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The role of business education in shaping entrepreneurial intentions: examining psychological and contextual determinants among university students in Bangladesh

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This study examines the influence of business education on entrepreneurial intentions among university students in Bangladesh, identifying key determinants, challenges, and policy implications for fostering entrepreneurship. A structured questionnaire was used to collect data over 6 months, employing Structural Equation Modeling (SEM) and Partial Least Squares (PLS-SEM) for hypothesis testing and analysis. Findings reveal that entrepreneurial education significantly enhances students' self-efficacy, attitudes, and perceived behavioral control, directly impacting their entrepreneurial intentions. However, financial barriers and limited family support hinder entrepreneurial pursuits. Business education acts as a mediator, amplifying the effects of attitudinal and perceived control factors on entrepreneurial intentions. Additionally, the study confirms the moderating role of perceived social norms in shaping entrepreneurial behavior. The results emphasize the need for curriculum enhancements incorporating experiential learning, industry collaborations, and mentorship programs to bridge the intention-action gap. This research contributes novel insights by integrating the Theory of Planned Behavior (TPB) with entrepreneurial education in a developing economy context. Unlike prior studies, it empirically establishes the mediating role of business education, offering a nuanced understanding of entrepreneurial mindset formation. Policy recommendations include revising business education curricula to incorporate experiential learning, financial literacy, and entrepreneurial mentorship programs. Government support through accessible funding schemes and regulatory incentives is also essential to fostering youth entrepreneurship.

KEYWORDS

entrepreneurial intention, entrepreneurship education, Theory of Planned Behavior, business education, university students, Bangladesh

1 Background of the study

Nowadays, more attention has been paid to the role of entrepreneurship education as an important factor in influencing entrepreneurial intentions among university students worldwide (Kautonen et al., 2015), especially in developing countries like Bangladesh. There has been a burgeoning interest in entrepreneurship as a sustainable, long-term career option,

reflecting the current trend of high graduate unemployment rates that are increasingly becoming one of the region's major issues. For instance, [Sahputri et al. \(2023\)](#) reveal that the perceived quality of entrepreneurship education, family entrepreneurial orientation and experience are important antecedents to students' entrepreneurial intentions. This assertion is affirmed by [Fatoki \(2014\)](#), who also highlights the role of entrepreneurship education in assisting graduates to transition into becoming entrepreneurs, thus enhancing economic development and creating sustainable communities. Moreover, [Akhter et al. \(2022\)](#) found that critically Implications: The results, however, reveal that digital entrepreneurial intention is influenced by the educational context, which suggests tailored learning styles and programs are needed in order to enhance students' aspirations toward entrepreneurship. However, there is a motivational side of entrepreneurship education that we cannot forget. [Malebana \(2014\)](#) emphasizes the need to introduce real-life entrepreneurial experiences via the use of guest speakers and also case studies proving that entrepreneurship has its benefits, which approach not only improves their entrepreneurial intelligence but also increases students' self-efficacy in terms of entrepreneurship. Likewise, [Hidayatulloh and Ashoumi \(2022\)](#) stated that entrepreneurship education matters much more in transforming students' intention to start a business because it can assist them in understanding the actual practicality of how the business operates along with its profit potential. Educational interventions are vital for a place like Bangladesh, where the circumstances of students and the challenges around them can alter their entrepreneurial ambitions ([Sun and Qamruzzaman, 2025](#); [Qamruzzaman, 2025](#)). Another important aspect of these discussions is the influence that self-efficacy can have on shaping entrepreneurial intentions. Research by [Wang et al. \(2019\)](#) shows that entrepreneurial self-efficacy acts as a mediator between entrepreneurship education and students' intentions to become an entrepreneur. This evidence is congruent with that of [Usman et al. \(2022\)](#), who contend that there are significant positive causal relationships between entrepreneurship education and the entrepreneurial intentions among students in developing countries, thus highlighting educational institutions to play a role in fostering levels of self-efficacy amongst the students. Educational programs can have an immense impact on the likelihood of students to contemplate and pursue entrepreneurial careers by increasing their confidence in pursuing these options. Together with self-efficacy, the role of contextual factors such as family support and cultural beliefs about entrepreneurship is crucial in explaining students' intent toward becoming entrepreneurs ([Shabnaz and Islam, 2021](#)) suggest that the intentions as well as constraints undergraduate students in Bangladesh face when seeking to go entrepreneurial are determined by their context, which either enables or impedes venturing. The results of [Ezeh et al. \(2019\)](#) study further confirm this standpoint which indicate that supportive educational environment would boost up the way students think when establishing any entrepreneurial intentions. This interaction of these various elements helps us understand that just as Bangladesh is such kind of a developing country until the moment, where cultural and economic conditions are affecting their perceptions/intentions at an appreciable level. This study thus aims to develop an in-depth understanding of problems and possibilities concerning entrepreneurship education for university students' entrepreneurial intentions under the context of Bangladesh ([Qamruzzaman and Finance, 2025](#); [Yingjun et al., 2024](#)).

The Financial Express (2018) reports a critical function played by the small and cottage industry in India, which has provided around 3.8 million employment opportunities working approximately for about 125,000 small-scale establishments and 800,000 household industries, of which young entrepreneurs control more than 70% of these businesses. Despite its optimistic outlook, Bangladesh has 1 million Small and Medium Enterprises (SMEs) that are mostly fragmented, if not commoditized; alarmingly, around 80% lack the involvement of young entrepreneurs ([Mujeri et al., 2021](#)). This disparity points to a fundamental shortcoming in the start-up landscape; it signifies that although there are opportunities available, they are hardly recognized by youth. In fact, government policies in Bangladesh have historically supported self-employment as a feasible avenue for newcomers to enter the labor force ([Hossain et al., 2023](#)). Strategically planning entrepreneurship, which covers start-ups, women entrepreneurs and SMEs, is given greater importance in the government's agenda for stimulant economy growth. Nonetheless, despite substantial contributions from startups and a conducive environment established by the government, the failure rate of companies in Bangladesh remains alarmingly high. In 2019, bank interest rates fluctuated between 10 and 12%, with fixed deposits predominantly exceeding this range, influenced by neighboring nations. The exorbitant financial expenditures are prohibitive for entrepreneurs, since daily profit margins of 10 to 15% render it challenging to attain savings that compete with lucrative company opportunities ([Kearney and Lincoln, 2017](#)). According to [Sahputri et al. \(2023\)](#), [Sadiq \(2021\)](#) and [Osman \(2024\)](#), controlling the unemployment rate if it is reduced significantly and getting quality returns like improved GDP growth direct economic benefits to society can compress violence and Crime that will, in turn, lower individual vulnerabilities. Also, when young people are engaged in entrepreneurship, it gives them a sense of place and space to actualize their hopes. According to [Malebana \(2014\)](#), [Li and Miao \(2023\)](#), [Kusumojanto et al. \(2020\)](#) and [Kurniawan \(2024\)](#), self-employment could be the mainstreaming route out of poverty for young people. Along these lines, the study also speaks to alleviating social and psychological symptoms from unemployment caused by criminal behaviors as well as having man learn new skills of production in terms of providing useful goods or services that can really serve residents; creativity/creativity is awakened at every level. Entrepreneurial activities, therefore, can open up a new economic space for the youth by providing job opportunities ([Moses et al., 2015](#); [Ukenna et al., 2010](#)), driving the development and growth of an economy, adding value to people's lives and ensuring their financial independence in developing countries like Bangladesh. Additionally, entrepreneurial engagement is a form of income generation born out of creative activities that provide self-sufficiency and contribute to increased levels of confidence ([Maxwell, 2002](#)). While entrepreneurship holds great promise for altering the economic fortunes of Bangladeshi youth, it requires an all-hands-on effort from government stakeholders and the private sector alike to shape a more enabling entrepreneurial environment. This way, the entire potential of our youth can be used to drive economic development and social progress— by eliminating the systemic barriers that halt young entrepreneurs.

