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闡釋創業知識、心態與認知因素對於創業意圖的影響效果

Unraveling the Effects of Entrepreneurial Knowledge, Mindset, and Cognition as Antecedents on Entrepreneurial Intention

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南　華　大　學

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準博士推薦函

本校企業管理學系管理科學博士班研究生 阮友英宇 君在本系修業 5 年，已經完成本系博士班規定之修業課程及論文研究之訓練。

1、在修業課程方面： 阮友英宇 君已修滿 44 學分，其中必修科目： 研究方法 、 最佳化理論 、 書報討論 、 企業倫理專題研討 等科目，成績及格(請查閱博士班歷年成績)。

2、在論文研究方面： 阮友英宇 君在學期間已完成下列論文：

(1)博士論文：Unraveling the Effects of Entrepreneurial Knowledge, Mindset, and Cognition as Antecedents on Entrepreneurial Intention

(2)學術期刊：International Entrepreneurship and Management Journal, Global Business and Organizational Excellence

本人認為 阮友英宇 君已完成南華大學企業管理學系管理科學博士班之博士養成教育，符合訓練水準，並具備本校博士學位考試之申請資格，特向博士資格審查小組推薦其初稿，名稱：Unraveling the Effects of Entrepreneurial Knowledge, Mindset, and Cognition as Antecedents on Entrepreneurial intention，以參加博士論文口試。

指導教授： 吳萬益

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中華民國 112 年 1 月 09 日

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Undertaking the Ph.D. program has been a life-changing experience and one of the hardest tasks in my life is the emotional debt of so many individuals.

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摘要

本研究擬擴展現有關創業意圖的文獻，建立一個以計畫行為理論及社會認知生涯理論為基礎之研究模型，來探討前置因素、人格特徵、風險承擔、創業知識、創業心態及認知因素對於創業意圖之影響，本研究採用橫斷面問卷調查法，共收集 422 名受訪者的數據，並使用偏最小平方法-結構方程模型進行分析。研究結果顯示，創業知識對於創業意圖有顯著的影響。再者，創業心態是由創業教育及其在學校的活動所塑造的，並會進一步影響學生往後之企業家行為。創業態度是驅動創業意圖的最佳因素之一，隨後並將直接影響行為。此外，本研究結果進一步顯示，創業熱情對於提升創業自我效能與創業態度之關係具有調節作用。最後，性別對於創業態度與創業意圖之關係也具有調節作用，男性比女性更傾向於採取更多創業行為。以上這些發現可提供學者、教育工作者及任何其他參與創業者之重要參考。

關鍵字：創業知識、創業心態、創業態度、創業熱情、創業意向

ABSTRACT

Title of Thesis: Unraveling the Effects of Entrepreneurial Knowledge, Mindset, and Cognition as Antecedents on Entrepreneurial Intention

Department: Doctoral Program in Management Sciences, Department of Business Administration, Nanhua University

Graduate Date: January 2023 Degree Conferred: Ph.D.

Name of Student: Nguyen Huu Anh Vu Advisor: Wann-Yih Wu, Ph.D.

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The purpose of this paper is to extend the existing literature on entrepreneurial intentions by employing the integrated model of external factors, personality characteristics, the theory of planned behavior, and social cognitive career theory to explore the effects of risk-taking, entrepreneurial knowledge, entrepreneurial mindset and cognitive antecedents on entrepreneurial intention. Adopting a cross-sectional approach, this study collected data from 422 respondents using questionnaires, and the findings were analyzed using partial least squares-structural equation modeling. The results suggest that entrepreneurial knowledge is crucial in forming entrepreneurial intention. Furthermore, entrepreneurial mindset is shaped by entrepreneurial education and its activities in the school which in turn affects student behavior to become an entrepreneur. Attitude towards entrepreneurship is one of the best factors in driving entrepreneurial intention and will subsequently directly affect behaviour. Additionally, the results indicate that entrepreneurial passion acts as a moderator in forming entrepreneurial self-efficacy and attitude towards entrepreneurship. Last, gender significantly moderates the influence of attitude towards entrepreneurship on entrepreneurial intention, indicating that

males tend to adopt more entrepreneurial behaviors than females. These findings provide insights that might act as a resource for academics, educators, and anyone else involved in the creation or expansion of entrepreneurship.

