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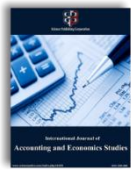

Entrepreneurial Behavior in Collectivist Economies: The Role of Self-Efficacy, Passion, and Agility among Arab Youth

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Abstract

This study explores the psychological and pedagogical drivers of entrepreneurial intention among university students in the United Arab Emirates (UAE), using the Theory of Planned Behavior (TPB; Ajzen, 1991) as its guiding framework. It observes how entrepreneurial self-efficacy, passion, agility, and risk propensity influence the formation of entrepreneurial intention and its translation into entrepreneurial ac-tion within a collectivist cultural context. A cross-sectional survey of 185 Arab university students was conducted, and data were examined using partial least squares structural equation modeling (PLS-SEM; Hair et al., 2021) via SmartPLS 4.0. The results show that entrepreneur-ial self-efficacy, passion, and agility significantly predict entrepreneurial intention. This intention strongly influences entrepreneurial action. However, risk propensity did not show a significant impact, suggesting the presence of culturally specific moderating variables in the UAE's context, such as familial approval and societal stability. The outcomes offer valuable implications for educators and policymakers aiming to substitute innovation and opportunity recognition through inclusive and context-sensitive entrepreneurship education. This re-search contributes to the literature by integrating culturally responsive concepts and reinforcing the alignment between entrepreneurship education and the Sustainable Development Goals (SDGs; United Nations, 2015), particularly SDG 4 (Quality Education) and SDG 8 (De-cent Work and Economic Growth), thereby advancing both theoretical and practical understanding of entrepreneurship in developing econ-omies.

Keywords: *Arab; Collectivist Economy; Entrepreneurship; Risk Propensity; Self-Efficacy.*

1. Introduction

Over the past decade, the Middle East has experienced significant growth in business education, with a rise in AACSB-accredited institutions. This expansion highlights the region's focus on quality education, particularly within GCC countries Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE, which possess the infrastructure to support world-class programs. Educational diversity remains evident across the region: while the UAE and Bahrain attract a diverse mix of local and international students, countries like Jordan and Egypt play a lesser role in international education Yang et al. [1].

According to the UAE Ministry of Education, there are approximately 160,000–170,000 students enrolled across UAE higher education institutions [2]. Federal Competitiveness and Statistics Centre data show that 50,000–60,000 of these are international students, comprising 30–35% of the student population [3]. The Knowledge and Human Development Authority [4] reports that private institutions host a gender ratio of 60% female and 40% male. Business and entrepreneurship disciplines account for about 25–30% of all undergraduate enrollments (Quacquarelli Symonds [5]). MBA and master's courses in business enroll around 8,000–10,000 students, with entrepreneurship programs growing at 15–20% annually from 2020 to 2023 (PricewaterhouseCoopers [6]; Gulf Education and Training Exhibition [7]).

Entrepreneurship plays a transformative role in enhancing economic growth, innovation, self-reliance, and sustainability associated with the UAE's national agenda. While the Theory of Planned Behavior (TPB) was originally developed in a Western context, this study explores its applicability in the UAE's collectivist culture using a collective eticemic method. Globally, entrepreneurship is promoted as a tool for self-sufficiency and national resilience. In the UAE, it is central to economic sustainability and competitiveness.

The growth of global enterprises like Google, Apple, and Tesla showcases entrepreneurship's role in innovation and societal progress. Entrepreneurs drive growth, generate employment, and promote personal fulfillment (Van Horne [8]). Research by Liñán and Chen [9] emphasizes the influence of both internal and external factors on entrepreneurial intention. Since entrepreneurial skills are now essential due to technological advancements in AI, blockchain, Web 3.0, and cryptocurrencies, educational institutions are investigating new ways to encourage entrepreneurial intention.

Naktiyok [10] has conducted extensive research on the psychological and cognitive aspects of entrepreneurship, emphasizing the significance of aligning entrepreneurship education with sociocultural dynamics.

This study builds on that foundation by focusing on UAE undergraduate students and examining four key ideas: Entrepreneurial Self-Efficacy, Risk Propensity, Entrepreneurial Agility, and Entrepreneurial Passion. Earlier research by Naktiyok et al., Ahmad et al., and Kalitanyi suggests a positive connection between self-efficacy and entrepreneurial intention [10–12]. However, findings by Cardon et al. and Urban show that this relationship can sometimes have negative effects [13–14]. Stroe et al. further contend that self-efficacy, when combined with risk perception, improves entrepreneurial decision-making [15]. This study aims to clarify these mixed results in the UAE's collectivist context.

Entrepreneurial Passion, as conceptualized by Vallerand [16], is also investigated for its role in shaping intention, building on existing research. Risk Propensity, or the individual's tendency to embrace or avoid risk as studied by Mullins and Forlani, and Sitkin and Pablo [17–18], is evaluated within this cultural and economic context. Prior literature has yet to deeply examine how cultural diversity affects the impact of risk propensity on entrepreneurial intention.

Entrepreneurial Agility, well-defined by Wheeler [19] as the alignment of strategy, capabilities, and structure to enable swift and effective responses to change, is another underexplored concept. This study assesses its influence on entrepreneurial intention and behavior, addressing an important empirical gap. In particular, the research investigates how intention translates into entrepreneurial action through opportunity identification, evaluation, and resource mobilization, especially within the UAE's collectivist society.

By addressing these gaps, this study contributes to both theory and practice. It improves our understanding of how psychological factors influence entrepreneurial behavior and guides the creation of entrepreneurship education that fits cultural contexts. The research supports Sustainable Development Goals (SDGs) 4 (Quality Education), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation, and Infrastructure), 11 (Sustainable Cities), and 17 (Partnerships) by promoting localized entrepreneurial education, collaboration between academia and industry, and the development of community-based ecosystems.

The study is based on the Theory of Planned Behavior and suggests a model to examine how psychological factors impact intention and action. It develops hypotheses from existing literature, outlines the methodology, and shares findings with both practical and theoretical implications. This provides useful guidance for future research on entrepreneurship in emerging economies, especially in culturally collectivist environments like the UAE.

2. Literature Review

The Theory of Planned Behavior (TPB), developed by Icek Ajzen [20], provides a strong framework for understanding human decision making and has been widely applied across disciplines and populations in countries such as Argentina, Belgium, Brazil, Egypt, India, and the United States. However, its application in the United Arab Emirates (UAE), a collectivist society, remains underexplored. Despite extensive research on entrepreneurial intention from 1988 to 2022, no studies have specifically focused on Arab populations in the UAE, including Emiratis and diverse groups like North American and Asian Arabs raised in the region. This study addresses that gap by applying TPB to the UAE context. It participates key psychological constructs, Entrepreneurial Self-Efficacy (Naktiyok et al., Ahmad et al. [10–11]), Entrepreneurial Passion (Cardon et al., Vallerand et al. [13], [16]), Risk Propensity (Mullins and Forlani, Sitkin and Pablo [17–18]), and Entrepreneurial Agility (Wheeler [19])—into a TPB-based model to examine their influence on entrepreneurial intention and action among UAE university students.

2.1. Conceptual models and development of hypotheses

This section outlines the theoretical framework grounded in the Theory of Planned Behavior (TPB) developed by Icek Ajzen [20]. The TPB explains how attitudes, social norms, and perceived behavioral control influence intentions and subsequent actions. Although the TPB has been applied in countries such as Argentina, Belgium, Brazil, Egypt, India, and the United States, research on its application within the collectivist culture of the United Arab Emirates, particularly among Arab university students, remains limited.

This study applies TPB to examine how four psychological constructs, Entrepreneurial Self-Efficacy (ESE), Entrepreneurial Passion (EP), Risk Propensity (RP), and Entrepreneurial Agility (EAG) influence Entrepreneurial Intention (EI) and, subsequently, Entrepreneurial Action (EA). These constructs were selected based on their relevance to the TPB framework and their alignment with the UAE's collectivist societal values. Hypotheses were developed through a combined review of existing literature that connects each construct to EI and EA. Figures 1 through 6 illustrate the conceptual models and hypothesis development.

TPB's structured model provides insights into motivational and cognitive mechanisms driving entrepreneurial behavior. ESE aligns with perceived behavioral control, thereby reinforcing individuals' confidence in navigating entrepreneurial challenges. EP contributes to positive attitudes through intrinsic motivation, RP influences both attitudes and perceived control by mitigating uncertainty, and EAG supports adaptability and resilience, thus strengthening intention to act entrepreneurially.

Each construct has been studied extensively: ESE by Naktiyok et al. and Ahmad et al. [10–11]; EP by Cardon et al. and Vallerand et al. [13], [16]; RP by Mullins and Forlani, and Sitkin and Pablo [17–18]; and EAG by Wheeler [19]. Additionally, the transition from EI to EA has been examined in foundational research, providing the basis for this study's hypotheses.

This research focuses on North American Arab and Asian Arab students who grew up in the UAE. Their entrepreneurial mindset is shaped by collectivist values and the dynamic business environment they face. Key cultural factors, such as social harmony, strong networks, and family expectations (Hofstede; Al-Dabbagh and Assaad [21–22]), significantly influence their business decision-making processes (Tlaiss; Erogul and McCrohan [23–24]). To truly understand how psychological traits align with community norms and responsibilities, a culturally

sensitive approach is essential. Researchers like Hattab and Belwal et al. [25–26] emphasize the importance of grounding entrepreneurship studies within the local culture.

