressed uncertainty about its compatibility with their scientific career goals. They feared that pursuing entrepreneurship might divert them from their core scientific interests. One student shared, *“I’m not sure if entrepreneurship is the right fit for me. It feels like I would be leaving behind my scientific career if I go down that route.”* This hesitation reflects a common internal struggle between pursuing traditional roles in research, academia, or industry and exploring entrepreneurial ventures. This view suggests that while students understand



the potential of entrepreneurship, they see it as a departure from, rather than a complement to, scientific careers.

3. Need for Integration of Entrepreneurship in Science Education: The perceived gap between scientific careers and entrepreneurship points to the need for more integrated educational experiences. Many students indicated that entrepreneurship education in science fields should not just focus on the basic business concepts but also emphasize how entrepreneurship can complement their technical skills. One student noted, *“If entrepreneurship could be woven into the science curriculum, where it’s seen as a way to enhance our science careers rather than replace them, more of us might be interested in pursuing it.”* This suggests a growing need for entrepreneurship education that is tailored to the specific needs and aspirations of science students.

### **Influence of Educational Experiences**

Educational experiences emerged as a significant theme, with students discussing how exposure to entrepreneurship courses and activities influenced their interest in starting a business. Several students who had participated in entrepreneurship courses or extracurricular activities, such as entrepreneurship clubs, reported higher levels of interest in entrepreneurial ventures. One student shared, *“Taking an entrepreneurship course opened my eyes to how I can apply my science knowledge to start a business. Before, I hadn’t considered it as an option.”* This highlights the positive impact of entrepreneurship education on shaping students' entrepreneurial intentions. Students appreciated the opportunities to engage with real-world business concepts such as market research, business planning, and risk assessment. These experiences allowed them to see entrepreneurship as a feasible career path. As another student noted, *“I thought entrepreneurship was too far removed from science until I joined the entrepreneurship club and realized how closely it relates to my field.”* This indicates that hands-on engagement with entrepreneurship concepts helped Students Bridge the gap between their scientific knowledge and entrepreneurial ambitions. However, a notable insight from this theme was the students' desire for more specialized, science-oriented entrepreneurship content. Many felt that existing entrepreneurship courses were overly generic and focused primarily on business students. As one student commented, *“The generic entrepreneurship course didn’t address issues specific to science, like patenting or the commercialization of research. If the course could focus more on these topics, I’d be more confident about starting a business.”* This feedback suggests that while general entrepreneurship education can spark interest, science students would benefit from curricula tailored to the unique challenges they face, such as regulatory requirements for technology and health innovations, and the process of patenting



and commercializing scientific research. These responses indicate that a more contextualized approach to entrepreneurship education one that connects scientific knowledge with entrepreneurial applications could make entrepreneurship more accessible and relevant to science students, supporting their entrepreneurial intentions.

### **Self-Efficacy and Confidence**

Self-efficacy and confidence were recurring themes, as students consistently highlighted the role of self-belief in their entrepreneurial aspirations. Those who felt confident in their ability to apply scientific knowledge in an entrepreneurial setting were more likely to express strong entrepreneurial intentions. Many interviewees linked their self-efficacy to past academic achievements or prior work experiences, suggesting that positive reinforcement from these accomplishments bolstered their confidence in exploring business ventures.

Interestingly, self-efficacy was often tied to the students' perception of risk. Those with higher self-efficacy felt more capable of handling the uncertainties inherent in entrepreneurship, perceiving risks as challenges rather than deterrents. Conversely, students with lower self-efficacy expressed concerns over financial stability and personal failure, indicating that they viewed entrepreneurship as risky and beyond their immediate capabilities. This variation underscores the importance of targeted interventions, such as confidence-building workshops and mentorship programs, to help students strengthen their self-efficacy in entrepreneurship. Such initiatives could mitigate perceived risks and help students see entrepreneurship as a realistic and achievable path

### **Motivational Drivers**

Motivational drivers emerged as a compelling theme, with students citing a range of personal and professional reasons for considering entrepreneurship. Many students identified financial independence as a significant motivator, viewing entrepreneurship as a route to financial security and stability, particularly in light of the limited job opportunities within their scientific fields. One student shared, *"The job market in science is very competitive, and there aren't many positions that pay well. Entrepreneurship seems like a way to create my own opportunities and secure my future."* This aligns with the concept of opportunity-driven entrepreneurship, where individuals are motivated to start businesses to create wealth and stability for themselves (Shane, 2003).