Keywords: entrepreneurial knowledge, entrepreneurial mindset, attitude towards entrepreneurship, entrepreneurial passion, entrepreneurial intention

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CHAPTER ONE
INTRODUCTION

1.1 Research background and motivation

Economic development is closely related to a country's level of entrepreneurial activity. The capacity to encourage entrepreneurial activity, expand enterprises, generate wealth, and maintain competitive advantage is critical in high-growth, internationally competitive economies. This is due to a direct relationship between job creation and the degree of entrepreneurial behaviour in an economy, as well as a statistically significant positive relationship between national economic development and entrepreneurship (Nieuwenhuizen, 2018). Entrepreneurs have become critically valuable economic contributors due to their dedication to new jobs, innovation, and agility (Gupta et al., 2020). By producing new goods, services, and technology, entrepreneurs have the ability to create new markets and income. They constitute vital to a country's economic development. According to recent scholars, entrepreneurship education is vital in developing the mindset, knowledge, and abilities related to the practice of entrepreneurship (Gangi, 2017; Boldureanu et al., 2020; Moghtadaie and Jamshidian, 2021).

Entrepreneurship is “the process of innovation and/or opportunity distinguishing proof to form modern and special values within the frame of items (products and/or administrations) that can fulfill human needs and hence can command benefit in exchange.” This process of transforming an identified opportunity and/or an innovation into a new and unique product for exchange transaction necessitates personal time, commitment, and financial resources (in addition to a unique benefit idea) while accepting the associated economic, social,

and psychological risks (Alam et al., 2021). However, most previous studies indicated the influences of personality traits on entrepreneurial intention, especially risk-taking in determining entrepreneurial intention had been conducted independently (Djaoued et al, 2018; Sun et al, 2020). Munir et al. (2018) conducted a study on personality traits and the theory of planned behavior comparison of entrepreneurial intentions between an emerging economy and a developing country. However, they only concentrate on the role of risk-taking in explaining differences in entrepreneurial intention between the two countries. They neglected to be aware that entrepreneurship, by definition, includes risk and uncertainty in a complicated environment, which is tied to entrepreneurs' self-confidence. Thus, the initial goal of this research is to determine the process of risk-taking in forming entrepreneurial intention which can fulfill that gap by indicating risk-taking is closely related to opportunities and shapes entrepreneurial confidence.

Entrepreneurship researchers have used the theory of planned behavior (TPB) to determine the major cognitive factors of entrepreneurial career decisions and behavior (Linan et al., 2013; Krueger and Carsrud, 1993). The TPB's key element is entrepreneurial intention, which is thought to be best predicted by three motivating variables (i.e. attitudes towards entrepreneurship, social norms, and entrepreneurial self-efficacy). In addition to these three motivation factors, there are certainly more elements that play a vital role in forming entrepreneurial intention but are not covered by the TPB. One of these variables is entrepreneurial knowledge, which has been shown in the literature to have a significant impact on entrepreneurial intention (Karyaningsih et al, 2020; Essel et al, 2020). Farani et al. (2016) have well-researched entrepreneurial knowledge in a wide range of entrepreneurial contexts. However, they solely focused on one theory and ignored the relationship between TPB's three dimensions. This study addresses a gap in the

literature by expanding the theoretical framework and providing a stronger explanation for the appearance of cognitive antecedents using TPB and SCCT to highlight the relevance of entrepreneurial self-efficacy in forming an entrepreneurial intention. Hence, the second aim of this study is to identify the routes via which entrepreneurial knowledge influences on entrepreneurial intention.

Entrepreneurial mindset is also a critical variable for entrepreneurs' success, it prompts individuals to look for new chances, but they do not pursue them all at once. Instead, they are mindful of their limited resources and devote them exclusively to projects that are strategic and deliver the greatest return (Naumann, 2017). In addition, an entrepreneurial mindset is also a mode of thinking that sees opportunities rather than obstacles, sees potential in failures, and wants to do something to make a difference rather than complaining about difficulties (Walter and Block, 2016). Jiatong et al. (2021) conducted a study on the effect of mindset on entrepreneurial intention. However, the sample size has mainly concentrated in developed countries, and the link between mindset and attitude towards entrepreneurship and social norms was neglected. This study intends to fulfill these gaps by investigating the effects of entrepreneurial mindset on entrepreneurial intention, through the lens of attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy in a more comprehensive framework. As a result, the third purpose of this study is to determine the processes via which entrepreneurial mindset influences entrepreneurial intention.