To explore these dynamics, this study applies constructs validated in both individualist and collectivist cultures. ESE is considered through confidence and collective reinforcement (Newman et al.; Obschonka et al. [27–28]), while EP is framed around expressive engagement and alignment with societal values (Cardon et al.; Murnieks et al. [29–30]). RP is analyzed in terms of uncertainty avoidance (Frese and Gielnik; Hayton et al. [31–32]), and EAG is assessed as a vital skill for navigating complex institutional landscapes (Al-Omoush et al.; Ratten [33–34]). In contrast to individualist cultures where entrepreneurship is often driven by ambition, autonomy, and financial incentives (Hofstede [21]; Baron and Markman; Baum et al. [35–36]) collectivist cultures like the UAE place greater emphasis on social harmony, familial alignment, and community validation (Al-Dabbagh and Assaad [22]; Tlaiss; Hattab [23], [25]). These social expectations significantly shape both entrepreneurial intention and action.

The integration of ESE, EP, RP, and EAG also aligns with the UAE's strategic objectives around economic diversification and youth entrepreneurship (Hameed et al.; Kargwell and Inguva [37–38]). In collectivist environments, ensuring long-term societal approval is critical to entrepreneurial success (Zeffane, Zain, and Ng [39–40]), especially among young adults navigating cultural and institutional expectations (Hattab; Ennis [25], [41]).

Although research on entrepreneurship has increased, there is limited work on how these four factors together affect collectivist economies. This study addresses that gap by exploring how psychological traits and cultural norms influence entrepreneurial behavior.

Finally, this study supports Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities), and SDG 17 (Partnerships). Through its focus on education, academia-industry partnerships, and culturally significant program design, the research promotes inclusive, innovation-driven entrepreneurship.

3. Theoretical Framework

3.1. Variables and hypotheses

3.1.1. ESE-EI

The Theory of Planned Behavior (TPB) classifies perceived behavioral control as a core determinant of Entrepreneurial Intention (EI). Entrepreneurial Self-Efficacy (ESE), defined as an individual's belief in their ability to successfully perform entrepreneurial tasks (Baron and Markman; Baum et al.; Peterson and Arnn [35–36, 44]), improves this perception, thereby strengthening EI. Individuals with high ESE are more likely to act and persist through challenges due to greater self-confidence and motivation.

In collectivist cultures like the UAE, ESE gains specific significance, as decision-making is intertwined with familial and societal expectations. High self-efficacy allows individuals to navigate these collective norms while pursuing entrepreneurial goals, especially in environments where family and social approval heavily influence career paths (Tlaiss; Hattab [23, 25]). National-level efforts to promote youth entrepreneurship also highlight ESE's role in aligning personal ambition with national development priorities. In individualist societies, ESE emphasizes personal autonomy (Newman et al. [27]), whereas in collectivist contexts, it is often shaped and strengthened by external social structures, including domestic networks and cultural norms (Tlaiss; Hattab [23, 25]).

Literature offers various conceptualizations of ESE (see Table 1). Baron and Markman, and Baum et al. [35–36] see it as a task-specific ability; Peterson and Arnn [44] describe it as confidence in entrepreneurial actions. Bandura [45] defines it as a dynamic capability rooted in mastery experiences. Boyd and Vozikis [46] associate it with managing entrepreneurial challenges, Kuo et al. [47] with motivational confidence, and Drnovsek [48] with goal setting and emotional control. Anderson and Betz, and Lent et al. [49–50], highlight personal achievements, vicarious learning, and emotional states as key influencers.

Consistent with TPB, increased perceived behavioral control through ESE strengthens EI by enhancing belief in one's ability to overcome obstacles and create ventures. Substantial empirical evidence supports this positive relationship. Naktiyok et al., Ahmad et al. [10–11], Kolvereid, Indarti, and Kristiansen, and Segal et al. [51–53] found that high ESE correlates with stronger entrepreneurial intention. Chen and Zhao et al. [54–55] identified ESE as a key antecedent of entrepreneurial decision-making. Similar results were developed from studies in Croatia, South Africa, and Turkey (Naktiyok et al. [10]; Bandura [45]; Kolvereid [51]). However, some research presents nuanced views. Urban and Taormina et al. [14, 56] suggested ESE may not always directly influence EI, while Hussain et al. [57] identified an indirect effect, pointing to the need for cultural contextualization.

Table 1: Prior Literature Review on Entrepreneurial Self-Efficacy and Entrepreneurial Intention

Authors	Relevant Findings	Construct
Anderson & Betz [49] Lent et al. [50] Peterson & Arnn [44]	Self-efficacy belief is dynamic and changeable because it is based on four fundamental information sources that interact with each other as follows: Personal Accomplishments (mastery experiences), Experiences of others (vicarious experiences), Verbal Persuasion, and Physiological and Emotional Arousal.	Defining—Self-Efficacy
Bandura [45]	Said self-efficacy is the reliance of an individual on his/her competencies to perform, and to use his/her judgement to execute the courses of action required to deal with prospective situations	"
Baron & Markam [35] Baum et al. [36]	Defined self-efficacy as an entrepreneur's task-specific self-confidence	"
Boyd & Vozikis [46]	Referred to self-efficacy as a task-specific variable comprising an auto-evaluation (personality) and external (environment) conditions and possibilities	"
Drnovsek et al. [48]	Stated that there are three dimensions of self-efficacy: namely, self-efficacy domain (business start-up or growth), goals of self-efficacy (task or outcome), and valence (positive or negative	"
Kuoa et al. [47]	Defined self-efficacy as a motivational source that is related to an individual's trust and belief in his/her ability and how it affects the cognitive level of the individual	"
Peterson & Arnn [44]	Entrepreneurial Self-Efficacy (ESE) is defined as an individual's belief in their ability to successfully perform entrepreneurial tasks.	"

Newman et al. [27] Obschonka et al. [28]	Self-efficacy primarily reflects an individual's confidence in their personal ability to overcome challenges and succeed independently.	Self-Efficacy in Individualistic Culture
Hattab [25] Tlaiss [23]	In collectivist settings, self-efficacy is often reinforced by family approval, social networks, and community support.	Self-Efficacy in Collectivist Culture
Hussain et al. [57]	Suggested that ESE may indirectly affect entrepreneurial intention, suggesting the need for a nuanced perspective	Indirect Effect of Self-Efficacy on Intention
Ahmad et al. [11]	Identified key factors influencing entrepreneurial intention and behavior, including Entrepreneurial Self-Efficacy	Positive—Self-Efficacy and Entrepreneurial Intention
Banja & Mukhopadhyay [69] Kalitanyi & Bbenkele [12]	Concluded that there is a positive relationship between self-efficacy and entrepreneurial intention	"
Brinckmann & Kim [85] Kolvereid [51]	Stated that self-efficacy influences entrepreneurial intent, as it contributes to attitudes and subjective norms	"
Chen et al. [97] Indarti & Kristiansen [52]	Self-efficacy of the entrepreneur is an important antecedent in terms of intention, as it affects their career choice and development.	"
Naktiyok et al. [10]	Suggested that students have a high intention to be entrepreneurs	"
Segal et al. [53] Zhao et al. [55]	Supported the view that entrepreneurial intention is strongly influenced by self-efficacy	Positive—Entrepreneurial Intention and Self-Efficacy
Cardon et al. [13] Urban [14] Taormina et al. [56]	Indicated that this relationship may also exert a negative influence	Negative—Entrepreneurial Intention and Self-Efficacy
Ahmad & Abdel-Aziz [43] Thomas & Mueller [42]	How individual psychological traits interact with cultural expectations to shape entrepreneurial intention	Mediators between Self-Efficacy and Intention
Al-Dabbagh & Assaad [22]	Emphasized social harmony, family expectations, and societal contributions as influential factors in shaping entrepreneurial intention	"
Stroe et al. [15]	Suggested that the combination of self-efficacy and risk perception enhances decision-making	"

Figure 1 illustrates the hypothesized relationship between ESE and EI in a collectivist setting. Consistent with TPB, ESE enhances perceived behavioral control, while in the UAE, familial and community support further reinforce this effect, boosting entrepreneurial intention.

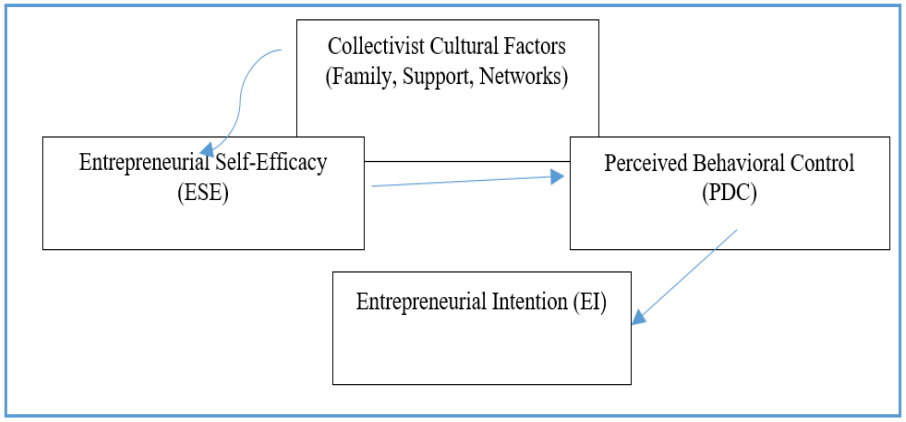

Fig. 1: Conceptual Model: Entrepreneurial Self-Efficacy and Entrepreneurial Intention in a Collectivist Context.