In addition to financial motives, students expressed a strong desire for personal fulfillment. Many indicated that the autonomy and flexibility that come with being an entrepreneur appealed to them. As one student noted, *“Being an entrepreneur means I get to pursue my passion on my own terms, which is something I find very fulfilling.”* This intrinsic motivation was often tied to their ability to be creative, innovate, and explore new ideas outside the confines of traditional scientific roles.

Students also emphasized their desire to make a societal impact, frequently linking their scientific knowledge to pressing issues such as public health, environmental sustainability, and technological advancement. One student remarked, *“I want to use my knowledge in biology to create solutions for environmental problems. Entrepreneurship offers me the chance to solve real-world problems in a way that research in an academic setting cannot.”* This motivation reflects an intrinsic drive to contribute to societal well-being, aligning with findings from studies that associate science students with a higher inclination toward socially impactful entrepreneurship (Yitshaki & Kropp, 2016).

For these students, entrepreneurship was seen as a means to actualize their values and apply their scientific expertise in ways that benefit society, adding a purpose-driven aspect to their entrepreneurial intentions. As another student expressed, *“I see entrepreneurship as a way to bring positive change to the world, not just to make money.”* These responses highlight the multidimensional nature of students' motivations for pursuing entrepreneurship, where financial, personal, and societal factors all play a role in shaping their entrepreneurial aspirations.

### **Structural and Practical Barriers**

Despite their strong interest in entrepreneurship, students identified several structural and practical barriers that limited their ability to pursue entrepreneurial ventures. A major concern highlighted by students was the lack of access to financial resources and funding opportunities. Students from lower socioeconomic backgrounds, in particular, expressed frustration over financial constraints, noting that the inability to secure funding hindered their transition from conceptual ideas to actual business ventures. One student stated, *“Without financial support, it’s difficult to move from an idea to an actual product or service. It’s discouraging when you have no resources to make your vision a reality.”* This concern aligns with previous research indicating that access to capital is a critical determinant of entrepreneurial success, especially for students without financial backing (Piperopoulos & Dimov, 2015). Another frequently mentioned barrier was the lack of mentorship and guidance. Many students expressed a strong desire for mentors who could provide them with industry-specific knowledge, especially in areas



where they lacked experience, such as business operations, marketing, and product development. One student explained, *“I have the technical knowledge, but I don’t know where to start when it comes to things like marketing or managing a business. Having a mentor who’s been through it would really help.”* This highlights the need for structured mentorship programs tailored to science students, who may have limited exposure to business practices. Students expressed that without guidance from experienced entrepreneurs, they felt more likely to make costly mistakes, which discouraged them from taking the necessary risks to pursue entrepreneurial opportunities. Therefore, providing mentorship could support students in navigating the entrepreneurial landscape and enhance their ability to translate scientific innovations into business solutions. Lastly, students pointed to limited time and high academic workloads as additional barriers. The demanding nature of science degrees, which often involve intensive coursework and laboratory hours, made it difficult for many students to balance academic commitments with entrepreneurial aspirations. One student shared, *“It’s hard to find the time to work on a business idea when I’m constantly swamped with my classes and lab work. There’s just not enough time to focus on both.”* This structural barrier highlighted the need for flexible support systems within academic institutions that allow students to explore entrepreneurship without compromising their academic responsibilities.