Entrepreneurial competencies, on the other hand, relate to a specialized set of skills for implementing entrepreneurship in a new business (Mitchelmore and Rowley, 2010). Most studies focus on the direct and indirect influence of emotional competencies through cognitive factors on entrepreneurial intention

(Fernández-Pérez et al, 2019; Velástegui and Chacón, 2021). However, these studies tend to adopt it in the area of academic education for entrepreneurship but they ignore the fact that entrepreneurial competencies should serve as an equally important role as other research constructs. Few studies have investigated the influence of entrepreneurial mindset through the lens of entrepreneurial competencies for determining entrepreneurial intention. Hence, the study's fourth objective is to investigate the indirect influence of entrepreneurial competencies on entrepreneurial intention.

Entrepreneurial passion has been identified as a potential and essential motivator influencing entrepreneurial activities and efforts by both academic and general press. Previous research has found that passion plays a greater role in interpreting people's intentions for future acts. It fosters entrepreneurship passion by providing entrepreneurship attitude, social norms, and entrepreneurial self-efficacy as mediators of the entrepreneurial passion-entrepreneurial intention link and incorporates entrepreneurial passion (Biraglia and Kadile, 2016; Karimi et al., 2019; Hou et al., 2019). This study replies to the call of Karimi (2019) by investigating the moderating role of entrepreneurial passion on the relationship between entrepreneurial intention and its antecedents. In addition, this study also responds to Hoang et al. (2020) and Liao et al. (2022)'s demand for additional research by investigating the role of other elements, such as student competencies, personalities, and enthusiasm, in driving entrepreneurial intention and postgraduate entrepreneurship.

Previous studies mostly examined demographic factors such as work experience, education, entrepreneurial experience also have an influence on entrepreneurial intention through the three main TPB components (Liñán et al., 2011; Marvel et al., 2016). However, rarely studies examine the role of

demographic variables as a moderator in the link between cognitive factors and entrepreneurial intention by using a meta-analytic approach.

Additionally, the reasons for the entrepreneurial gender gap are not yet clearly understood. This study fills a gap identified by Martin et al. (2013) by investigating a variety of important constructs. It assesses the significance of behavioral and psychological traits in entrepreneurship, while also considering the potential moderating impact of demographic variables.

1.2 Research objectives

Based on research motivations mentioned above, the objectives of this study are as follows:

1. To examines the role of risk-taking, entrepreneurial knowledge, and entrepreneurial mindset on entrepreneurial intention through the lens of three cognitive antecedents (attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy).

2. To present a paradigm for explaining the function of entrepreneurial knowledge in developing entrepreneurial intention through the lens of the above cognitive antecedents.

3. To investigate the potential influence routes of entrepreneurial mindset on entrepreneurial competencies and entrepreneurial intention, either directly or indirectly via the above cognitive antecedents.

4. To investigate the moderating influence of entrepreneurial passion and demographic variables in the link between cognitive antecedents and entrepreneurial intention.

1.3 Research contributions

This study adds to the existing literature in the following ways:

First, the research advances empirical knowledge of the relationship between personality traits (risk-taking) and entrepreneurial intention by establishing a link with the three major dimensions of TPB (e.g., attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy) in predicting entrepreneurial intention.

Second, this study reveals how entrepreneurial knowledge can impact TPB's three major dimensions in persons who take part in different entrepreneurial activities and pursue their own businesses.

Third, this study illustrates how entrepreneurial mindset can be established as a consequence of entrepreneurial education, and it plays as a critical factor in generating entrepreneurial intention.

Fourth, this study investigates the influences of entrepreneurial passion as a moderator in that shapes the effects of self-efficacy and attitudes toward entrepreneurship on entrepreneurial intention.

Finally, this study addresses how demographic variables can moderate the link between cognitive antecedents and entrepreneurial intention, as well as providing in-depth information on demographic variables' roles in determining entrepreneurial intention.

1.4 Research project and scope of the study

This study establishes the research project and scope based on the aforesaid research objectives, as shown in Table 1-1.