Despite this, the main evidence shows a strong positive link between ESE and EI. This relationship, however, has not been thoroughly studied among undergraduate entrepreneurship students in the UAE, indicating a significant research gap.
H1: Entrepreneurial Self-Efficacy (ESE) has a positive impact on Entrepreneurial Intention (EI).

3.1.2. EP and EI

According to the Theory of Planned Behavior (TPB), Entrepreneurial Passion (EP) influences
Entrepreneurial Intention (EI), by shaping an individual's attitude toward entrepreneurship one of TPB's key predictors. EP fosters emotional attachment and intrinsic motivation toward entrepreneurial activity, thereby strengthening the intention to create ventures. This passionate engagement increases individuals' commitment to translating passion into action.
EP is defined as intense emotional involvement and motivation (Cardon et al.; Murnieks et al. [13], [29]). In collectivist cultures like the UAE, EP aligns personal aspirations with communal values. When ventures are perceived as contributing to societal goals such as job creation and economic development, entrepreneurs are more likely to gain community support, facilitating venture success (Tlaiss; Zeffane [23], [39]).
The literature presents several definitions of EP (see Table 2). Karimi [58] views it as a personality trait: Vallerand [16] describes it as a "strong inclination toward an activity" with high time investment. Philippe et al. [59] define EP as a "powerful desire" to perform specific tasks, while Cardon et al. [13] associate it with "intense positive feelings" tied to entrepreneurial identity.

Table 2: Review of literature on Entrepreneurial Passion and Entrepreneurial Intention

Authors	Relevant Findings	Construct
Anjum et al. [60]	Defined passion as being determined by a powerful and central driving force that influences business activities and efforts	Defining—Entrepreneurial Passion
Brinckmann & Kim [85] Gielnik et al. [86] Yang et al. [1]	Hard work, skills and abilities, knowledge, and confidence are essential components of self-efficacy.	“
Cardon et al. [13]	Conceptualized entrepreneurial passion as “consciously accessible, intense, positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful for the self-identity of the entrepreneur	“
Karimi [80]	Entrepreneurial Passion is a crucial personal characteristic.	“
Murnieks et al. [30] Philippe et al. [59]	Entrepreneurial Passion (EP) is characterized by intense emotional engagement and intrinsic motivation	“
Philippe et al. [59] Kadile & Biraglia [99]	Defined it simply as a powerful desire to perform specific activities	“
Vallerand et al. [16]	Defined passion as a strong inclination toward an activity that people like, find important, and in which they invest significant time and energy	“
Anjum et al. [60]	Found a strong correlation between EP and EI. Found that perception positively moderates the relationship between entrepreneurial passion (inventing, founding, and developing) with entrepreneurial intention	Positive—Entrepreneurial Passion and Entrepreneurial Intention
Anjum et al. [94] Karimi [58]	Empirically showed that EP is a significant predictor of EI	“
Neneh [91] Ajzen [20]	Exogenous variables, such as passion, affect the individual intentions through their impact on the preceding intention	“
Bird [100]	Strength of EI in the early stages may matter for the future direction of the businesses to be created, as subsequent growth and success are dependent on intention	Positive—Entrepreneurial Intention influenced by Entrepreneurial Passion
De Mol et al. [64]	Earlier research has confirmed that entrepreneurial passion can build self-confidence and influence EI in people who are not yet formally or actively involved in entrepreneurship.	“
Fishbien & Ajzen [101]	Found that exogenous variables such as passion affect individual intention through their impact on the preceding intention	“
Hair et al. [61] Henseler et al. [62]	Using path coefficient significance, findings supported the hypothesis that EP (inventing, founding, and developing) positively impacts EI	“
Karimi [58]	Found a significant relationship between entrepreneurial passion and entrepreneurial intention via attitudes toward entrepreneurship and perceived behavioral control	“
Anjum et al. [83] Anjum et al. [82] Fayolle & Linnan [84]	Entrepreneurial intention is well-known for being a reliable predictor of actual entrepreneurial behavior.	Positive—Entrepreneurial Intention leading to Entrepreneurial Action
Cardon et al. [29] Murnieks et al. [30]	Entrepreneurial Passion	Mediators between Passion and Intention

In individualist societies, EP is linked to personal achievement, revolution, and independence (Cardon et al. [29]), while in collectivist cultures, it is more sustainable when aligned with social benefit (Tlaiss; Zeffane [23, 39]). Entrepreneurs in collectivist settings who frame their passion around shared fortune are more likely to receive social approval, enhancing legitimacy and sustainability.

Despite cultural differences, EP is widely observed as a motivational force for entrepreneurial engagement. Empirical studies support this connection: Anjum et al. [60] found a significant relationship between EP and EI, moderated by perception. Karimi [58] noted that perceived behavioral control strengthens this association. Hair et al., Hensler et al., and Neneh [61–63] confirmed EP’s direct positive effect on EI. Karimi and De Mol et al. [58, 64] found that EP boosts confidence and intention, even among those not yet actively pursuing entrepreneurship. These results span diverse settings, including Iran, Pakistan, South Africa, and the United States.

Figure 2 illustrates how Entrepreneurial Passion (EP), driven by emotional engagement and intrinsic motivation, positively influences Entrepreneurial Intention (EI) by shaping attitudes toward entrepreneurship. In collectivist settings like the UAE, cultural standards emphasizing social approval and community welfare added to strengthen this relationship, especially when passion aligns with national and shared goals.

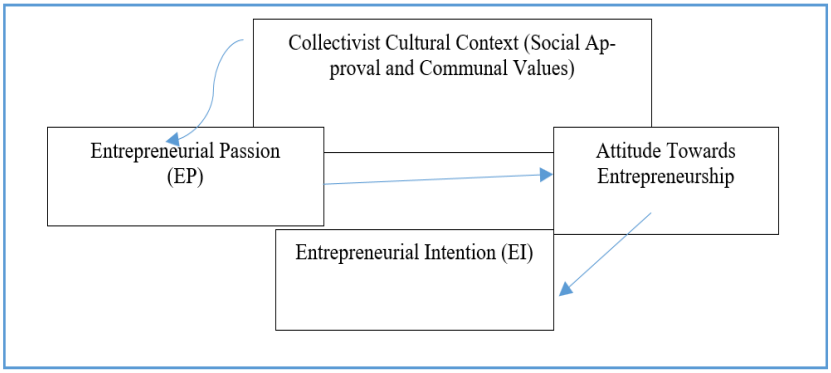

Fig. 2: Conceptual Model: Entrepreneurial Passion and Entrepreneurial Intention in a Collectivist Context.

Despite consistent findings, no studies have examined EP-EI relationships among UAE undergraduate entrepreneurship students, highlighting a key gap. Notably, no research reports an inverse relationship between EP and EI. Within TPB, EP strengthens a favorable entrepreneurial mindset by reinforcing the certainty that entrepreneurship is expressive and desirable.
H2: Entrepreneurial Passion (EP) has a positive impact on Entrepreneurial Intention (EI).

3.1.3. RP and EI

Grounded in the Theory of Planned Behavior (TPB), Risk Propensity (RP) is theorized to positively influence Entrepreneurial Intention (EI) by enhancing perceived behavioral control and attitude toward entrepreneurship. Individuals with a higher tolerance for risk tend to feel more confident in managing uncertainty, reducing fear of failure, and reinforcing their belief in the feasibility of entrepreneurial ventures.
RP is commonly defined as an individual's willingness to take calculated risks (Mullins and Forlani; Sitkin and Pablo [17–18]). In collectivist societies like the UAE, where risk aversion is shaped by cultural emphasis on family reputation, group harmony, and long-term security (Hattab [25]), individuals with higher RP may be more inclined to challenge social norms and explore entrepreneurial paths, particularly when encouraged by government policies supporting innovation and risk-taking.
The literature conceptualizes RP in various forms (see Table 3). Mullins and Forlani, and Sitkin and Pablo [17–18] describe it as a behavior shaped by context; Begley and Boyd [65] connect it to uncertainty tolerance, while Hussain et al. [57] cogitate personal judgment and physiological traits. In individualist cultures, high RP is consistently linked to entrepreneurial intention and opportunity identification (Mullins and Forlani [17]).