Antecedents of entrepreneurial intention among university students are multifaceted and result from both educational frameworks and individual psychological attributes. A basic theme in

this narrative is the potential of entrepreneurship education coursework and its significance as an enabling vehicle for developing knowledge, competencies, and attitudes that support students' intentions to engage in entrepreneurial activities. This is reflected in empirical data, where it has been shown that a well-structured entrepreneurship education design strengthens entrepreneurial intentions, thereby fostering an entrepreneurial mindset and allowing students to develop their potential for being innovative entrepreneurs or engaging in actual business startup activities at the end of formal schooling (Wang et al., 2019; Mukhtar et al., 2021). Entrepreneurial education has also been related to the development of practical skills and experiential learning that can help boost confidence in entrepreneurial capabilities (Qamruzzaman and Finance, 2025; Yin and Qamruzzaman, 2024; Yi and Qamruzzaman, 2024). Additionally, the concept of entrepreneurial mindset as a key mediator in this relationship. According to the research, students who have a high entrepreneurship mindset tend to perceive entrepreneurial opportunities, and they are likely to take action (Juwairia et al., 2024; Cahyani et al., 2022). These traits are utterly related to the art of entrepreneurship skill (Saptono et al., 2020); the full knowledge-process capabilities encourage creativity and proactivity within the company network position. Moreover, the combination of entrepreneurship education and an entrepreneurial mindset advanced students' entrepreneurial alertness (Sang and Lin, 2019; Yan et al., 2023). In addition to educational impacts, environmental resources, including social support and financial access, as well as government policies, have been major drivers of entrepreneur intentions. For instance, Ali et al. (2019) note that in developing entrepreneurial ecosystems, particularly students, the important role of social support for stimulating higher-level entrepreneurship motives. Moreover, the availability of financial support and government guidelines can influence students to initiate their entrepreneurial ventures (Mukhtar et al., 2021). The way in which these external factors interplay with individual attributes highlights the complications surrounding how entrepreneurial intentions are formed and thus makes it crucial to develop a willful approach when fostering an entrepreneurial culture for university students. Personality traits have been found to be an impacting factor in addition view above determinants for an individual entrepreneurial intention. For instance, personality traits such as openness conscientiousness and extraversion have been found to be related positively with students' entrepreneurial intention (Fantaye et al., 2019; Saptono et al., 2020) implying that individual differences play an important role in the process of making decision on being entrepreneur. This underscores the need to capture not only educational but also psychological facets in understanding how entrepreneurial intentions are motivated among students. Conclusively, entrepreneurial intention formation in university students is developed based on a number of educational, psychological and contextual factors. This entrepreneurial education provides a basis to gain knowledge of entrepreneurship and develop an entrepreneurial mindset, followed by social support as well as economic syndrome, which both will shape the behavior. Understanding this nuanced dance is crucial for creating methodologies to encourage entrepreneurship in the young, leading them toward economic development and innovation within a society.

The motivation of the study is to draw the potential opportunities and challenges of entrepreneurial development in Bangladesh by taking entrepreneurial intention into account among university

graduates. The present study has considered the widely applied behavioral theory, the Theory of Planned Behavior (TPB), for its theoretical foundation. This study will try to address the following research questions:

- RQ1. What are the key factors that stimulate or hinder university students' entrepreneurial intentions in Bangladesh?
- RQ2. How do entrepreneurial attitudes, perceived behavioral control, and social norms influence students' entrepreneurial intentions?

This is the first study on the entrepreneurial intentions of university students in Bangladesh where the potential influence of business education has been explored. Although previous research has examined the relationship between entrepreneurial education and intentions, results have been inconsistent across contexts. Although TPB have been widely utilized in entrepreneurial research, limited studies have investigated business education as a mediating factor of entrepreneurial intention. While attitude, subjective norms and perceived behavioral control are well-documented in the literature as factors that influence business education, the role of developing nations (such as Bangladesh) is under-investigated. There is a noticeable scarcity of research on TPB use in Bangladesh, where students' professional decision making is shaped by the cultural and economic backdrop of the country. Previous studies have predominantly examined developed economies or regions where entrepreneurial ecosystems were already established, creating a gap in the empirical research literature for an economy with a high level of youth unemployment and limited access to financial resources. There is also a gap in examining factors such as family support, financial constraints and societal expectations on students' entrepreneurial intentions especially in a context where traditional employment still prevails as the dominant career path.

Our study adds to the literature by determining how business education can mediate the relationship of entrepreneurial attitudes, subjective norms and perceived behavioral control with entrepreneurial intentions. Unfortunately, academic research on the topic of business education is in its infancy, but what we have suggests that business teaching motivates students to simply venture into it and follow their dreams. This study contributes theoretically to the TPB framework by integrating business education into the model and by providing empirical support for the fact that entrepreneurial education is likely to become a significant predictor of entrepreneurial mindset. Additionally, the significance of the study lies in its focused backdrop of Bangladesh, due to the influence of self and contextual factors on entrepreneurial intention. While the findings draw attention to the obstacles young business builders encounter such as capital constraints and inadequate exposure, they highlight a key opportunity for curricular enhancements, providing clear pathways to get students "fired up" with creative ways to stay in the game by increasing exposure to real-world entrepreneurial experiences over the traditional classroom setting. The study also adds to the literature by showing that business education increases perceived behavioral control, indicating that targeted programs can help alleviate risk and ambiguity surrounding entrepreneurship. In addition, the results have practical implications for policymakers and educators. It indicates that educational institutions are better off building experiential learning and mentorship features in their entrepreneurship curricula to

support students' entrepreneurial intent. Policymakers can also leverage these insights to create supportive policies that foster entrepreneurship among university graduates, addressing barriers such as financial constraints and regulatory challenges (Wang et al., 2024; Qamruzzaman and Kor, 2024; Qamruzzaman et al., 2024).

2 Literature review, hypothesis development, and conceptual framework

2.1 Theory development and hypothesis

A comprehensive review of the literature indicates a robust consensus on the effectiveness of the Theory of Planned Behavior (TPB) in predicting entrepreneurial intention. Numerous studies have validated this assertion, highlighting the TPB's relevance in various contexts, including those involving entrepreneurial education (Hou et al., 2019; Lv et al., 2021; Rauch and Hulsink, 2015). This study aims to extend the application of the TPB by incorporating entrepreneurial education as an additional variable influencing entrepreneurial intention. The TPB, originally proposed by Ajzen (1991), posits that intention serves as a critical precursor to action, shaped by three core components: attitude toward the behavior, perceived social norms, and perceived behavioral control (Ramalho et al., 2022; Christina and Widjojo, 2023; Pham and Le, 2023; Rahman, 2024). The unique contribution of this research lies in its focus on entrepreneurial education as a predictor of entrepreneurial intention, thereby enriching the existing framework.

Several researchers have integrated the TPB with the Entrepreneurial Event Model (EEM) to explore entrepreneurial intentions further. For instance, Shapero and Sokol's model emphasizes the roles of desirability and feasibility in shaping intentions, which align closely with the constructs of attitude and perceived behavioral control in the TPB (Bae et al., 2014; Solesvik et al., 2014). Gelderen et al. (2008) noted that these constructs exhibit overlapping effects, suggesting that both models can effectively predict entrepreneurial intentions (Yifan, 2023). The study of Krueger and Malečková (2003) also supported this view, asserting that the predictive capabilities of the TPB and the EEM are comparably effective in understanding entrepreneurial intentions.

Attitude, as defined by Fishbein and Ajzen, reflects an individual's appreciation for a specific behavior (Mahendra et al., 2017). Social norms, which stem from the collective beliefs within a social group, significantly influence individual behavior, particularly through the opinions of family and peers (Ekpe and Mat, 2015). Perceived behavioral control is indicative of an individual's beliefs regarding the ease or difficulty of executing a behavior, which is closely related to Bandura's concept of self-efficacy (Heuer and Kolvereid, 2014; Mohamed and Ali, 2021). This notion underscores the importance of resources and opportunities in shaping perceived behavioral control, as highlighted (Marques et al., 2012). The intention to engage in entrepreneurial activities is characterized by the effort individuals are willing to exert to realize their entrepreneurial goals (Li and Miao, 2023). As such, many universities have initiated entrepreneurial courses aimed at addressing the challenges related to resources and attitudes in entrepreneurship (Rahman, 2024; Lakmal, 2023). These educational programs are designed to cultivate a positive attitude

toward entrepreneurship, equip students with the necessary skills, and reinforce the perception of entrepreneurship as a viable career path.

2.2 Theory of planned behavior and entrepreneurial intention

One of the earliest frameworks for analyzing entrepreneurial intentions is The Theory of Planned Behavior (TPB) developed by Ajzen (1991), which proposed that intention is a dependent variable of individual behavior which was affected by three main components: attitude, subjective norm and perceived behavioral control (PBC) in the Theory of Planned Behavior (Buana et al., 2017; Şen et al., 2018). This model has been widely adopted in entrepreneurship research to explain the determinants of why individuals intend to act or not perform entrepreneurial behavior. Theoretical integration of TPB with other models, such as Shapero and Sokol's Entrepreneurial Event Model (EEM), has enhanced the debate on entrepreneurial intentions, contributing to a holistic view of cognitive processes implicit in this phenomenon (Amofah and Solé, 2020; Esfandiar et al., 2019). Empirical research has confirmed entrepreneurial studies as predictors of the development of students pro-offering future behavior by increasing their attitudes and subjective norms (Buana et al., 2017; Esfandiar et al., 2019) stress that entrepreneurship education should aim to help participants develop the intention of becoming an entrepreneur, especially for university students with developmental signals during their career process, which also supports earlier results from Nabi et al. (2010) who claim that educational interventions can substantially enhance the students' intention to become an entrepreneur by promoting a fertile context for entrepreneurial thinking and behavior in general barred ordered (Nabi et al., 2010; Nabi and Liñán, 2011). Subjective norms, representing perceived social pressures to become involved in entrepreneurial activities, have also been identified as important determinants of EI (Şen et al., 2018; Heuer and Liñán, 2013), which has given TPB empirical support in diverse cultural contexts and confirmed its predictive accuracy at the entrepreneurial intention level. For instance, Engle et al. administered the TPB in 12 countries and found support for entrepreneurial intent, which would suggest its generalizability across varying levels of economic development (Engle et al., 2010). Likewise, Al-Jubari (2019) conducted a study to develop an intelligent, low-cost hybrid home automation system based on the Internet of Things. applied self-determination theory with TPB to explain the entrepreneurial intentions of Malaysian university students and found that autonomy and feeling competent influence entrepreneurial intent through constructs from TPB (Al-Jubari, 2019; Al-Jubari et al., 2018; Alkhalaf et al., 2022), which implies that the interaction of individual psychological factors and social forces is essential to gain insight on how entrepreneurial intentions are formed. Besides, contributions have been made on the influence of personal traits and psychological capital in entrepreneurial intentions. Both the contributions of Alkhalaf et al. (2022) and Miralles et al. (2015). For instance, Farani et al. (2017) proposed that entrepreneurial knowledge is an important resource competency of students that can influence their career intention to create a venture, so they argued that entrepreneurially educated individuals make better-informed decisions about how careers are personally navigated in the entrepreneurial landscape. In addition, the mediating role of perceived behavioral control has been underscored in literature, and it persists as a link