Table 1-1 The scope of this study

Items	Scope of the Study
Dependent variables	Attitude towards entrepreneurship, social norms, entrepreneurial self-efficacy, entrepreneurial competencies, entrepreneurial intention
Independent variables	Risk-taking, entrepreneurial knowledge, entrepreneurial mindset
Moderating variables	Entrepreneurial passion, gender
Mediators variables	Attitude towards entrepreneurship, social norms, entrepreneurial self-efficacy, entrepreneurial competencies
Underlying theory	Theory of planned behavior and social cognitive career theory
Testing location and Sample	1. Students 2. Entrepreneurs
Analyzed unit	Individual level
Time frame	Cross sectional study
Research instruments	Survey: Theory inference, primary data, and statistical analysis instruments. Meta-analysis: Theory inference, secondary data, and statistical analysis instruments.

Source: Original study

1.5 Research procedure

This dissertation initially reviewed the existing literature related to risk-taking, entrepreneurial knowledge, entrepreneurial mindset, cognitive mediators, entrepreneurial competencies, and entrepreneurial intention. Review theories, such as TPB and social cognitive career theory (SCCT). Based on these extensive literature reviews, this dissertation proposed 18 research hypotheses. This research then conducted a second study to empirically validate the research hypotheses and the research model. First, the study conducted a questionnaire survey to test the research hypotheses based on the opinions of the entrepreneurs. Second, the aims of this meta-analysis are first to evaluate the results of previous studies related to the constructs of this study and then to reconfirm the viability of the research hypotheses developed in this study. Furthermore, the moderating role of entrepreneurial passion and demographic variables are investigated. Eventually, the study results are summarized with concluding remarks. Academic and

managerial implications are provided. The research flow chart of this study is shown in Figure 1-1