Table 3: Review of Literature on Risk Propensity and Entrepreneurial Intention

Authors	Relevant Findings	Construct
Begley et al. [65]	Risk propensity is uncertainty tolerance	Defining—Risk Propensity
Hussain et al. [57] Hung et al., [57]	Stated that risk propensity is connected to the individual's judgment of their likely physiological conditions	"
Mullins & Forlani [17] Sitkin & Pablo [18]	Risk propensity is defined as an individual's general tendency toward either taking or avoiding risk within a particular decision-making context	"
Sitkin & Pablo [18]	Risk preferences consist of a general tendency, or the general desire, to pursue or avoid risk	"
Frese & Gielnik [31] Hayton et al. [32]	Relevant to a collectivist context	Risk Propensity in a Collectivist Context
Kuo et al. [47] Hung et al. [87] Meertens and Lion [88]	Various dimensions of risk-taking behavior, including openness to uncertainty, ambiguity tolerance, problem-solving abilities, financial risk propensity, risk aversion, and overall risk tolerance	Dimensions of Risk Propensity
Barbosa et al. [66]	The research indicated that individuals with a high-risk preference had higher levels of entrepreneurial intention	Positive—Risk Propensity and Entrepreneurial Intention
Barbosa et al. [66]	Claimed that both cognitive style and risk preference separately and interactively contribute to an individual's assessment of his/her own skills and abilities as well as to his/her own entrepreneurial intention.	"
Barbosa et al. [66]	The research showed that individuals having a high preference for risk will exhibit higher levels of entrepreneurial intention than individuals having a low preference for risk and analytic individuals having a low preference for risk	"
Ebrahim & Schøtt [67]	Evidence that the more one has a proclivity to take risks, the more one probably has entrepreneurial intention.	"
Krueger et al. [95]	Indicated that entrepreneurial intention is more heavily influenced by perceived behavioral control and attitudes towards entrepreneurship, rather than an individual's inherent risk tolerance	"
Barbosa et al. [66]	Claimed that intention is promoted by perceived capabilities, risk propensity, and awareness of opportunities, and that These are affected by demographic attributes, especially formal education and entrepreneurial training, and by cultural context	Positive—Entrepreneurial Intention and Risk Propensity

Hussain et al. [57]	Confirmed that there was a significant positive effect of sustainable entrepreneurship intention with the indirect Impact of risk propensity and self-efficacy	Negative—Risk Propensity and Entrepreneurial Intention
Zhao et al. [55]	Individuals with lower risk tolerance can still form strong entrepreneurial intention	“
Dheer & Lenartowicz [90]	Argued that persons with a high degree of risk propensity tend to feel more comfortable solving problems during uncertain situations	Positive—Risk Propensity and Comfort with Uncertainty
Ebrahim & Schøtt [67]	Found that entrepreneurship training increases the probability of being willing to take risks	Positive—Entrepreneurship Training and Risk Propensity
Mullins & Forlani [17]	Showed that individuals having a high preference for risk will exhibit higher levels of opportunity identification and self-efficacy than individuals having a low preference for risk	Positive—Risk Propensity and Self-Efficacy

While definitions vary, RP reflects a consistent orientation toward uncertainty. In the UAE, entrepreneurs must reconcile risk-taking with cultural norms, where strong family and community networks can buffer personal risk but also reduce the perceived need to take individual risks.

Empirical research broadly supports a positive link between RP and EI. Barbosa et al. and Ebrahim and Schøtt [66–67] found that individuals with higher RP are more likely to form entrepreneurial intentions. Mullins and Forlani [17] noted risk risk-tolerant individuals are better at identifying opportunities, while Barbosa et al. [66] showed that RP and perceived capabilities significantly influence entrepreneurial motivation. These findings span diverse regions, including Argentina, Brazil, Belgium, South Africa, and Turkey.

However, some findings suggest a more nuanced view. Hussain et al. [57] reported that RP's effect on EI may be unintended, mediated by psychological or cultural variables. In the UAE, where entrepreneurship is often embedded in family decision-making, constructs like Entrepreneurial Self-Efficacy or Agility may exert greater influence on intention, potentially diminishing the

Figure 3 illustrates how Risk Propensity (RP), the willingness to take calculated risks, shapes Entrepreneurial Intention (EI) by influencing attitude and perceived behavioral control within the TPB framework. In collectivist cultures like the UAE, family expectations and social standards may intensify or limit this effect, moderating how RP translates into entrepreneurial intention. Role of RP.

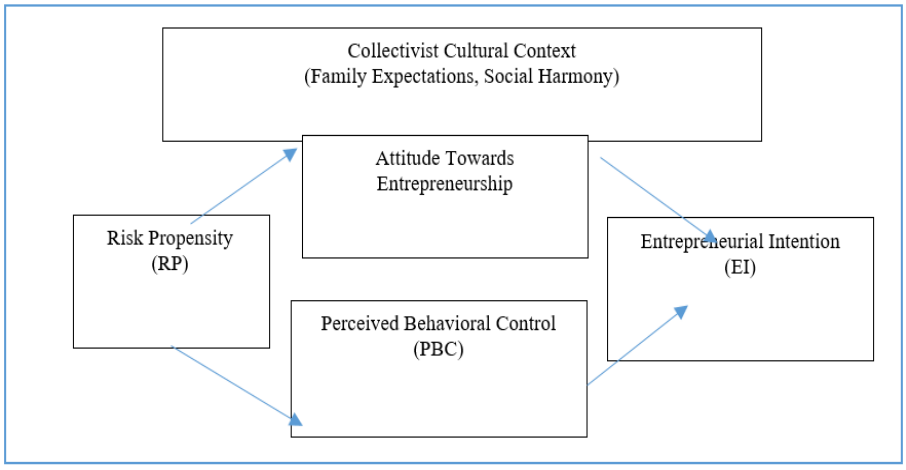

Fig. 3: Conceptual Model: Risk Propensity and Entrepreneurial Intention in A Collectivist Context.

Nevertheless, RP remains a relevant construct within TPB. Improving attitudes and perceived control contribute to EI. Individuals with higher RP are more likely to view entrepreneurship as both achievable and worthwhile.

H3: Risk Propensity (RP) has a positive impact on Entrepreneurial Intention (EI)

3.1.4. EAG and EI

Based on the Theory of Planned Behavior (TPB), Entrepreneurial Agility (EAG), an adaptive capability, enhances perceived behavioral control, a key predictor of Entrepreneurial Intention (EI). EAG enables individuals to respond effectively to hesitation, building confidence to navigate dynamic environments and growing the likelihood of entrepreneurial engagement.

EAG is defined as the ability to adapt to volatile and uncertain conditions (Wheeler [19]). In the UAE's fast-evolving, collectivist context, agility involves personal adaptability and navigating family expectations, social norms, and monitoring systems. Entrepreneurs must align ventures with national strategies such as Vision 2030, while balancing individual goals with mutual values. Agility, therefore, is a crucial trait for success and resilience in this setting.

The literature offers several definitions of EAG (see Table 4). Murphy [68] described it as "the ability to move swiftly and smoothly." Wheeler, Banja and Mukhopadhyay, and Kettinger et al. [19], [69–70] defined it as alignment between strategy, capabilities, and structure. Gunasekaran [71] emphasized innovation, while Dutot and Van Horne [72] linked it to entrepreneurial awareness. Arbussa et al. and Hugos [73–74] highlighted its relevance at both individual and organizational levels. In individualist societies, EAG is often framed as a trait enhancing competitiveness (Wheeler [19]).

Table 4: Review of Literature on Entrepreneurial Agility and Entrepreneurial Intention

Authors	Relevant Findings	Construct
Chakravarty et al. ([89] Gunasekaran [71]	Agility addresses new ways of running companies to meet these challenges	Defining—Entrepreneurial Agility
Dutot et al. [72]	Showed that agility, entrepreneurial alertness, and Entrepreneurial characteristics influence intention	“
Dutot et al. [72]	Agility is recognized as an important antecedent in the entrepreneurial process	“

Kettinger et al. [70] Wheeler [19]	Agility is the fit that could exist between the firm's strategy, structures, and capabilities	"
Murphy [68]	Agility is defined as "the ability to move swiftly and smoothly"; "smartness" "the suitability to presume and produce outcomes rapidly"; and "cognitive keenness"	"
Banja & Mukhopadhyay [69]	Described it as the alignment of strategy, capabilities, and structure	Dimensions of Agility
Sherehiy et al., [102]	The literature on agility is rather limited. No empirical studies have investigated the relationship between entrepreneurial agility and entrepreneurial intention	Positive—Entrepreneurial Agility and Entrepreneurial Intention
Tripathi et al. [75]	Illustrated a significant effect of agility on intention	"
Asari et al. [76]	The intention of a person is the direct cause of the agile behavior	Positive—Entrepreneurial Intention influenced by Entrepreneurial Agility
Dutot & Horne [72]	Three main constructs influence entrepreneurial intention: agility, options, and entrepreneurial characteristics	"
Ahmed et al. [78] Islam et al. [79]	Showed that agility negatively influences an employee's intention	Negative—Entrepreneurial Agility and Entrepreneurial Intention
Gravett & Caldwell [77]	Validated, through theoretical findings, that agility negatively influences an employee's intention	"
Shih et al. [80]	As the agility of employees develops, the intention of employees will decrease	"
Tripathi et al. [75] Ahmed et al. [78]	The hypothesis testing proved a negative relationship between agility and intention.	"
Wheeler [19]	Alignment between strategy, capabilities, and The structure was assessed for its role in shaping Intention	"
Van Horne et al. [8]	Entrepreneurship can be seen as providing creative fulfillment and an outlet for personal expression	Positive—Entrepreneurship and Personal Expression
Ajzen [20]	Posited that entrepreneurial intention will increase or spur on efforts made by budding entrepreneurs	Positive—Entrepreneurial Intention and Efforts
Plonka [103]	Emphasis on a positive attitude to achieve Organizational agility in most studies of agility	Positive—Positive Attitude and Entrepreneurial Agility
Arbussa et al. [73] Hugos [74]	Agility is essential for both organizations and employees	Positive—Entrepreneurial Agility and Employees

Empirical findings are mixed. Studies by Tripathi et al. [75], Dutot and Van Horne [72], Asari et al. [76], and Van Horne [72] support a positive link between EAG and EI. Conversely, Tripathi et al., Gravett and Caldwell [75], [77], and Ahmed et al., Islam et al., and Shih et al. [78–80] observed a negative relationship, suggesting excessive agility may hinder EI through increased complexity or indecision. These studies span contexts in France, India, and Iran. No research has yet investigated this link among UAE undergraduate entrepreneurship students, highlighting a gap.

Figure 4 illustrates how Entrepreneurial Agility (EAG)—by enhancing adaptability and perceived behavioral control absolutely influences Entrepreneurial Intention (EI). In collectivist settings like the UAE, cultural standards and alignment with national goals (e.g., Vision 2030) shape how agility is expressed, reinforcing confidence in pursuing entrepreneurial action.