between personal characteristics (i.e., resilience) and entrepreneurial intentions that acknowledge self-regulation is a pre-requisite for behavior production toward entrepreneurship (Eid et al., 2019; Idrees et al., 2022). Understanding the factors that influence entrepreneurial intentions is essential to researchers, especially due to an evolving scenario of entrepreneurship that is now even more heated in a pandemic context with COVID-19. Ruiz-Rosa et al. (2020) pointed to the gravity of the problem. They explored coronavirus-induced effects on social entrepreneurial intentions by applying TPB constructs and examining how antecedent variables unfold in an exceptional context. The study exposed that exogenous crises could detrimentally change perceptions of efficacy and subjective norms, subsequently affecting entrepreneurial intentions, which underlines the fact that entrepreneurial intentions are dynamic and thus, education needs to adapt well to variance of socio-economic conditions. For example, research on the inclusion of gender perspectives within and across cells has provided detailed understanding of how women evaluate entrepreneurial intentions (Kautonen et al., 2015). Research by Şen et al. (2018) explored female entrepreneur candidates, and revealed that attitudes, subjective norms and perceived behavioral control determine intentions for women. The study represents a need to incorporate culture- and gender-specific dimensions in the design of entrepreneurship education and support programs. Such an influence of personal values and motivations on entrepreneurial intentions could be indirect through the mediating mechanisms of TPB constructs, particularly in developing countries (Karimi and Makreet, 2020; Nayak, 2023). The use of structural equation modeling (SEM) to examine the TPB constructs and entrepreneurial intentions has extended this research direction as well. Amofah and Solé (2020) used SEM to study the impact of attitudes, subjective norms, and perceived behavioral control on entrepreneurial intentions thus supporting TPB as a relevant theoretical basis for explaining entrepreneurial behavior. By combining multiple methods together, robust findings that elucidate a variety of influences on entrepreneurial intentions can be identified which may help policy- and education-makers getting better insights. The Theory of Planned Behavior has endured as a central theory for explaining entrepreneurial intentions with strong empirical backing across various contexts. All the above-stated structures and variables which is included in this type of integration offer a lot to entrepreneurship research by expanding discourse on entrepreneurial intentions using TPB as well alongside many other theories and incorporates individual, educational or socio-cultural level factors. Work on combining these overarching tenets and scaffolds with more context-dependent details in a framework that highlights the processes is an encouraged direction for future research; this especially given increasing global challenges, combined with shifting notions of entrepreneurship as we traverse into 21st century.

2.3 Business education and entrepreneurial intention

The association of business education with entrepreneurial intention has produced considerable literature in recent years that underscores the importance of entrepreneurship education in influencing students' perceptions and intentions to become an entrepreneur [e.g., Accordingly, entrepreneurship education is expected to have played a significant role in raising student awareness about business opportunities and developed

key skills—such as creativity; critical thinking; problem-solving—which form the basis for successful entrepreneur (Cahyani et al., 2022; Jung and Lee, 2020; Saadat et al., 2021)]. Research results reveal that educational experiences (both curricular and co-curricular) substantially affect an entrepreneurial mindset, which influences students' intentions to undertake entrepreneurship activity or engage in it on a full-time basis as entrepreneurs (Bae et al., 2014; Li, 2023; Sun et al., 2023). Theory of Planned Behavior (TPB) is one such model widely used to show the interaction effects between entrepreneurship education and entrepreneurial intention. Esfandiari et al. (2019) also stated that the results from structured entrepreneurship education programs boost positive attitudes toward entrepreneurship, subjective norms, and perceived behavioral control using TPB. In addition, creativity has been given a crucial emphasis on the discourse of entrepreneurial intentions as an element that accords added value to fostering innovative thinking and problem-solving capacity among students through entrepreneurship education (Shi et al., 2020; Wang et al., 2021).

Further, evidence of entrepreneurship education efficacy has the proposition that effectiveness will be hinged on various factors, including pedagogical practices and institutional support (Cahyani et al., 2022; Saadat et al., 2021). Experiential learning and project-based assignments as examples of innovative teaching approaches lead to greater student engagement that have been demonstrated to increase entrepreneurial intentions among students (Raimi and Ajiboshin, 2018; Buana et al., 2017). Moreover, family background appears to play a vital role in influencing students rationally. Entrepreneurship education is essential in developing the entrepreneurial mindset and intention among students, as shown by existing literature. Through the integration of theoretical knowledge and practical experiences, educational institutions are effectively preparing students to become more entrepreneurial in nature; which when further extended will lead them toward creating a balance between economic growth nor innovation (Ghina et al., 2014) as well as entrepreneurship education programs ensuring student exposure to soulful experiential learning on it so does packaging essential business acumen skills for initiating potential projects that they believe feasible can brilliantly succeed.

2.4 Previous works and research gap

During the last two decades, entrepreneurial intentions have been one of the most researched phenomena in entrepreneurship research and a great number of studies investigated factors which predict individuals' disposition to start new businesses. Key to this debate is the Theory of Planned Behavior (TPB) which, in its time has been widely used to explain entrepreneurial intentions and more recently within entrepreneurship education. Recent research has shown that entrepreneurial education is a primary predictor of the development intentions, but the related results are still disparate based on various contexts and methods. Quite a few studies suggest that entrepreneurial education could be an important antecedent of student ventures (Mukhtar et al., 2021). The study of Fatoki (2014) further buttresses this by affirming that the training of individuals to become responsible, as well enterprising through entrepreneurship education will lead to economic development. Yet, the efficacy of educational interventions is variable with (Duong, 2021) demonstrating that pedagogical processes in universities in Vietnam seldom significantly affect entrepreneurial intentions reported a significant need to improve teaching

methodologies. Mixed findings related to the effectiveness of entrepreneurial education on intentions can be due to among other things, differences within educational context and methodologies that have been applied in different studies. For example, although [Duong \(2021\)](#), [Kim et al. \(2022\)](#), [Díaz-García et al. \(2015\)](#) and [Zhang et al. \(2013\)](#) further highlight the evidence on ET and intentions stating that the mediating effect of the educational context in this regard. In addition, [Mukhtar et al. \(2021\)](#) and [Kim et al. \(2022\)](#) contributes in the national context of Bangladesh that digital entrepreneurship intentions can strongly be influenced by moderating factors like personal attitude and perceived behavioral control. Although the existing knowledgebase is expanding, research on whether entrepreneurial education explains its impact in predicting of intentions and Bangladeshi context presents no exception. Ahmed et al. We are aware of one unique case where [Al-Mamun \(2022\)](#) tested the combined TPB-EET model on entrepreneurial intentions within tourism students in Bangladesh; however, the impact from entrepreneurial education was not assessed. This gap underscores the need for additional empirical research to directly investigate this relationship in these authors' specific context. In summary, the literature suggests a major role of entrepreneurial education in shaping intentions to engage in entrepreneurial activity; nonetheless, there is no conclusive information and more research studies are on demand that can assist better understanding these relationships especially focusing under-research regions like Bangladesh. The advancement in empirical study of how entrepreneurial education can succeed eventually as a mechanism to promote the intention Chair through an integration of diverse methodological approaches and examination into contextual factors. Therefore, from the above discussion, several research gaps are identified, which are addressed in this study in [Table 1](#).

2.5 Conceptual framework

Despite the extensive research on entrepreneurial intentions, most studies employing the TPB have been conducted in contexts outside Bangladesh. Given the pivotal role of social norms in shaping entrepreneurial intentions, this study seeks to apply the TPB within the Bangladeshi context, where there is a notable gap in the literature regarding youth entrepreneurship intentions and the influence of business education ([Pham and Le, 2023](#); [Fayolle and Gailly, 2013](#)). The Theory of Planned Behavior (TPB) constructs—attitude toward behavior, subjective norms, and perceived behavioral control—serve as critical drivers in shaping entrepreneurship education (EE). Attitude toward entrepreneurship directly influences an individual's willingness to engage with EE by shaping their perception of its relevance and utility. If students believe entrepreneurship aligns with their personal

and professional aspirations, they are more likely to engage in EE to acquire the necessary skills and knowledge. This self-reinforcing mechanism strengthens the role of EE as an essential intermediary between intention and action.