## Discussions

The findings of this study provide valuable insights into the entrepreneurial intentions and career aspirations of science students. Self-efficacy emerged as a significant factor influencing students’ entrepreneurial intentions. The regression analysis indicated that students with higher self-confidence in their abilities were more likely to pursue entrepreneurship, which aligns with the Theory of Planned Behavior. This supports the idea that perceived behavioral control, such as confidence in one’s skills, positively affects entrepreneurial actions. Furthermore, the thematic analysis highlighted the importance of educational experiences in shaping students’ entrepreneurial goals. Participation in entrepreneurship courses and extracurricular activities was found to foster an interest in entrepreneurship by helping students apply their scientific knowledge to real-world challenges. However, many students expressed a desire for more specialized entrepreneurship education tailored to the science field, indicating the need for more contextualized curricula that bridge the gap between scientific knowledge and business applications. The study also identified several structural and practical barriers that hinder students’ entrepreneurial ambitions. Limited access to funding, lack of mentorship, and high academic workloads were cited as major challenges. These findings echo existing research that highlights financial constraints as a significant





barrier to entrepreneurship. Additionally, the lack of mentorship and guidance from experienced entrepreneurs was a common concern, suggesting a need for more structured mentorship programs. High academic demands, particularly in science degrees, also limited students' ability to pursue entrepreneurial ventures, indicating a need for more flexible support systems within academic institutions. Regarding perceptions of entrepreneurship, the study found that students generally viewed entrepreneurship as a way to apply their scientific expertise to solve real-world problems. While some students expressed concerns about the compatibility of entrepreneurship with their scientific careers, most recognized the potential to leverage their knowledge in a business context. Motivational drivers for entrepreneurship were diverse, with students citing financial independence, personal fulfillment, and a desire to make a societal impact. These motivations align with both intrinsic and extrinsic motivation theories, illustrating that students are driven by a combination of financial, personal, and societal goals. Lastly, the study highlights the importance of both individual factors, such as self-efficacy, and structural challenges, like access to resources and mentorship, in influencing entrepreneurial intentions. Educational institutions have a critical role in supporting science students by offering tailored entrepreneurship education and creating supportive environments that address the practical challenges students face.

### **Conclusion**

This study concludes that self-efficacy and educational experiences are critical determinants of entrepreneurial intentions among science students. Self-efficacy emerged as the most influential factor, indicating that interventions to improve confidence in entrepreneurial skills could lead to increased entrepreneurial intentions. Educational experiences also play a key role, suggesting that curricula designed with a focus on entrepreneurship can positively influence career aspirations. These insights highlight the importance of fostering both intrinsic confidence and providing quality entrepreneurship education to support students in pursuing entrepreneurial pathways.

### **Implications of the Study**

The implications of this study are multifaceted, spanning policy, education, and practical application. For policymakers, the findings indicate that enhancing entrepreneurship education can be an effective strategy for promoting entrepreneurial intentions among science students. Institutions should consider integrating entrepreneurship modules across science disciplines, allowing students to develop business skills alongside their scientific training. Practically, this approach could contribute to a more entrepreneurial labor force equipped to innovate within the sciences, thereby addressing gaps in job markets and fostering economic development.



## Recommendations

1. **Curriculum Development:** Higher education institutions should strengthen entrepreneurship education across all disciplines, particularly in science programs. Courses should emphasize practical experiences, mentorship, and exposure to entrepreneurial role models, which research shows can significantly impact students' intentions to pursue entrepreneurship (Rae & Wang, 2015).
2. **Self-Efficacy Building Programs:** Schools should implement workshops, internships, and projects that specifically aim to enhance self-efficacy. These programs could involve peer mentorship, experiential learning, and skills assessments to help students gauge and build their entrepreneurial competencies.
3. **Policy Initiatives:** Governmental and educational policymakers should consider funding programs that support entrepreneurship education in science fields. Additionally, offering incentives, such as grants for student-led start-ups, could motivate students to actively pursue their entrepreneurial intentions upon graduation.
4. **Further Research:** Future research should examine other factors that may influence entrepreneurial intentions, such as cultural attitudes, industry-specific trends, and family background. A comparative study across different academic fields would also be beneficial to understand discipline-specific motivations and barriers to entrepreneurship.

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