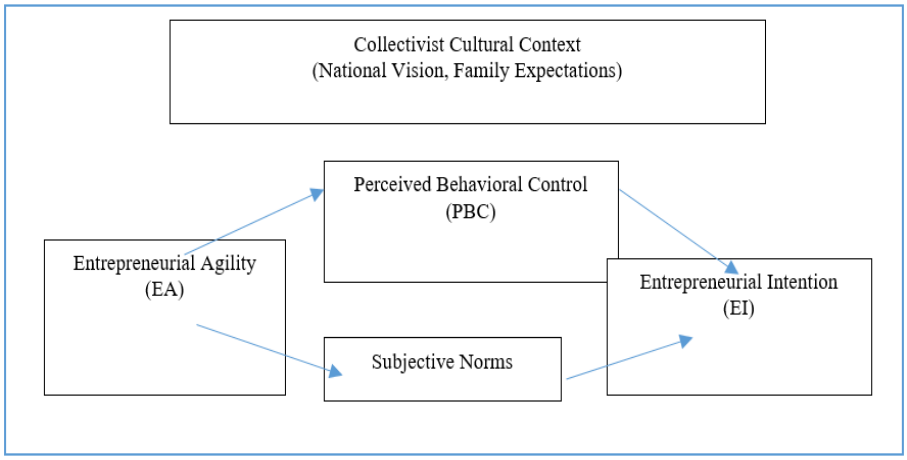

Fig. 4: Conceptual Model: Entrepreneurial Agility and Entrepreneurial Intention in a Collectivist Context.

Within TPB, EAG enhances perceived control and supports subjective norms. Figure 4 illustrates how EAG, by improving adaptability and responsiveness to cultural and institutional expectations, positively influences EI.

H4: Entrepreneurial Agility (EAG) has a positive impact on Entrepreneurial Intention (EI).

3.1.5. EI and EA

According to the Theory of Planned Behavior (TPB), Entrepreneurial Intention (EI) reflects an individual's conscious motivation and assurance to engage in entrepreneurial activity and is widely recognized as the most immediate and strong predictor of Entrepreneurial Action (EA). Favorable attitudes, subjective norms, and perceived behavioral control significantly increase the likelihood of venture creation.

EI is influenced by psychological drivers such as Entrepreneurial Self-Efficacy (Baron and Markman [35]), Entrepreneurial Passion (Cardon et al. [13]), Risk Propensity (Mullins and Forlani [17]), and Entrepreneurial Agility (Wheeler [19]). While these constructs generally promote EI, agility's impact can be context-dependent.

Ajzen [20] emphasized intention as the strongest antecedent to behavior. Numerous studies support the positive relationship between EI and EA. Segal et al., Zhao et al., Pfeifer et al., and Anjum et al. [53], [55], [81–83] showed that stronger EI correlates with greater effort and likelihood of action. Zhao et al. [55] and Segal et al. [53] found that self-efficacy and risk tolerance shape EI, which consequently influences EA. Pfeifer et al. [81] highlighted entrepreneurship education's role in shaping intention and behavior, while Anjum et al. [82–83] confirmed that passion leads to action via intention.

Fayolle and Linñán [84] similarly argued that intention is a predecessor to action, driven by attitudes and perceived control. Further support comes from Brinckmann et al., Gielnik et al., Hung et al., Meetens and Lion, and Chakraborty et al. [85–89], who validated the role of psychological drivers in influencing both intention and action (see Table 5).

Table 5: Review of Literature on Entrepreneurial Intention and Entrepreneurial Action

Authors	Relevant Findings	Construct
Ajzen [20]	Building upon the Theory of Planned Behavior, it It was posited that intention is the most immediate antecedent of behavior, including entrepreneurial action. This theory suggests that strong Entrepreneurial intention increases the likelihood of actual entrepreneurial behavior	Defining—Entrepreneurial Intention
Al-Omoush et al. [33] Ratten [34]	Provided a deeper understanding of how Entrepreneurial intention and action are shaped within a collectivist cultural framework	Intention and Action in a Collectivist Context
Sarstedt et al. [93]	The variance in Entrepreneurial Action is explained by the independent variables, such as Entrepreneurial Intention, Risk Propensity, and Entrepreneurial Agility	Defining Entrepreneurial Action
Anjum et al. [83]	EP is a strong positive feeling experienced by consciously gaining strong positive emotion and participating in business activities related to a role that is meaningful to the self-identification of the entrepreneur	Positive—Entrepreneurial Intention leads to Entrepreneurial Action
Anjum et al. [82]	The research demonstrated that entrepreneurial passion positively influences entrepreneurial intention, which subsequently leads to entrepreneurial action	“
Pfeifer et al. [81]	This study highlighted the role of entrepreneurial education in shaping intention and subsequent action, emphasizing that educational programs can enhance entrepreneurial self-efficacy, thereby fostering entrepreneurial behavior	“
Segal et al. [53]	This study indicated that individuals with higher Risk tolerance and self-efficacy are more likely to from entrepreneurial intention, which can lead to entrepreneurial action	“
Zhao et al. [55]	The researchers found that entrepreneurial self-Efficacy is a significant predictor of entrepreneurial intention, which in turn is a strong predictor of entrepreneurial action	“
Fayolle & Linñán [84]	The authors discussed the importance of attitudes and perceived behavioral control in forming entrepreneurial intention, which is a precursor to entrepreneurial action	Positive—Entrepreneurial Intention as a precursor to Entrepreneurial Action
Dheer & Lenartowicz. [90]	Their study explored how cultural contexts influence the intention–action relationship, suggesting that supportive cultural norms can facilitate the translation of entrepreneurial intention into action	Mediators that help Entrepreneurial Intention translate into Entrepreneurial Action
Neneh [91]	This research highlighted the role of social support and entrepreneurial self-efficacy in strengthening	“
Tlaiss [23] Erogul & McCrohan [24] Hattab [24] Belwal et al. [26]	The relationship between entrepreneurial passion, intention, and action Cultural dynamics play a crucial role in shaping entrepreneurial behavior, necessitating a tailored approach to understanding how they influence entrepreneurial intention and action	“
Shirokova et al. [92]	The study examined how the university environment and entrepreneurial climate influences the conversion of entrepreneurial intention into action among students. The authors investigated The moderating effect of fear of failure on the intention–action relationship, finding that lower Fear of failure strengthens the likelihood of intention leading to action	Positive—Moderating effect of Entrepreneurial Intention and Entrepreneurial Action

Recent studies have identified mediators and moderators in the EI–EA relationship. Dheer and Lenartowicz [90] highlighted cultural norms as enhancers of this transition. Neneh [91] showed that social support and self-efficacy, particularly when combined with passion, strengthen the pathway. Shirokova et al. [92] emphasized the university entrepreneurial climate, while Sarstedt et al., Anjum et al., and Kruger et al. [93–95] identified other influencing factors.

Figure 5 illustrates the direct impact of Entrepreneurial Intention (EI) on Entrepreneurial Action (EA), as outlined in the Theory of Planned Behavior (TPB). EI is the strongest predictor of action, particularly in collectivist contexts like the UAE, where cultural norms, social support, and traits such as self-efficacy, passion, risk propensity, and agility enhance the transition from intention to endeavor creation.

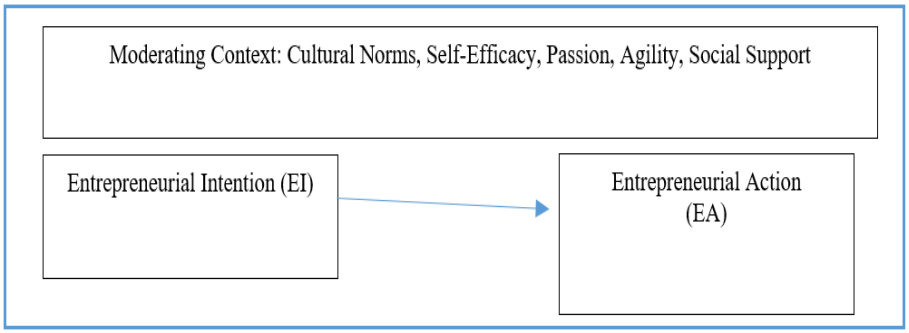

Fig. 5: Conceptual Model: Entrepreneurial Intention and Entrepreneurial Action in a Collectivist Context.

Despite substantial research, the mechanisms linking EI to EA, especially in collectivist societies, remain underexplored. In such contexts, perceived feasibility and social approval are key. Among youth, strong EI signals a readiness to pursue opportunities despite cultural or institutional barriers.

H5: Entrepreneurial Intention (EI) positively impacts Entrepreneurial Action (EA).

Figure 6 presents a conceptual model, grounded in the Theory of Planned Behavior (TPB), showing how Entrepreneurial Self-Efficacy (ESE), Passion (EP), Risk Propensity (RP), and Agility (EAG) influence Entrepreneurial Intention (EI), which in turn directly predicts Entrepreneurial Action (EA).