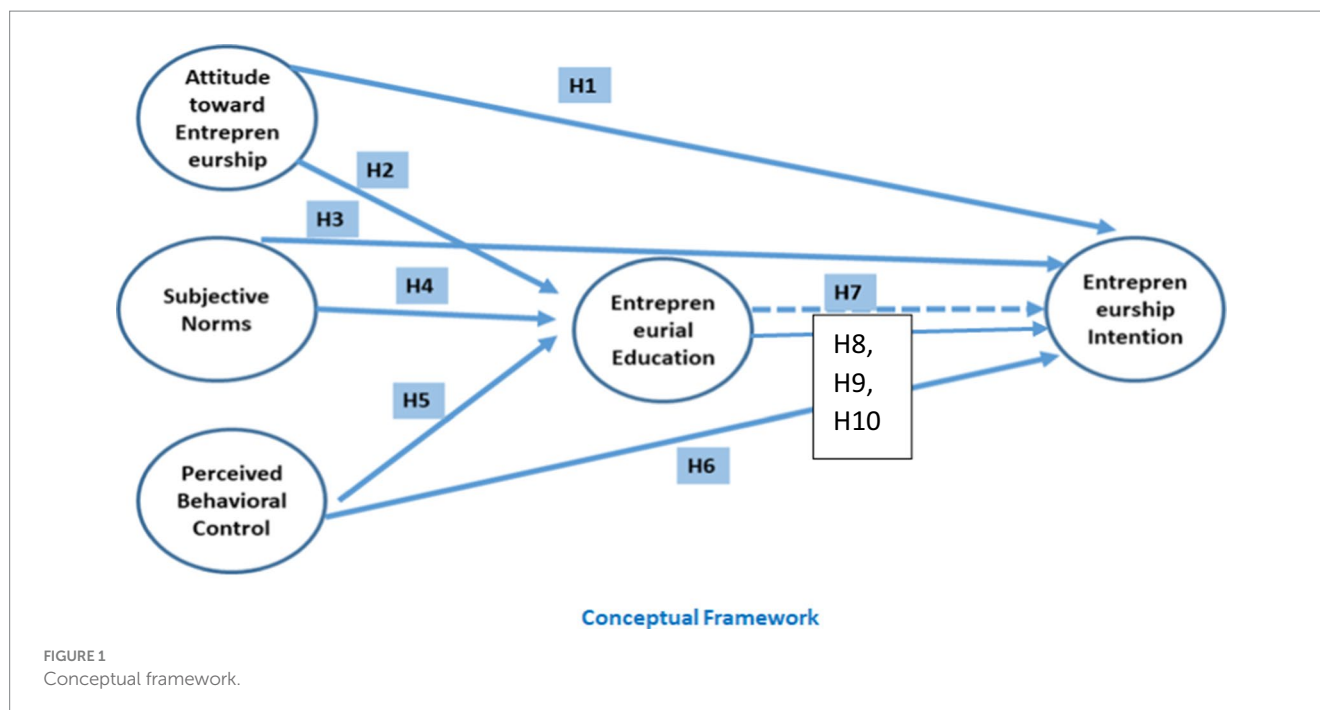
Subjective norms operate as social pressures that shape students' decisions to participate in EE. When students perceive that their peers, family, or broader society value entrepreneurship, they experience an increased motivation to engage with EE as a means of meeting these social expectations. Universities, policymakers, and industry leaders, as influencers of these norms, further reinforce this effect through targeted curriculum development and entrepreneurial support programs. If EE is positioned as an expected step toward successful entrepreneurial careers, students become more inclined to embrace it. Perceived behavioral control reflects individuals' confidence in their ability to navigate entrepreneurship. A high sense of control increases the likelihood that individuals will seek out EE to further enhance their perceived competence. EE, in turn, validates and strengthens their belief in their ability to start and manage a business, reinforcing the TPB loop. The more students engage with EE, the more they develop self-efficacy, making them feel more prepared for entrepreneurial ventures. By shaping attitudes, reinforcing social norms, and enhancing perceived control, TPB constructs create a causal pathway that makes EE an inevitable and necessary step in entrepreneurial development. EE does not exist in isolation but rather emerges as a response to these behavioral predictors, which collectively drive individuals toward structured learning in entrepreneurship.

Therefore, based on the existing literature, we propose the following conceptual framework (see [Figure 1](#)) and following hypothesis:

- H1:* Entrepreneurial attitude has a positive impact on students' entrepreneurial intention.
- H2:* Attitude toward entrepreneurship has a positive impact on entrepreneurship education.
- H3:* Perceived social norms have a positive impact on entrepreneurial education.
- H4:* Perceived social norms have a positive impact on students' entrepreneurial intentions.
- H5:* Perceived behavioral control has a positive impact on entrepreneurial intention.
- H6:* Perceived behavioral control has a positive impact on entrepreneurship education.

TABLE 1 Research gap.

Gap	Area	Details of the gap	Addressing gap
Gap 1	Theory	Most of the research using TBP theory did not test entrepreneurship education as a mediating variable of entrepreneurial intention.	This research validates the items and re-evaluates the model.
Gap 2	Practice	Most of the studies focused on various countries except Bangladesh.	This study works on Bangladesh, where business education is highly popular, and unemployment is a major problem as most students seek a salaried job.



H7: Entrepreneurial education has a positive impact on entrepreneurship intention.

H8: Entrepreneurship education mediates the relationship between entrepreneurial attitude and entrepreneurial intention.

H9: Entrepreneurship education mediates the relationship between perceived social norms and entrepreneurial intention.

H10: Entrepreneurship education mediates the relationship between perceived behavioral control and entrepreneurial intention.

3 Methodology of the study

3.1 Research design

For entrepreneurship development, the need for aspiring entrepreneurs is the mandatory precondition. However, previous studies in Bangladesh rarely explore the readiness of the younger generations to be entrepreneurs. A great number of students, after having a university degree, get disappointed after failing to get an attractive job. This study aims to examine the factors that influence students' entrepreneurial intentions, including the role of entrepreneurship education, attitudes, subjective norms, and perceived behavioral control. The findings will provide insights for policymakers to design policies that foster a more supportive environment for aspiring entrepreneurs.

3.2 Data collection procedure

Data for this study were collected from students of both public and private universities in Dhaka, Bangladesh, to obtain a heterogeneous

sample of students with different academic backgrounds and institutional experiences. The public universities were Dhaka University, the Institute of Business Administration (IBA) and Jagannath University. According to the study, the five private universities were North South University (NSU), United International University (UIU), Southeast University (SEU), East West University (EWU) and BRAC University. These institutions were chosen based on their distinct emphasis on business education and high relevance in entrepreneurship programs in achieving the objectives of the study. The Likert scale was used for developing the questionnaire through respondents being able to rate their levels of agreement or disagreement regarding statements pertaining to construct such as entrepreneurial intentions, attitudes, subjective norms, perceived behavioral control and entrepreneurship education. And for data collection, the questionnaire was disseminated via hard copies as well as online mode. Campus copies were distributed in classes and university events, and the online version was circulated via university email lists, student forums, and social media sites. This dual approach helped ensure a higher response rate with representation across different institutions.

The demographic profile (see Table 2) of the 353 respondents reveals a diverse range of characteristics. In terms of age, the majority fall between 31 and 35 years (35.13%), followed by those aged 25–30 years (27.76%), while 21.53% are between 18 and 24 years, and 15.58% are over 36 years old. Gender distribution shows a higher proportion of males (55.81%) compared to females (44.19%). The respondents also represent various academic backgrounds, with 21.53% pursuing Business Administration, 16.15% in Textile Engineering, and 15.30% in Electrical and Electronic Engineering (EEE). Other notable fields include Economics (12.75%), Computer Science and Engineering (CSE) (12.46%), Entrepreneurship (8.50%), and 13.31% from other disciplines. A significant portion of the respondents (58.07%) have taken entrepreneurship courses during their Bachelor's studies, while 49.29% have undergone entrepreneurship training, either at university or elsewhere. Regarding entrepreneurial background, 27.76% of the respondents have family businesses or entrepreneurial parents, while 56.09% have

TABLE 2 Details of the organizations (no's valid responses is 353).