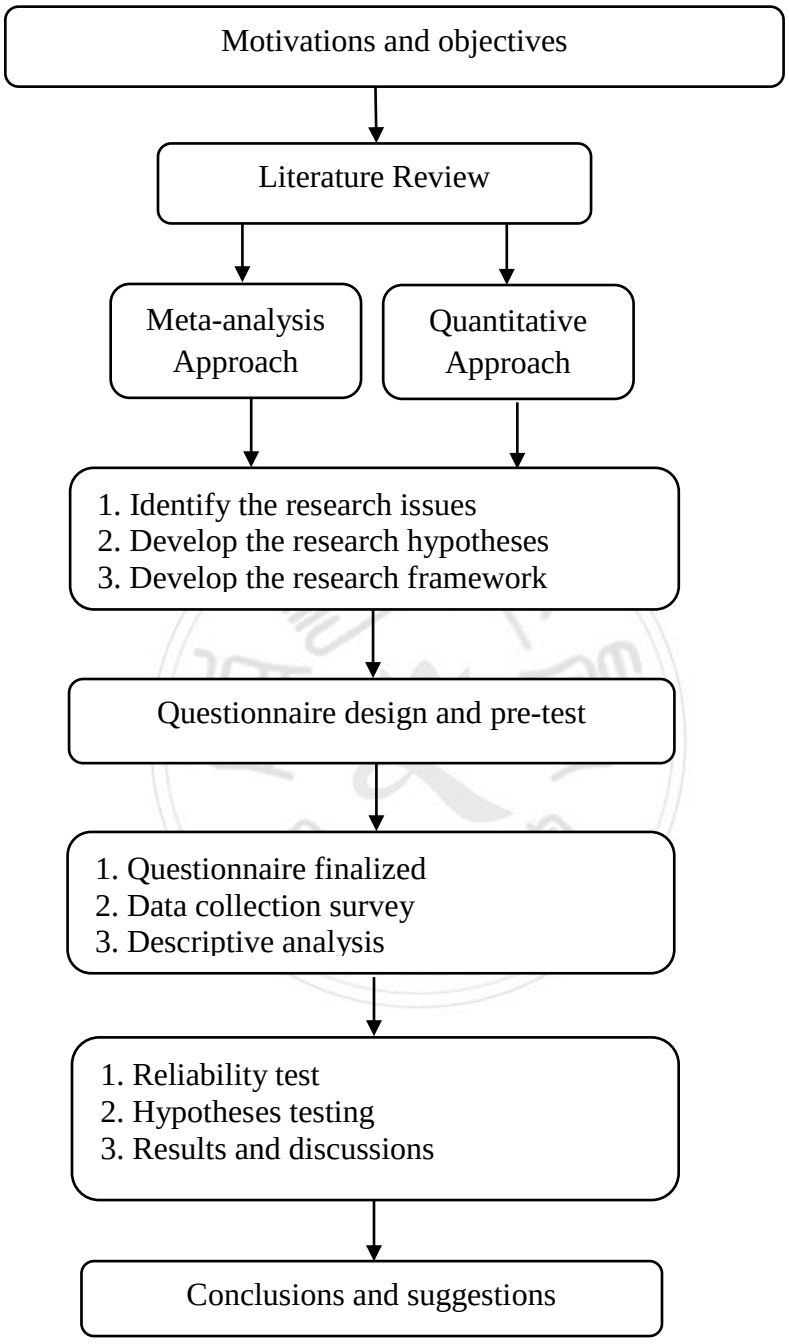

Figure 1-1 The research flow chart

1.6 The structure of this study

This dissertation consists of six chapters and the summary for each:

Chapter one described the research background and motivations, research objectives, scope of the study, procedure, and structure of the dissertation.

Chapter two presented the literature review, including the definition of research variables, the evaluation of the theoretical formation, and the development of research hypotheses.

Chapter three presented a meta-analysis approach. This chapter includes variables coding through collected studies based on the meta-analysis techniques, analytical techniques process in the lens of Q-test and z-test, meta-analysis results, and discussion of main and moderating effects.

Chapter four presented the quantitative research design and methodology. This chapter presents a research framework that used a cross-sectional approach and included data from 422 university students from various academic backgrounds. This section also included descriptive analysis, measurement scale reliability and validity, and testing of hypotheses.

Chapter five presented the empirical results of this research. It is especially valuable for identifying general trends in earlier research that share hypotheses. It can assist overcome the problem of limited sample size and producing statistically meaningful results with larger populations.

Chapter six presented the discussions and suggestions of this study. The results of the research were summarized and concluded. The research contributions and implications, as well as its limitations, were also highlighted.

CHAPTER TWO

LITERATURE REVIEW

This chapter presents a review of the literature with respect to detailed descriptions of the theories pertaining to the research model. The independent variables, dependents factors, cognitive antecedents as well as moderating effects on entrepreneurial intention are also presented.

2.1 Theoretical background

2.1.1 Theory of planned behavior

The theory of planned behavior (TPB) claims that attitudes toward the behavior, subjective norms, and perceived behavioral control may accurately anticipate intentions to undertake various types of behaviors (Ajzen, 1991). TPB assumes that when individuals confront a plethora of issues vs alternative options, a person may choose to react or not react based on a prior evaluation of the behavior. According to Ajzen (1991), intentions are assumed to be the motivating variables that drive behavior since they are indicators of how hard individuals are willing to try and how much effort they intend to put forth to achieve the behavior (Al-Mamun and Fazal, 2018). The purpose to undertake an action, according to the TPB, is one of the most fundamental components of performing it (Ajzen, 2005). According to the TPB, three factors influence entrepreneurial intent (Krueger et al., 2000). The first is perceived desirability, which is an individual's attitude or level of interest in entrepreneurship. The second is perceived feasibility, which is an individual's self-assessed capacity to launch an entrepreneurial enterprise, which is commonly measured in terms of self-efficacy but was originally stated as perceived behavioral control in early versions of TPB (Ajzen, 1991). The third component is social norms, which pertain to the perceived level of normative societal pressure and attitudes about partaking in such activity (Ajzen, 2005; Ajzen and Cote, 2008;

Krueger et al., 2000). This conceptual ordering predicts entrepreneurial activity based on the influence of these variables on intentions, which may be gained from individual antecedent factors like as demographic features or personality qualities, as well as merely environmental conditions.