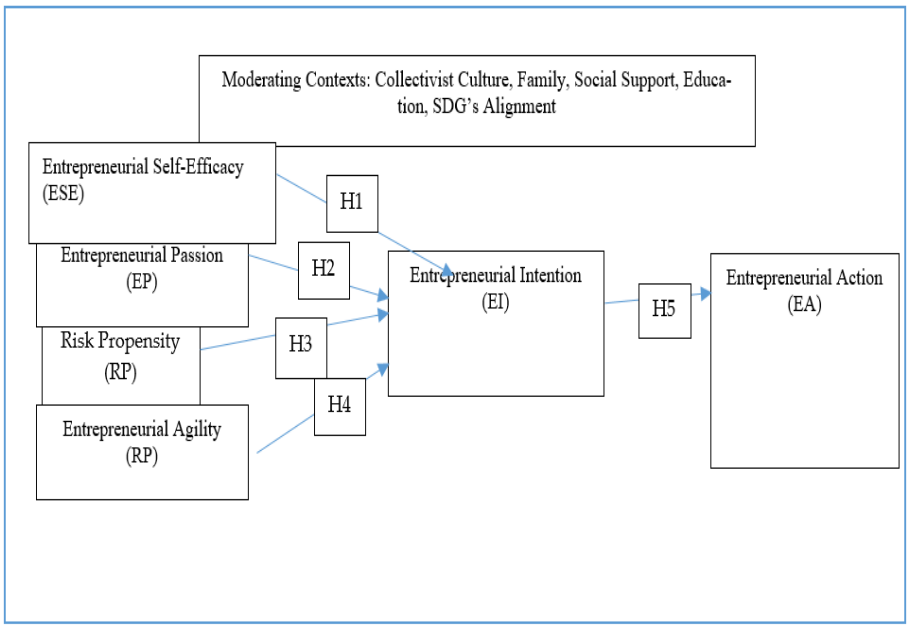

Fig. 6: Final Conceptual Model: Psychological Drivers of Entrepreneurial Intention and Action in a Collectivist Cultural Context.

Situated within a collectivist context, the model includes moderating factors such as family expectations, social cohesion, institutional support, and alignment with national agendas (e.g., SDGs and Vision 2030). This integrative framework validates TPB in non-Western settings and informs culturally adaptive entrepreneurship education and policy design.

A cross-sectional quantitative design was adopted to examine the psychological and behavioral antecedents of EI and EA among UAE university students. A comprehensive literature review (1988–2022) using EBSCO, Scopus, ScienceDirect, and Google Scholar focused on studies examining ESE, EP, RP, and EAG in collectivist and emerging economies within the TPB framework.

Six research questions were formulated: four examined the influence of ESE, EP, RP, and EAG on EI; one explored the EI-to-EA pathway; and one validated construct measurement in the UAE context. Each question aligned with a hypothesis (H1–H5), grounded in TPB's components of attitude, subjective norms, and perceived behavioral control.

Data were collected via a structured online questionnaire using Google Forms, targeting 185 business and entrepreneurship students across UAE universities. Ethical approval and informed consent were secured. The diverse sample included Emirati, Arab, and Asian Arab students born and raised in the UAE.

The instrument measured six constructs (ESE, EP, RP, EAG, EI, and EA) using validated scales with contextual adaptations. A 5-point Likert scale captured responses, aligning with relevant SDGs to highlight developmental relevance.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0. The two-stage process involved evaluating the measurement model (reliability and validity) and testing the structural model (path significance and explanatory power), suitable for exploratory research with concealed constructs and small samples. Data analysis procedures followed established guidelines for statistical reporting to ensure clarity and reproducibility (Lang et.al, [96].

4. Methodology

4.1. Research design

This study employed a cross-sectional quantitative survey strategy to investigate the psychological and behavioral antecedents of entrepreneurial intention (EI) and entrepreneurial action (EA) among university students in the United Arab Emirates (UAE). Grounded in the Theory of Planned Behavior (TPB), Ajzen [20], the study focused on six key constructs: Entrepreneurial Self-Efficacy (ESE), Entrepreneurial Passion (EP), Risk Propensity (RP), Entrepreneurial Agility (EAG), Entrepreneurial Intention (EI), and Entrepreneurial Action (EA). The conceptual model was aligned with the United Nations Sustainable Development Goals (SDGs), notably SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 17 (Partnerships for the Goals).

A comprehensive literature review spanning 1988 to 2022 was conducted using databases such as EBSCO, Scopus, ScienceDirect, and Google Scholar. Emphasis was placed on peer-reviewed articles listed in the ABS Academic Journal Guide, with a specific focus on studies situated in collectivist and emerging economies and grounded in TPB.

Data were collected through a structured online survey distributed via Google Forms to 185 students enrolled in business and entrepreneurship programs across UAE universities. Ethical approval was granted by the university's Institutional Review Board (see Figure A5, Appendix), and informed consent was obtained from all participants (see Figure 3, Appendix). The instrument included validated scales adapted to the UAE context and was designed to assess students' experiences, aspirations, and psychological dispositions toward entrepreneurship, while highlighting competencies aligned with the SDGs. Responses were recorded on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0. The analysis followed a two-stage process: evaluation of the measurement model (for reliability and validity), followed by assessment of the structural model (for significance and explanatory power). This approach is suitable for exploratory studies involving latent constructs and relatively modest sample sizes.

4.2. Sample and data collection

A total of 197 responses were received, of which 185 were complete and included in the final analysis (see Figure A2, Appendix). Participants were enrolled in entrepreneurship and business programs at a prominent UAE university. All ethical and procedural standards were upheld to ensure data confidentiality and participant protection.

4.2.1. Sample characteristics

The sample included students aged 17 to 27, with a slight female majority (52.43%). In terms of nationality, 30.81% were UAE nationals, 33.51% were other Arab nationals, and 13.51% were Asian Arabs raised in the UAE. The remainder included students from North America, Europe, Africa, and other GCC countries. Students were fairly distributed across undergraduate levels: Year 1 (20.54%), Year 2 (38.92%), Year 3 (11.35%), Year 4 (23.24%), and recent program completers (5.95%). All had started formal entrepreneurship education, including modules on ideation, business planning, pitching, and risk management (see Table 6).

Table 6: Demographic Characteristics of the Sample (N = 185)

Variable	Category	n	%
Sex	Female	97	52.43%
	Male	88	47.57%
TOTAL(M & F) = 185			
	UAE	57	30.81%
Nationality			
	Other Arab Countries	62	33.51%
	Asian Arab (brought up in the UAE)	25	13.51%
	North American	13	7.03%
	European	12	6.49%
	African	9	4.86%
	Other GCC Country	5	2.70%
	Other	2	1.08%
TOTAL NATIONALITY = 185			
Program Year	Year 1	38	20.54%
	Year 2	72	38.92%
	Year 3	21	11.35%
	Year 4	43	23.24%
TOTAL PROGRAM 185	Completed the program	11	5.95%

Note: Percentages are based on the total sample size of 185. Program year refers to students' academic standing in entrepreneurship or business studies.

4.3. Instrument development and measures

4.3.1. Construct development and contextual adaptation

Instrument design was informed by the literature review described above. Of the 170 journals reviewed, 97 studies were qualified based on thematic relevance and methodological rigor (see Tables 1–5). Constructs were selected to reflect the TPB model and to justification

for the sociocultural features of collectivist settings. Contextual relevance was ensured by integrating variables such as familial influence, institutional support, and social approval.

4.3.2. Measurement of constructs

To assess the study variables, six constructs were measured using culturally adapted, validated instruments on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

- Entrepreneurial Self-Efficacy (ESE) was measured via Yang et al., Brinckmann, and Kim, and
- Gielnik et al. [1], [85–86];
- Entrepreneurial Passion (EP) using Vallerand et al. [16];
- Risk Propensity (RP) via Kuo et al., Hung et al., and Meertens and Lion [47, 87–88]; and
- Entrepreneurial Agility (EAG) using Chakravarty [89].
- Entrepreneurial Intention (EI) and Entrepreneurial Action (EA) were assessed using Dheer and Lenartowicz [90] and Neneh and Shirokova et al. [91–92], respectively.

Validity was confirmed through AVE and Fornell-Larcker tests (Table 7). All concepts showed strong reliability with Cronbach's alpha and composite consistency values ranging from 0.88 to 0.90, exceeding the 0.70 threshold [93].

Table 7: Construct Reliability, Convergent and Discriminant Validity (Fornell and Larcker Criterion)

Factors	Cronbach's alpha	Composite reliability	AVE	Inter-construct correlations					
				EP	ESE	EI	RP	EAG	EA
EP	0.88	0.89	0.74	0.86					
ESE	0.89	0.89	0.82	0.75	0.91				
EI	0.90	0.90	0.83	0.73	0.74	0.91			
RP	0.88	0.89	0.68	0.61	0.64	0.58	0.82		
EAG	0.88	0.89	0.81	0.73	0.73	0.72	0.61	0.90	
EA	0.90	0.90	0.66	0.69	0.65	0.68	0.54	0.78	0.81

Note: Figures in bold are the square roots of the average variance extracted (AVE) of the respective factor and signify that the value is higher than that of interconstruct correlations of that construct with the remaining constructs.

4.4. Sample size justification and power analysis

Following the "10-times rule" for PLS-SEM, Hair et al. [61], a minimum of 40 responses was required, given that the most complex construct had four predictors. The final sample size of 185 was more than adequate. Additionally, a power analysis conducted using G*Power confirmed statistical power exceeding 0.80 to detect medium effect sizes at the 5% significance level.

4.5. Handling of missing data

Only complete responses were kept, with a total of 185. The rate of incomplete responses was low, around 6%. Therefore, a listwise deletion method was used without imputation. This method maintained data reliability and matched the needs of SmartPLS analysis.