Serial	Particulars	Categories/code	Total (n = 353)	Percentage (%)
1.1	Age of the respondent (years)			
	18–24		76	21.53%
	25–30		98	27.76%
	31–35		124	35.13%
	36+		55	15.58%
1.2	Gender			
	Male		197	55.81%
	Female		156	44.19%
1.3	Subjects			
	Business Administration		76	21.53%
	Economics		45	12.75%
	Textile Engineering		57	16.15%
	CSE		44	12.46%
	EEE		54	15.30%
	Entrepreneurship		30	8.50%
	Others		47	13.31%
1.4	Taken entrepreneurship courses, a bachelor			
	Yes		205	58.07%
	No		148	41.93%
1.5	Went through entrepreneurship training courses			
	Yes		174	49.29%
	No		179	50.71%
1.7	Having family business/entrepreneurial parents			
	Yes		98	27.76%
	No		255	72.24%
1.7.1	Having close relatives/friends as an entrepreneur			
	Yes		198	56.09%
	No		155	43.91%
1.7.2	Having my own experience as an entrepreneur			
	Yes	1	76	21.53%
	No	0	278	78.75%

close relatives or friends who are entrepreneurs. However, only 21.53% have personal entrepreneurial experience, indicating that a large majority (78.75%) do not.

As far ethical concern and respondents consent to participate in the study, it is positively mentioned that the study was approved by ethics committee of North South University and reg no: NSU IRB/ERC-2024. Furthermore, the consent form the respondents has been collected with hard paper copy and reserve in the safe case.

3.3 Research instruments

3.3.1 Questionnaire development and measurements of variables

A mixed approach is expected to be appropriate when designing questionnaires to explore the entrepreneurial intentions of the youth.

The questionnaire have three sections, including (i) demographic information of the respondents, (ii) perceptual statement in order to measure dependent and independent variables, and (iii) open-ended questions to explore factors supporting or limiting entrepreneurial intentions. Both open and close-ended questions, along with categorical and five-point Likert scales used for questionnaire development.

Relevant demographics of the respondents also be asked to reflect the characteristics of the students, such as the respondent's gender, race, age, discipline of study, and marital status, along with several control questions, such as whether the respondents have parents as entrepreneurs, the respondents' experience as entrepreneurs, and their close relatives as entrepreneurs (Ashari and Susilowati, 2023).

Entrepreneurial intention assessed using a Likert scale comprising eight items, drawing from the frameworks established

by Saadat et al. (2021), Duong (2021) and Lin (2024). The measurement of attitude toward entrepreneurship will utilize five items based on Saadat et al. (2021). Subjective norms will be evaluated through six items, while perceived behavioral control (PBC) will also be measured with six items, both of which will be adapted from the studies conducted by Rauch and Hulsink (2015). Furthermore, entrepreneurial education will be quantified using nine items sourced from Yifan (2023), Saadat et al. (2021) and Lin (2024).

Recent literature emphasizes the importance of entrepreneurial education in shaping students' entrepreneurial intentions. For instance, Saadat et al. (2021) highlights that effective entrepreneurship education enhances not only entrepreneurial knowledge but also the entrepreneurial mindset, which is crucial for fostering entrepreneurial alertness, which aligns with findings from Duong (2021), who reported that both attitude and perceived behavioral control serve as mediators in the relationship between entrepreneurial education and intention, indicating that these constructs significantly influence students' entrepreneurial aspirations.

Moreover, the role of the perceived entrepreneurial environment has been shown to be a significant predictor of entrepreneurial intention among college students, as evidenced by Li and Miao (2023) and Lin (2024), who explored the mechanisms through which this environment impacts entrepreneurial aspirations, which underscores the necessity of incorporating contextual factors when measuring entrepreneurial intention, as they can enhance the predictive validity of the constructs involved.

The measurement framework for entrepreneurial intention, attitude, subjective norms, PBC, and entrepreneurial education is grounded in established literature, ensuring a comprehensive approach to understanding the factors influencing entrepreneurial intentions among students. This methodological rigor is essential for yielding valid and reliable results that can inform future educational strategies and policies aimed at fostering entrepreneurship. The following Table 3 displays the results of factor loading.

3.4 Normality assessment

The assessment of normality (see Table 4) indicates that most variables exhibit slight negative skewness, with skewness values ranging from -0.155 to -0.686 , suggesting a slight left-leaning distribution across the data. The critical ratios for skewness (C.R.) fall well within acceptable limits, mostly below the absolute value of 2, indicating no significant deviation from normality. Kurtosis values range between -1.515 and -0.186 , demonstrating that the data is relatively flat or platykurtic compared to a normal distribution, with critical ratios for kurtosis (C.R.) similarly below 2, indicating no severe outliers or issues with normality. The multivariate skewness and kurtosis values also suggest that the overall distribution of the data does not deviate significantly from normality, supporting the assumption of normality for further analyses.

Table 5 exposes the results and demonstrates a significant relationship among the latent constructs of this study: entrepreneurial attitude (ATT2), perceived behavioral control (PBC) and an additional behavior related to entrepreneurship BE6. However, the AVE values present in Table 3 demonstrate that all constructs achieve a high degree of convergence divergent validity. The correlation coefficients support

TABLE 3 Results of cross-factor loading.

	EI	ATT	SN	PBC	BE	VIF
EI1	0.961	0.335	0.421	0.53	0.472	2.2329
EI2	0.857	0.531	0.335	0.443	0.54	2.4901
EI3	0.905	0.54	0.485	0.474	0.544	2.7811
EI4	0.894	0.579	0.359	0.416	0.391	2.4595
EI5	0.954	0.331	0.45	0.406	0.534	2.2218
EI6	0.963	0.374	0.367	0.493	0.329	1.049
ATT1	0.583	0.87	0.426	0.539	0.373	1.3464
ATT2	0.38	0.852	0.523	0.533	0.534	1.4893
ATT3	0.566	0.878	0.498	0.588	0.407	1.4828
ATT4	0.407	0.928	0.485	0.378	0.378	1.4159
ATT5	0.406	0.877	0.397	0.42	0.407	2.0236
SN1	0.338	0.482	0.95	0.347	0.511	1.7492
SN2	0.532	0.476	0.854	0.525	0.343	1.1913
SN3	0.325	0.483	0.871	0.352	0.505	2.1668
SN4	0.416	0.346	0.861	0.529	0.344	2.9137
SN5	0.341	0.38	0.845	0.458	0.364	1.9865
SN6	0.373	0.56	0.92	0.425	0.46	2.768
PBC1	0.486	0.589	0.5	0.879	0.354	1.0243
PBC2	0.464	0.339	0.422	0.925	0.568	1.34
PBC3	0.326	0.465	0.495	0.92	0.388	2.6581
PBC4	0.473	0.479	0.574	0.833	0.328	2.1146
PBC5	0.328	0.349	0.371	0.901	0.386	1.0914
BE1	0.487	0.445	0.392	0.344	0.991	2.5003
BE2	0.401	0.452	0.393	0.546	0.876	2.0541
BE3	0.489	0.327	0.471	0.417	0.963	1.5901
BE4	0.406	0.491	0.494	0.425	0.937	2.2212
BE5	0.566	0.476	0.433	0.493	0.85	2.6612
BE6	0.376	0.551	0.584	0.341	0.984	1.693

the hypothesis that ATT2 and PBC are positively correlated. That is, a positive attitude toward entrepreneurship is related to strong perceived behavioral control. Furthermore, the additional high AVE of BE6 (0.896) and its relationship with ATT2 ($r = 0.0782$) and PBC in quality group support that entrepreneurial education has a positive impact on attitude as well as perceived behavioral control responding to educational hints being able to contribute; COP4 construct shows only a moderate degree of correlation with others, suggesting less powerful role that the contextual factors may exert elsewhere to influence entrepreneur behaviors as well. Taken together, the relationships between all these constructs highlight how promoting positive attitudes and perceived control in educational interventions could help cultivate entrepreneurial intentions.

3.5 Data analysis

In order to ensure maximum adequacy, the instruments will be pre-tested in the sampling area with a small group of respondents.

TABLE 4 Assessment of normality.

Variable	Min	Max	Skew	C.R. (Skewness)	Kurtosis	C.R. (Kurtosis)
EI8	1	5	-0.251	-1.068	-0.875	-1.5
EI5	1	5	-0.306	-0.979	-0.76	-1.388
EI4	1	5	-0.321	-1.561	-0.882	-0.949
EI3	1	5	-0.217	-0.932	-0.669	-1.56
EI2	1	5	-0.179	-0.982	-0.186	-1.552
BE6	1	5	-0.155	-0.946	-0.466	-1.18
BE5	1	5	-0.363	-1.076	-1.164	-1.226
BE4	1	5	-0.453	-0.819	-1.515	-1.336
BE3	1	5	-0.345	-1.104	-1.177	-0.895
BE2	1	5	-0.258	-1.653	-1.154	-1.277
BE1	1	5	-0.239	-1.305	-1.199	-0.957
PBC1	1	5	-0.355	-1.025	-1.191	-1.608
PBC2	1	5	-0.261	-1.354	-0.743	-1.716
PBC3	1	5	-0.354	-0.816	-1.174	-1.338
SN1	1	5	-0.243	-1.491	-1.057	-1.003
SN2	1	5	-0.301	-1.171	-1.165	-1.438
SN3	1	5	-0.486	-1.465	-1.164	-1.11
SN4	1	5	-0.212	-1.159	-0.806	-1.099
SN5	1	5	-0.441	-1.091	-1.114	-0.834
ATT5	1	5	-0.361	-0.949	-1.048	-1.197
ATT4	1	5	-0.469	-1.12	-1.201	-1.404
ATT3	1	5	-0.363	-1.639	-1.064	-1.272
ATT2	1	5	-0.686	-1.534	-1.564	-1.339
ATT1	1	5	-0.179	-1.61	-0.689	-1.716
Multivariate				-1.358		-1.026

TABLE 5 Correlations among the latent constructs of the study.