5. Validity and reliability assessment

Construct validity and reliability were evaluated using the following metrics:

- Convergent validity: Average Variance Extracted (AVE) values exceeded the 0.50 threshold: ESE = 0.82, EP = 0.74, EI = 0.81, RP = 0.62, EAG = 0.81, EA = 0.66 Sarstedt et al., [93].
- Discriminant validity: Assessed using the Fornell-Larcker criterion; each construct's AVE square root exceeded its inter-construct correlations (see Table 7), confirming discriminant validity Sarstedt et al., [93].
- Reliability: Cronbach's Alpha and Composite Reliability values ranged from 0.88 to 0.90 and 0.89 to 0.90, respectively, surpassing the accepted threshold of 0.70.
- Data Analysis and Results

5.1. Statistical assumptions

Although Partial Least Squares Structural Equation Modeling (PLS-SEM) is a non-parametric method and does not require data to meet multivariate normality assumptions, we nonetheless conducted preliminary diagnostics to assess key assumptions for robustness. Tests for multicollinearity, including Variance Inflation Factor (VIF) scores, indicated acceptable levels (all VIFs < 5), confirming the absence of significant multicollinearity. Normality of indicator variables was reviewed using skewness and kurtosis, both of which were within acceptable ranges for PLS-SEM use. These evaluations ensure the appropriateness and reliability of our statistical modeling approach.

5.2. Measurement model assessment

The measurement model was measured using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. To establish construct validity and reliability, the analysis included factor loadings, cross-loadings, and evaluations of convergent and discriminant validity. In accordance with Sarstedt et al. [93], items with factor loadings below 0.60 or with higher cross-loadings on non-target constructs were removed to enhance model accuracy. The final retained items, summarized in Table 8, met all acceptable thresholds for reliability and validity. Table 8 presents the final reserved items, all of which demonstrated acceptable validity.

Table 8: Factor Loadings and Cross-Loadings. (Bold Values Indicate Factor Loadings > 0.60 and Higher Than Cross-Loadings with Other Constructs.)

Factor/Item	EP	ESE	EI	RP	EAG	EA
Entrepreneurship Passion (EP)						
EP1	0.82	0.75	0.63	0.55	0.69	0.60
EP2	0.88	0.65	0.60	0.54	0.62	0.62
EP3	0.88	0.63	0.67	0.51	0.62	0.58
EP4	0.86	0.57	0.61	0.48	0.58	0.56
Entrepreneurship Self-Efficacy (ESE)						
ESE1	0.65	0.91	0.66	0.58	0.63	0.53
ESE2	0.72	0.90	0.64	0.56	0.66	0.59
ESE3	0.68	0.91	0.71	0.60	0.70	0.65
Entrepreneurship Intention (EI)						
EI1	0.64	0.76	0.89	0.58	0.68	0.62
EI2	0.68	0.65	0.94	0.51	0.64	0.57
EI3	0.68	0.60	0.91	0.50	0.65	0.65
Risk Propensity (RP)						
RP1	0.53	0.61	0.52	0.82	0.53	0.44
RP2	0.55	0.55	0.47	0.84	0.51	0.45
RP3	0.51	0.49	0.53	0.84	0.54	0.48
RP4	0.36	0.43	0.35	0.74	0.36	0.39
RP5	0.53	0.57	0.52	0.87	0.54	0.46
Entrepreneurship Agility (EAG)						
EAG1	0.71	0.68	0.75	0.57	0.91	0.75
EAG2	0.63	0.66	0.62	0.54	0.89	0.65
EAG3	0.62	0.63	0.58	0.53	0.90	0.71
Entrepreneurship Action (EA)						
EA1	0.65	0.61	0.67	0.45	0.71	0.83
EA2	0.64	0.70	0.61	0.54	0.69	0.78
EA3	0.53	0.47	0.49	0.45	0.59	0.84
EA4	0.52	0.47	0.47	0.41	0.57	0.79
EA5	0.55	0.49	0.56	0.43	0.63	0.85
EA6	0.43	0.41	0.45	0.35	0.61	0.80

Note: Numbers in bold signify that the factor loadings are more than 0.60 and are larger than the loading with the item in comparison to its loading with other factors.

5.3. Structural model hypotheses testing results

The structural model was evaluated to test five hypotheses (H1–H5) using standardized path coefficients, t-values, coefficient of determination (R^2), predictive relevance (Q^2), and overall model fit (Table 9).

The R^2 values indicated that the model explained 65% of the variance in Entrepreneurial Intention (EI) and 46% in Entrepreneurial Action (EA), reflecting substantial explanatory power (Sarstedt et al. [93]). Additionally, the Q^2 values were 0.63 for EI and 0.55 for EA, affirming strong predictive relevance.

Path coefficients (β values) and corresponding t-values were used to evaluate the strength and significance of the hypothesized relationships. These effect sizes help clarify the influence of each psychological construct on entrepreneurial intention and action.

Table 9: Structural Model and Hypothesis Testing

Independent variable	Hypothesis	Dependent variable: Entrepreneurship intention		Dependent variable: Entrepreneurship action		Hypothesis supported?
		Std. co-efficient	t-value	Std. co-efficient	t-value	
Entrepreneurship Passion	H1	0.274	2.514*			Yes
Entrepreneurship Self-Efficacy	H2	0.286	2.833*			Yes
Risk Propensity	H3	0.065	0.916			No
Entrepreneurial Agility	H4	0.276	3.512*			Yes
Entrepreneurship Intention	H5			0.680	14.162*	Yes
R2 value		0.65		0.46		
Q2 predict		0.63		0.55		
*p-value < 0.01						

Hypotheses were evaluated using standardized path coefficients and corresponding t-values (see Table 9). Significant predictors of EI included:

Entrepreneurial Self-Efficacy ($\beta = 0.286$, $t = 2.833$, $p < 0.01$),

Entrepreneurial Passion ($\beta = 0.274$, $t = 2.514$, $p < 0.01$),

Entrepreneurial Agility ($\beta = 0.276$, $t = 3.512$, $p < 0.01$),

thus confirming H1, H2, and H4. These findings are consistent with earlier work by Bandura, Karimi, Anjum et al., and Gunasekaran [45, 58, 60, 71, 75, 91, 94].

Risk Propensity, however, did not significantly predict EI ($\beta = 0.065$, $t = 0.916$), leading to the rejection of H3. This outcome aligns with previous observations by Krueger et al. [95] and Zhao et al. [55], who argue that contextual conditions and perceived behavioral control may moderate the impact of risk tolerance on entrepreneurial intention.

Finally, Entrepreneurial Intention expressively predicted Entrepreneurial Action ($\beta = 0.680$, $t = 14.162$, $p < 0.05$), confirming H5. This result corroborates findings from Fayolle and Linñán [84].

5.3.1. Model fit indices

Although PLS-SEM is a variance-based method and does not rely on traditional fit indices like those in covariance-based SEM, recent methodological guidance supports reporting certain fit measures for completeness. In this study, the Standardized Root Mean Square Residual (SRMR) was examined as a model fit indicator. The SRMR value was [insert value from SmartPLS output], which falls below the conservative threshold of 0.08, suggesting a satisfactory model fit. Additional indices, such as Normed Fit Index (NFI) and RMS_theta, can also be reported when relevant; however, they were either unavailable or not emphasized due to model specifications.

6. Discussion

This study examined the psychological and behavioral determinants of Entrepreneurial Intention (EI) and Entrepreneurial Action (EA) among university students in the UAE using the Theory of Planned Behavior (TPB). As shown in the validated model (Figure 7), the structural model confirmed that Entrepreneurial Self-Efficacy (ESE), Entrepreneurial Passion (EP), and Entrepreneurial Agility (EAG) significantly influence EI, which in turn strongly predicts EA. Risk Propensity (RP) did not significantly influence EI, offering culturally specific insights into entrepreneurial behavior.

Entrepreneurial Self-Efficacy (ESE) was found to significantly influence EI (H1), consistent with Naktiyok et al., Kolvereid, Segal et al., Zhao et al., and Chen [10], [12], [51–53], [55], [56], [78], [97]. In the UAE's collectivist society, ESE is reinforced by family support and community validation, strengthening perceived behavioral control. This supports SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), highlighting the role of entrepreneurship education in enhancing student confidence and agency.

Entrepreneurial Passion (EP) also significantly influenced EI (H2), affirming findings by Ajzen, Karimi, Anjum et al., Baum, Bird, and Kadile [20], [58], [60–64], [94], [98–101]. In the UAE, EP is framed around contributing to social and economic goals rather than personal success alone, reinforcing TPB's subjective norms component and aligning with SDG 9 (Industry, Innovation, and Infrastructure).

Risk Propensity (RP), however, was not a significant predictor of EI (H3 rejected). Although previous studies (Barbosa et al.; Ebrahim & Schøtt [66–67]) found positive associations in Western contexts, the UAE's collectivist culture emphasizes firmness, long-term security, and family reputation—moderating the influence of individual risk-taking.

This challenges TPB's attitude component in such settings and highlights the need for culturally grounded entrepreneurship models. These insights contribute to SDG 11 (Sustainable Cities and Communities) by advocating risk-sensitive, community-driven entrepreneurial strategies.

Entrepreneurial Agility (EAG) was found to significantly influence EI (H4), affirming that agility enhances perceived behavioral control in navigating uncertainty. While global evidence has been mixed (Tripathi et al.; Dutot & Van Horne; Gravett & Caldwell; Sherehiy; Plonka [72], [75–80], [102–103]), this study confirms that in the UAE, agility entails strategic adaptability within institutional and regulatory frameworks aligned with Vision 2030. This supports SDG 4 (Quality Education) and SDG 17 (Partnerships for the Goals) by promoting responsiveness in entrepreneurship education and public–private initiatives.