Constructs	AVE	MSV	ATT	PBC	PBC	EE	COP
ATT2	0.818	0.069	0.904434				
PBC	0.893	0.133	0.127	0.944987			
PBC6	0.674	0.046	0.1289	0.2187	0.820975		
BE6	0.896	0.102	0.0782	0.1133	0.1672	0.946573	
COP4	0.747	0.073	0.1743	0.1182	0.1364	0.109	0.864292

Necessary modifications will be incorporated to finalize the instruments based on pre-testing requirements. To make the dataset suitable for analysis, the data will be thoroughly checked, edited and tabulated. Variance-based partial least square structural equation modeling (PLS-SEM) will be used to analyze entrepreneurial intentions among youth (first objective). PLS is gaining popularity in social sciences, which is a second-generation technique of SEM. This is particularly because of the method's ability to test structural model relationships and evaluate the reliability and validity of multi-item construct measures [Hair et al. \(1998\)](#). Moreover, the variance explained in the dependent variable(s) is larger using SEM than multiple regressions because it accounts for both direct and indirect effects.

All variables that will be used in the model (independent variables, moderator and dependent variables) are latent variables with multiple items of measurement. Hence, the multivariate

technique, SEM, will be the most appropriate in this case. Smart PLS 4 will be used for all computations related to this study because of its user-friendly interface, level of measurement, normality of data issues, nature of the study and small sample size requirements [Qamruzzaman \(2024\)](#).

4 Data analysis along with results

4.1 Measurement property and discriminant validity test

The results presented in [Table 6](#) indicate strong measurement properties for the constructs of entrepreneurial intention (EI), attitude (ATT), subjective norms (SN), perceived behavioral control (PBC), and business education (BE). The composite reliability (CR) values for

each construct exceed the acceptable threshold of 0.7, with EI at 0.8935, ATT at 0.8961, SN at 0.884, PBC at 0.912, and BE at 0.915, demonstrating high internal consistency. The average variance extracted (AVE) values further support the validity of the constructs, with EI (0.818), ATT (0.893), SN (0.674), PBC (0.896), and BE (0.747) indicating that they explain a substantial amount of variance in their respective indicators. Notably, the R^2 values for EI (0.972) and PBC (0.977) suggest that these constructs account for a significant proportion of variance in entrepreneurial intention, highlighting their predictive power. The individual item loadings for each construct are also robust, with t -values exceeding the critical threshold of 1.96, affirming the significance of each item in measuring its respective construct. Overall, these findings underscore the reliability and validity of the measurement model, reinforcing the theoretical framework underpinning the study.

The discriminant validity test results, see Table 7, provide evidence that the constructs of entrepreneurial intention (EI), attitude (ATT), subjective norms (SN), perceived behavioral control (PCB) and business education (BE) meet the criteria established by Fornell and Larcker (1981). The square root values for the Average Variance Extracted (AVE) on the diagonal while coefficient correlation constructs are found above correlation of EI is 0.904 higher than its correlations within ATT, which means that the construct is unique ATT exhibits a square root of AVE value similar to 0.945, which is higher than the correlation among it and all other constructs indicating its discrimination. PBC constructed AVE = 0.896, the highest in strong reliability and validity; BE (AVE = 0.747) of good enough discriminant validity. The results confirm that constructs adapted in this study are well discriminated, making interpretations of their relationships more unambiguous within entrepreneurial intention research.

The Hetreotrait-Monotrait ratio revealed in Table 8, which takes on a theoretical value of a maximum of one, provides additional support for the discriminant validity between entrepreneurial intention, attitude, subjective norms, perceived behavioral control, and business education. Specifically, the ratios, which measure the correlation across construct spaces, all have values below the recommended threshold of 0.85, which indicates satisfactory discriminant validity. These results are consistent with the findings of Mahendra et al. (2017) and Schlaegel and Koenig (2014), who concluded that the HTMT represents a complex index based on commutative elements and is a powerful indicator of discriminant validity in structural equation modeling. Thus, the HTMT analysis shows that the study's constructs are differentiated enough to allow for a more nuanced interpretation of each in the overall structural model of entrepreneurial intention.

4.2 Common method bias or variance

Each single source response data with regard to an independent variable and dependent measure collected in the same study, especially when using identical item contexts and similar item characteristics, raises concerns of common method bias (CMB). For example, in common method bias, the same respondents' answers can be affected by how data are collected rather than by the construct being measured. Common method bias can be accessed via a number of methodologies, among them the unmeasured latent variable approach and marker

TABLE 6 Measurement properties.

	Υ	R^2	CR	AVE	alpha	t -value
EI			0.972	0.818	0.8935	
EI1	0.862	0.743				29.503
EI2	0.939	0.882				33.463
EI3	0.956	0.914				23.165
EI4	0.863	0.745				26.923
EI5	0.887	0.787				32.812
EI6	0.955	0.912				29.795
EI7	0.825	0.681				32.54
EI8	0.941	0.885				34.754
ATT			0.98	0.893	0.8961	
ATT1	0.933	0.870				28.402
ATT2	0.947	0.897				25.042
ATT3	0.929	0.863				23.751
ATT4	0.953	0.908				22.783
ATT5	0.965	0.931				33.051
SN			0.946	0.674	0.884	
SN1	0.825	0.681				29.292
SN2	0.785	0.616				23.781
SN3	0.813	0.661				23.858
SN4	0.813	0.661				33.039
SN5	0.862	0.743				22.37
SN6	0.827	0.684				30.776
PBC			0.977	0.896	0.912	
PBC1	0.925	0.856				31.790
PBC2	0.954	0.910				33.928
PBC3	0.961	0.924				31.806
PBC4	0.96	0.922				30.365
PBC5	0.933	0.870				23.162
PBC6	0.925	0.856				30.404
BE			0.956	0.747	0.915	
BE1	0.891	0.794				24.911
BE2	0.827	0.684				30.386
BE3	0.901	0.810				23.056
BE4	0.839	0.704				34.714
BE5	0.842	0.709				30.848
BE6	0.884	0.781				34.969
BE6	0.867	0.752				
BE7	0.856	0.733				

variable technique (f^2), calling for testing full collinearity or Harman's single-factor test. For common method bias detection in the present study, researchers used two typical strategies to control for potential common method bias. Harman's single-factor test (Fuller et al., 2016) for common method variance (CMV) is one of the most well-known and simplest statistical techniques used to identify CMV. The conceptual basis for this test is that if common method variance is present, a single factor will account for more than 50% of the covariance among criterion

TABLE 7 Discriminant validity test.

Constructs	Fornell and Larcker				
	EI	ATT	SN	PBC	BE
EI	0.904				
ATT	0.321	0.945			
SN	0.317	0.443	0.821		
PBC	0.376	0.355	0.381	0.946	
BE	0.443	0.38	0.442	0.307	0.864

TABLE 8 Results of Hetreotrait-Monotrait.

Hetreotrait-Monotrait					
	EI	ATT	SN	PBC	BE
EI					
ATT	0.84				
SN	0.849	0.806			
PBC	0.818	0.729	0.696		
BE	0.78	0.772	0.831	0.662	

constructs and their measures (Podsakoff et al., 2003). In their analysis, the researchers discovered that they had a value of 34.020%, significantly less than this threshold limit. Therefore, this finding can help researchers to assert that common method bias does not exist in their study. Furthermore, common method bias was tested using a full collinearity test, which specifically examined the variance inflation factor (VIF). This method was facilitated by having a dummy random variable in the analysis. A VIF value greater than 3.3 indicates that the model might have been “polluted” by common methods bias. In the current study, all VIFs obtained from the full collinearity test fell below 3.3 (Table 9). Thus, the researchers argue strongly that their model is free from common method bias, which solidifies the validity of their findings.

4.3 Hypothesis testing: structural equation modeling

4.3.1 Direct effects from ATTI, SN, and PBC on entrepreneurial intention among students

The results presented in Table 10 highlight the path coefficients for the direct effects among the constructs of entrepreneurial intention (EI), attitude (ATT), subjective norms (SN), perceived behavioral control (PBC), and business education (BE). The analysis reveals that both ATT and PBC have significant positive effects on EI, with path coefficients of 0.151 and 0.143, respectively, and *t*-values exceeding the critical threshold of 1.96, thus supporting the acceptance of the corresponding hypotheses. This finding aligns with existing literature that emphasizes the critical role of attitude and perceived behavioral control in shaping entrepreneurial intentions, as noted by Osman (2024), who found that positive attitudes significantly enhance entrepreneurial intention through a mediating effect. Conversely, the path coefficient for SN to EI is 0.116, with a *t*-value of 1.506, which does not meet the significance threshold, leading to the rejection of this hypothesis. This suggests that subjective norms may not exert a strong influence on entrepreneurial intention in the context of this

TABLE 9 Full collinearity test (VIF) to examine common method bias.