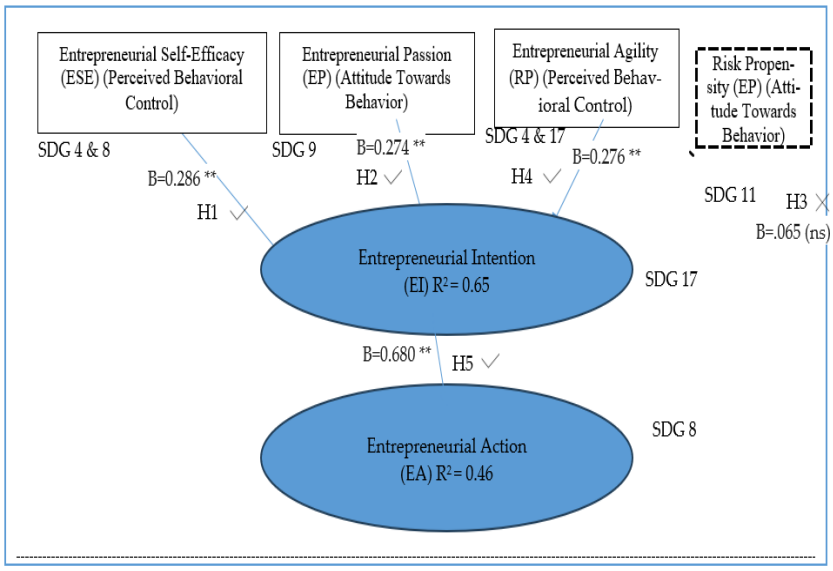

Fig. 7: Structural model showing the relationships between entrepreneurial factors, entrepreneurial intention, and entrepreneurial action with path coefficients and R^2 values.

Note: In alignment with the Theory of Planned Behavior (TPB), Perceived Behavioral Control (PBC) is not modeled as a standalone construct. Instead, it is operationalized through two psychological variables: Entrepreneurial Self-Efficacy (ESE) and Entrepreneurial Agility (EAG). ESE captures individuals' confidence in executing entrepreneurial tasks, while EAG reflects their capacity to adapt to uncertainty and dynamic environments, both serving as proxies for perceived behavioral control in this context.

Entrepreneurial Intention (EI) significantly predicted Entrepreneurial Action (EA) (H5), validating TPB's core premise that intention is the most immediate antecedent of behavior. Studies by Fayolle and Linñán [84] and Segal et al. [53] corroborate this relationship. In the UAE, institutional mentorship, government incentives, and a supportive entrepreneurial ecosystem help translate intention into action. These mechanisms directly contribute to SDG 8 (Decent Work and Economic Growth).

Overall, the findings emphasize that in emerging, collectivist contexts like the UAE, psychological enablers such as self-efficacy, emotional commitment, and adaptability are stronger predictors of entrepreneurial behavior than risk tolerance. The TPB model is validated, but its components—particularly attitude—require cultural calibration. In the UAE, perceived behavioral control and subjective norms are deeply shaped by collective values, suggesting a need for TPB adaptations in non-Western settings.

This study advances TPB by demonstrating that entrepreneurial behavior is shaped not only by individual cognition but also by social endorsement, institutional support, and alignment with national development goals. It bridges a critical research gap by offering an empirically validated, culturally sensitive entrepreneurial intention–action model for Arab youth in the UAE.

Each construct is mapped to Sustainable Development Goals (SDGs), showing how entrepreneurship education, institutional policy, and individual empowerment intersect to promote inclusive, innovation-driven development. ESE and EP contribute to youth empowerment and skills development (SDG 4), EAG supports systemic adaptability (SDG 17), and the intention-action link reflects economic participation (SDG 8).

This study refines the TPB framework through the lens of the UAE's collectivist culture, confirming the significance of ESE, EP, and EAG in shaping intention and action, while revealing that RP may play a limited role. These insights offer theoretical contributions, practical guidance for entrepreneurship education, and policy implications for inclusive economic development. The validated model (Figure 7) contributes to understanding how psychological traits and societal norms interact to drive entrepreneurial outcomes in emerging economies.

7. Research Implications

7.1. Managerial implications

This study offers meaningful insights for applying the Theory of Planned Behavior (TPB) within the UAE's collectivist entrepreneurial context. Findings confirm that entrepreneurial self-efficacy, passion, and agility significantly drive entrepreneurial intention, which, in turn, predicts entrepreneurial action, reinforcing TPB's emphasis on perceived behavioral control and attitude. However, the non-significance of risk propensity in this cultural setting suggests that factors like family expectations and social approval may override specific risk tolerance, especially among Arab and Arab Asian students. This highlights the need for entrepreneurship strategies that are culturally sensitive and psychologically empowering.

Policymakers and educators should integrate confidence-building and adaptability-focused content into entrepreneurship education. Government-supported incubators, industry collaborations, and targeted mentorship programs can substitute self-efficacy, passion, and agility. Public–private partnerships can also provide experiential learning via startup simulations and project-based training. Curriculum reforms should promote agility to help students manage uncertainty, while intrapreneurship initiatives can instill innovation within existing organizations.

Additionally, UAE-specific entrepreneurship models must reflect cultural realities, supporting both Emirati nationals and expatriates. Early exposure to entrepreneurial thinking, local role models, and regional business networks can reinforce intention and facilitate the transition to entrepreneurial action. These measures contribute to broader national goals and Sustainable Development Goals (SDGs), particularly SDGs 4, 8, 9, 11, and 17—fostering a resilient, inclusive, and innovation-driven ecosystem.

7.2. Theoretical implications

Theoretically, this study enriches cross-cultural entrepreneurship literature by applying TPB in
the UAE, a collectivist and under-researched setting. It integrates entrepreneurial self-efficacy, passion, risk propensity, and notably, entrepreneurial agility—an emergent construct capturing adaptability in uncertain environments. This expands TPB by demonstrating how perceived behavioral control and subjective norms manifest uniquely in collectivist societies where familial and societal influences are central.

The inclusion of agility offers a dynamic perspective on how entrepreneurs adapt to change, linking it to both business resilience and mental well-being. These findings offer new theoretical pathways for understanding entrepreneurship as a culturally contextualized and behaviorally adaptive process.

Focusing on Arab youth entrepreneurship addresses a key gap in emerging market literature and lays the groundwork for culturally responsive policy and education frameworks. It supports sustainable entrepreneurship aligned with regional goals, including the UAE Vision 2030. Overall, the study contributes to inclusive theoretical models that link entrepreneurial behavior with broader social, educational, and economic development in collectivist cultures.

8. Conclusion

This study explores the psychological and behavioral drivers of entrepreneurial intention and action among university students in the UAE, an innovation-led economy shaped by collectivist values. Using the Theory of Planned Behavior, it highlights the strong influence of entrepreneurial self-efficacy, passion, and agility, while finding that risk propensity is not a significant factor in this context. The results suggest that familial expectations, social norms, and institutional support may outweigh individual risk-taking in shaping entrepreneurial aspirations. This culturally rooted insight challenges Western-centric views of entrepreneurship and underscores the need for localized approaches. The study proposes practical recommendations for educators, policymakers, and ecosystem enablers to incorporate confidence-building, emotional resilience, and adaptability into entrepreneurship education. Aligned with UAE Vision 2030 and the Sustainable Development Goals, the research enriches TPB's relevance in emerging economies and promotes inclusive strategies tailored to specific socio-economic and cultural contexts.

9. Limitations and Directions for Further Research

While this study offers valuable insights into the psychological and behavioral drivers of entrepreneurial intention and action in the UAE, it has several limitations that suggest directions for future research. The sample was restricted to university students, limiting the generalizability of findings across age groups, professions, and regions. Future research should include early-stage entrepreneurs, industry professionals, and members from other GCC countries to offer broader and comparative perspectives across collectivist economies.

The cross-sectional design limits causal inference. Longitudinal studies could better capture the transition from intention to action over time and reflect changes in socio-cultural, policy, and market conditions. While entrepreneurial agility was explored as a novel variable, future studies could integrate other constructs such as digital readiness, institutional trust, or social capital for deeper clarification.

This study contributes to cross-cultural entrepreneurship research by applying the Theory of Planned Behavior (TPB) in a collectivist setting. However, further investigation is needed to understand how subjective norms and perceived behavioral control operate in tightly knit social systems influenced by family, community, and state.

Although the study focused on Arab university students, future investigation could disaggregate findings by gender, socioeconomic status, and educational background to uncover diverse entrepreneurial motivations. Mixed-method or qualitative approaches could provide richer insights into contextual enablers and barriers.

Addressing these limitations through targeted research will help refine theoretical models and inform policy and practice supporting the UAE Vision 2030 and Sustainable Development Goals (SDGs) focused on inclusive education, economic growth, innovation, and partnerships.

Author Contributions

Dr. Mohammad Khalid Husain and Dr. Khadija Itani conceived and designed the conceptual framework and co-wrote the manuscript. Dr. Sandeep Dongre and Dr. Eddy Winarso contributed to data collection, analytical tools, and data interpretation. Dr. Pradip Sanatkumar Padhye and Dr. Romli, S.E., M.Ak assisted in data analysis and validation. Dr. Vishal Kumar Laheri and Dr. Wizra Saeed contributed to manuscript preparation, review, and editing.

Declaration of Interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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