	VIF
ATT → RV	1.373
BE → RV	1.811
EI → RV	1.558
PBC → RV	1.872
SN → RV	1.246

study, a finding that resonates with previous research indicating that while social influences are important, they may not always translate into significant behavioral intentions. However, the reference to Khalik et al. (2023) does not support this claim. Additionally, the path coefficient for BE to EI is 0.122, with a *t*-value of 1.694, indicating a positive but less robust influence compared to ATT and PBC. This supports the notion that business education contributes to enhancing entrepreneurial intention but may require further investigation to understand its impact fully. Overall, these findings underscore the importance of fostering positive attitudes and perceived behavioral control through educational initiatives to effectively enhance entrepreneurial intentions, while also highlighting the nuanced role of subjective norms and business education in this dynamic.

The findings presented in Table 11 indicate that business education (BE) serves as a significant mediator in the relationships between attitude (ATT), subjective norms (SN), perceived behavioral control (PBC), and entrepreneurial intentions (EI). The path coefficients for each relationship are positive, suggesting that business education enhances the impact of these antecedent constructs on entrepreneurial intentions. Specifically, the path coefficient from ATT to BE to EI is 0.144, with a *t*-value of 2.285, supporting the hypothesis that a positive attitude toward entrepreneurship, when coupled with business education, significantly influences entrepreneurial intentions. This aligns with the literature that emphasizes the importance of fostering a positive entrepreneurial attitude through educational interventions, as noted by the author, who found that educational programs can effectively enhance students’ entrepreneurial mindsets. Similarly, the relationship between SN and BE to EI shows a path coefficient of 0.154 and a *t*-value of 2.524, indicating that subjective norms, when mediated by business education, also significantly contribute to entrepreneurial intentions. This finding resonates with previous studies that highlight the role of social influences in shaping entrepreneurial behaviors, particularly when reinforced by educational initiatives. Furthermore, the path coefficient from PBC to BE to EI is 0.163, with a *t*-value of 2.587, suggesting that perceived behavioral control, when mediated by business education, has a strong positive effect on entrepreneurial intentions, which supports the notion that enhancing students’ perceived control over their entrepreneurial capabilities through education can lead to increased entrepreneurial intentions, consistent with the findings of Maritz et al. (2021).

5 Discussion of the findings

The study findings claim that entrepreneurial intention (EI) is affected by attitude (ATT), perceived behavioral control (PBC), and business education (BE), demonstrating a thorough comprehension of the elements that propel people into entrepreneurship. Each of

TABLE 10 Results of path coefficients: direct effects.

Relationships	Path. coefficients	Std. dev.	t-value	p-value	Decision for hypothesis
ATT → EI	0.151	0.072	2.097	**	Accepted
SN → EI	0.116	0.077	1.506	#N/A	Rejected
PBC → EI	0.143	0.06	2.383	***	Accepted
BE → EI	0.122	0.072	1.694	*	Accepted
ATT → BE	0.133	0.062	2.145	**	Accepted
SN → BE	0.181	0.055	3.290	***	Accepted
PBC → BE	0.149	0.058	2.568	***	Accepted

The notation ***/**/* signify the level of confidence at a 1, 5, and 10%, respectively.

TABLE 11 Mediating effects of Business education on entrepreneurial intentions.

Relationships	Path. coefficients	Std. dev.	t-value	p-value	Decision for hypothesis
ATT → BE → EI	0.144	0.063	2.285	**	Support
SN → BE → EI	0.154	0.061	2.524	***	Support
PBC → BE → EI	0.163	0.063	2.587	***	Support

The notation ***/**/* signify the level of confidence at a 1, 5, and 10%, respectively.

these variables is crucial in influencing emotional intelligence, as corroborated by several research in the literature. The disposition toward entrepreneurship is a crucial determinant of entrepreneurial intention. An optimistic disposition may augment an individual’s drive to participate in entrepreneurial endeavors, as it influences their impression of entrepreneurship as a feasible and appealing career trajectory. An investigation conducted by [Suryani and Megawati \(2022\)](#) asserts that a positive entrepreneurial disposition is closely linked to the desire to start a firm, indicating that those with an optimistic perspective on entrepreneurship are more inclined to engage in entrepreneurial activities. [Mustain \(2023\)](#) substantiates that a positive entrepreneurial attitude significantly influences entrepreneurial intention, indicating that those with a proactive and optimistic perspective on entrepreneurship are more likely to pursue their objectives. Perceived behavioral control (PBC) is a significant determinant of entrepreneurial ambition. It pertains to an individual’s assessment of their capacity to execute entrepreneurial actions and surmount challenges. [Kurjono \(2022\)](#) emphasizes that perceived behavioral control (PBC) substantially influences entrepreneurial ambitions, as persons who possess confidence in their talents and resources are more inclined to pursue entrepreneurship. This corresponds with the findings [Dong et al. \(2024\)](#) indicating that perceived behavioral control (PBC) is a robust predictor of entrepreneurial intentions, occasionally exceeding the impact of attitude. Confidence in One’s abilities can enable individuals to undertake essential actions toward entrepreneurship, thus converting intentions into tangible outcomes. Business education significantly influences attitude and perceived behavioral control, hence affecting entrepreneurial ambition. [Duong \(2021\)](#) contends that entrepreneurship education augments students’ knowledge and experiences pertaining to business, hence cultivating entrepreneurial drive and self-efficacy. This educational foundation not only motivates students’ business aspirations but also provides them with the skills and confidence necessary to traverse the entrepreneurial environment.

Additionally, [Wang et al. \(2023\)](#) underscores the significance of entrepreneurship education in cultivating entrepreneurial self-efficacy, which acts as a mediator between educational experiences and entrepreneurial goals. This indicates that excellent business education may substantially improve students’ attitudes and perceived control, therefore elevating their propensity to engage in entrepreneurial activities. The interaction of attitude, perceived behavioral control, and business education provides a comprehensive framework for comprehending entrepreneurial aim. Optimistic dispositions cultivate drive, while perceived behavioral control bolsters self-efficacy and confidence in one’s capabilities. Business education acts as a vital catalyst that fosters both constructs, hence increasing the probability of entrepreneurial involvement. The research indicates that integrating these aspects into educational curricula is crucial for developing a new generation of entrepreneurs who can drive economic development and innovation.

Results of the present study showed that there is a considerable mediating role played by business education on entrepreneurial intentions as supported with path coefficients, which can be seen from positive values among attitude (ATT), subjective norms (SN) and perceived behavioral control to EI. In particular, the results also show that business education further magnifies the role of these antecedents on entrepreneurial intentions, which reiterated educators’ arguments about educational interventions in influencing favorable attitudes and perceived control among students. Consistent with the examination of [Duong \(2021\)](#), although entrepreneurship education may not directly affect entrepreneurial intentions, it can influence attitudes and perceived behavioral control over immediate effects on such complex intention to engage in entrepreneurship actions. According to [Solesvik et al. \(2014\)](#) and [Marques et al. \(2012\)](#), entrepreneurship education should also develop entrepreneurial competence, leading up to future entrepreneurial intentions as well. At the same time, Brent evaluates educational interventions that can predict college students’ preparedness for business startups. In addition, the findings of this study agree with those of [Sadiq](#)

(2021), who showed a moderating effect of entrepreneurial education on the intentions mediational role exerted by attitudinal factors among students. We can infer from this that promoting a supportive educational context could increase the self-perceptions of entrepreneurial behavior in students, which is paramount for intention to transform into activity. This result is also corroborated by earlier research by Hoang and colleagues. Based on the results of Hoang et al. (2020), self-efficacy and learning orientation were also found to mediate entrepreneurship education-entrepreneurial intentions Mauer et al. (2017). This highlights the need for embedding methods to increase self-efficacy in business education curricula so that students are more sure of their capabilities as entrepreneurs. More specifically, the positive mediating role of business education in strengthening PBC-EI relationships is worth mentioning. It indicates that increasing levels of perceived self-efficacy toward entrepreneurial skills with greater control will reduce students' endogenous motivation to become entrepreneurs. This result is in line with prior literature that has asserted the centrality of perceived behavioral control as an antecedent to entrepreneurial intentions Baluku et al. (2020) who emphasized the mediating role of implementation intentions in between entrepreneurial intentions and actual entrepreneurial behavior. In conclusion, the present study adds to a mounting body of research suggesting that business education plays an important role in shaping entrepreneurial thought. The results indicate a role played by business education on the relationship between antecedents and entrepreneurial intentions in which educational institutions should adopt an inclusive entrepreneurship curriculum that focuses not only on cognitive material but also attempts to foster a positive attitude, increase perception of behavioral control, build up self-efficacy among students. Ultimately, by taking this comprehensive approach it could lead to greater entrepreneurship among graduates through increase skills and the confidence that together will make starting and maintaining a business easier.

6 Contribution, conclusions, and future research direction

6.1 Theoretical contribution

The theoretical implication of this study is highly valuable for any researcher because it enhanced the knowledge base relating to how entrepreneurial education is related to entrepreneurship intentions among university students. Especially the study seeks to answer these questions by integrating Ajzen's Theory of Planned Behavior (TPB) with the independent variable to inculcate entrepreneurial education and mediate the important role of how attitude toward behavior, subjective norm perception, which is composed of perceived social norms also perceive behavioral control affect factors of individual intentions about entrepreneurship behavior. Within the context of Bangladesh, both cultural and economic factors combine to shape investee entrepreneurs' aspiration configurations. The findings suggest that entrepreneurial education not only helps students learn about and develop practical skills but also makes a significant contribution to the development of entrepreneurial self-efficacy, which is one of the most important elements when closing an intention-action gap wherein what has been intended (intentions) actually happens as an action by individuals who aim their process in forming new ventures. The study of Twum and Nimako (2022) found that entrepreneurial self-efficacy is a full mediator, revealing an

indirect effect where education facilitates learners to boost their self-efficacy, affecting the intentions toward entrepreneurship by bringing learning experiences into account. Such results are co-assistant with the conclusion work of Pham and Le (2023), who also pointed to a new core role of self-efficacy in mediating the process between entrepreneurial education and startup intentions. It also addresses sociocultural and economic factors that are more typical of the Bangladeshi context, thereby adding to the development theory knowledge in developing countries. It is important to incorporate localized factors such as family support and societal norms, which are more influential in determining entrepreneurial intentions across the Bangladeshi context. For example, the crucial function of self-efficacy and social norms in developing students' entrepreneurial intentions has been emphasized (Talukder et al., 2024a), suggesting that entrepreneurs are not just born but can also be generated through educational interventions. Analysis done by Kusumojanto et al. (2020) indicated that cultural aspects and individual attitudes may affect the effectiveness of entrepreneurial education to steer students toward entrepreneurship. Building on the TPB, this study suggests that entrepreneurship education could serve as a catalyst for young graduates to change their career preferences toward becoming entrepreneurs, especially within developing country contexts characterized by high levels of youth unemployment. These empirical results imply that universities can exert substantial influence over students' intention to pursue entrepreneurship careers when they deliver self-efficacy training and experience-based programs. Naturally, the entrepreneurship education positively influences attitudes to self-employment and perceived behavioral controls leading toward entrepreneurial intentions (Ahmed et al., 2020). Moreover, the recognition that educational institutions will also have to adjust their course structures according to the local cultural and economic imperatives of Bangladesh is an important takeaway from this study. This means universities that adapt their entrepreneurship education to the local context will be more successful in equipping students with what they need—rather than general levels of business acumen, which may or may not end up being useful within their specific entrepreneurial landscape. This approach that is backed up by recent findings of Duong (2021), stating students in economic and business management programs had higher entrepreneurial intentions, which again emphasizes the necessity for context-specific educational strategies. This study will enrich the literature on entrepreneurial education, and how it affects EIs in a third-world country context like that of Bangladesh. This research fills a substantial gap in the literature by combining TPB and local factors with self-efficacy, thereby resulting not only practical implications for educational institutions but also policy makers. The findings imply that custom education has the potential to create entrepreneurs who will later contribute a share in economic growth and development from innovation perspective through fostering entrepreneurial mind set among them as taught during university or college.

6.2 Practical contribution

This research has broader implications for universities, policymakers, and government bodies, such as the promotion of entrepreneurship among students from higher education institutions. There is a positive relationship between the three psychological constructs of attitude, subjective norm and perceived behavioral control, which clearly points to the necessity of curricula in higher education reflecting a business and

practical orientation, implying that any educational program should go beyond its theoretical capacities and transfer knowledge into an actual ability on which real-life entrepreneurship can thrive. Universities might also look to offer more-rounded entrepreneurship courses that are in line with the country's culture and economic environment as a way of fanning the flame of student entrepreneurialism. As noted by [Sahputri et al. \(2023\)](#) and [Ahmed et al. \(2020\)](#) underscored the role of hands-on opportunities and idea validation exercises in fueling student self-confidence, motivation, and agency belief related to entrepreneurship education functionality. This requires introducing projects based on industry problems, mentorship programs, and hands-on learning in the curriculum. Educational institutions can cultivate an interest in entrepreneurship as a career option by providing practical, hands-on exposure to business setup and management. In addition, [Gozali et al. \(2020\)](#) advocated that the educational role of entrepreneurship is unrealistic in terms of students' personal behavior beliefs, subjective norms, and perceived behavioral control. In fact, a study found that universities tend to be more successful at teaching students if they are given the opportunity to apply what they are supposed to be learning and doing so in real-life situations such as organizing business pitch competitions for other activities ([Liñán and Chen, 2009](#); [Talukder et al., 2024b](#)), which subsequently increases One's intention of being an entrepreneur. [Li and Miao \(2023\)](#) point out that individuals with an entrepreneurial attitude need teaching and practicing to help implement the intention of going into business. It is, therefore, necessary that universities provide ecological niches for students to become involved in research or spin-off activities by doing so. Setting up business centers and incubators at universities can encourage startup culture among students. In addition to offering resources and guidance, these centers also cultivate a unique community that is both supportive of one another and committed to driving innovation. As proposed by [Rahma \(2023\)](#), the rise of business incubators in universities is an important element in helping startups and achieving entrepreneurial culture. Furthermore, higher education institutions need to work with industry players so that the students are more entrepreneurial-ready. This type of engagement can drastically transform the subjective norms for students by creating a positive image of entrepreneurship in society. Policymakers need to be aware of the important function that entrepreneurship plays in economic prosperity and economic progress. They can promote an entrepreneurial orientation by inculcating positive attitude toward entrepreneurship and spread awareness of it for a vibrant entrepreneurial leverage. According to [Fatima and Bilal \(2019\)](#) in a world where the problem of unemployment is still unfolding more than ever and poverty keeps increasing, it also states that there should be entrepreneurship education to develop entrepreneurial attitudes not only for students but also to create new ventures. Policy makers are expected to use the findings of this study as a guide in monitoring and improving the entrepreneurial ecosystem, which will create an enabling environment for entrepreneurship to thrive.

7 Conclusion, limitations, and future research direction

7.1 Conclusion

This study highlights the significant role of entrepreneurship education in shaping the entrepreneurial intentions of university

students in Bangladesh. The findings underscore the importance of integrating both theoretical knowledge and practical experience to foster self-efficacy, positive attitudes, and perceived behavioral control—key psychological factors influencing entrepreneurial intentions. The research further identifies the mediating role of business education in strengthening these relationships, suggesting that an inclusive and practice-oriented entrepreneurship curriculum can serve as a catalyst for enhancing students' motivation to pursue entrepreneurial careers. Despite the study's valuable insights, certain limitations persist, such as the reliance on self-reported data, which may introduce biases, and the focus on university students, limiting generalizability to other demographics. Additionally, the study does not sufficiently explore external influences such as financial access, government policies, and socio-cultural norms, all of which significantly impact entrepreneurial behavior. Addressing these limitations through future research could offer a more comprehensive understanding of the factors shaping entrepreneurship. Expanding the scope to include diverse educational backgrounds, employing longitudinal studies to track entrepreneurial intent over time, and integrating qualitative methods such as interviews or case studies would enhance the depth of insights. Moreover, examining the impact of institutional support, incubation centers, and external funding opportunities would provide a more holistic view of the entrepreneurship ecosystem. Ultimately, fostering an environment that not only educates but also empowers students through hands-on experiences, mentorship, and financial support mechanisms is key to bridging the gap between entrepreneurial intentions and actual entrepreneurial ventures.

7.2 Limitations

While the study provides valuable insights, several limitations need to be addressed. First, the sample is restricted to university students in Bangladesh, limiting the generalizability of the findings to other populations. Second, the study relies on self-reported data, which may introduce biases, including social desirability bias. Additionally, the research primarily focuses on quantitative analysis, which may not fully capture the nuanced motivations behind entrepreneurial intentions. Finally, the study does not extensively explore the impact of external factors such as financial access, government policies, and cultural norms, which may significantly influence entrepreneurial intentions.

7.3 Future research directions

Future research could address these limitations by expanding the sample to include students from diverse educational backgrounds and countries. A longitudinal approach could also provide more insights into how entrepreneurial intentions evolve over time. Qualitative research methods, such as interviews and case studies, can be incorporated to capture deeper motivational factors influencing entrepreneurship. Furthermore, exploring the role of external factors such as access to capital, government support, and cultural influences could provide a more holistic understanding of what drives entrepreneurial intentions. Lastly,

future studies should investigate the long-term impact of entrepreneurship education on actual entrepreneurial activities, bridging the gap between intention and action.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors without undue reservation.

Ethics statement

As far ethical concern and respondents consent to participate in the study. The study was approved by ethics committee of North South University and reg no: NSU IRB/ERC-2024.

Author contributions

FF: Conceptualization, Validation, Visualization, Writing – original draft, Writing – review & editing. MR: Conceptualization, Validation, Visualization, Writing – original draft, Writing – review & editing. MQ: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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