A slew of recent research has sought to validate this concept in relation to the purpose to start a business in a variety of contexts, including the Hispanic community (Hueso et al., 2020; Donaldson et al., 2022; Guerrero et al., 2021; Liñán et al., 2013). The findings support the premise that perceived attractiveness and perceived feasibility are fundamental individual characteristics that influence confidence in launching a new business. Individual appraisal of starting a new business with uncertain and potentially unknown results is fundamentally an evaluation of self-efficacy perception (Krueger and Brazeal, 1994). Previous research has discovered a statistically significant relationship between attitude toward entrepreneurship (perceived desirability) and entrepreneurial intention, indicating that students view entrepreneurship as an appealing, favorable career and that if given the opportunity and resources, they would pursue entrepreneurial venture (Shah et al., 2020; Liao et al., 2022). Furthermore, entrepreneurial self-efficacy (perceptions feasibility) is a crucial cognitive precursor of entrepreneurial intention and behavior, and recent research has demonstrated that it is critical for becoming an entrepreneur (Tung et al., 2020; Guo et al., 2022). One area of contention in the research is the direct influence of social norms in promoting entrepreneurial intention in the TPB. The empirical investigation of social norms' explanatory effect has been significantly less conclusive. To sum up, the TPB is used in this study to explain the impact of risk-taking, entrepreneurial knowledge, and entrepreneurial mindset on entrepreneurial intention through the lens of cognitive antecedents. Figure 2-1 depicts Ajzen's TPB framework.

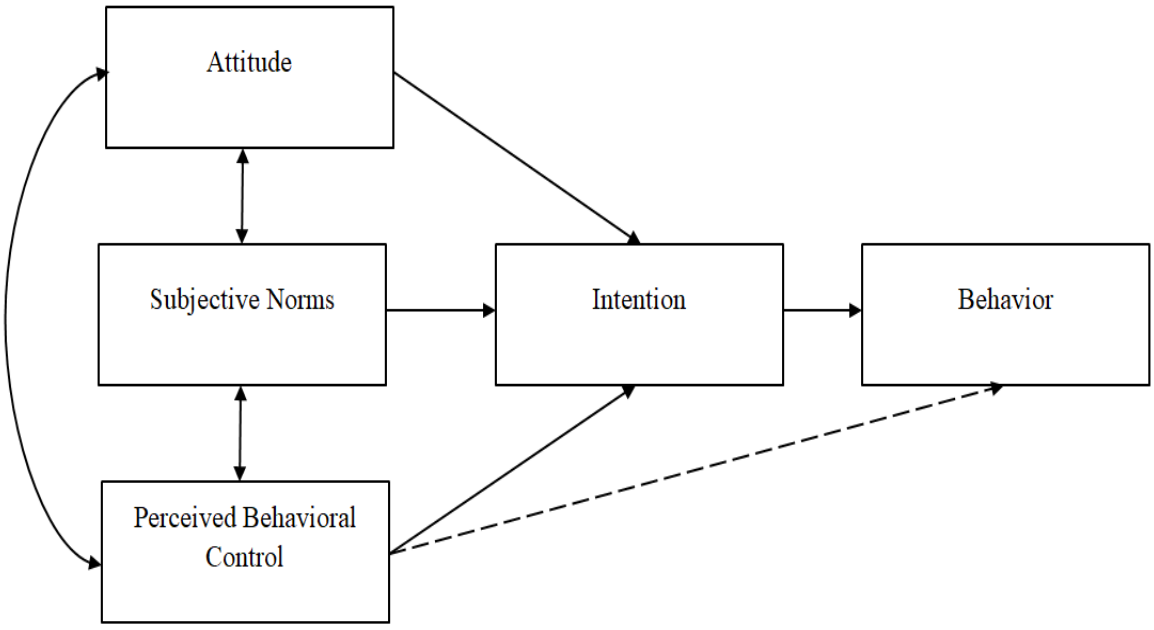

Figure 2-1 Theory of Planned Behavior (Ajzen, 1991)

2.1.2 Social cognitive career theory

SCCT is a vocational psychology theory based on Bandura's (1986) research that has become frequently used to characterize expert decision-making behavior. The concept emphasizes the significance of cognitive traits on people's professional development (such as self-efficacy, result expectations, and goals/intentions). Segal et al. (2002) conducted an empirical investigation to validate the SCCT model's utility in forecasting people's inclination to become entrepreneurs. First, like in the entrepreneurial intention model, self-efficacy is a significant feature and predictor of the degree of performance (mastery) that individuals eventually achieve in the SCCT model (Bandura, 1986). Second, the expected outcomes have some characteristics. There is some conceptual overlap between outcome expectation in SCCT, perceived desirability in the “Entrepreneurial Event” model (Shapero and Soko, 1982), attitude toward new venture development, and societal

norms in the TPB entrepreneurial model (Krueger and Carsrud, 1993). The SCCT is employed as an organizational framework in this study to avoid theoretical overlap in the literature on entrepreneurial intention.

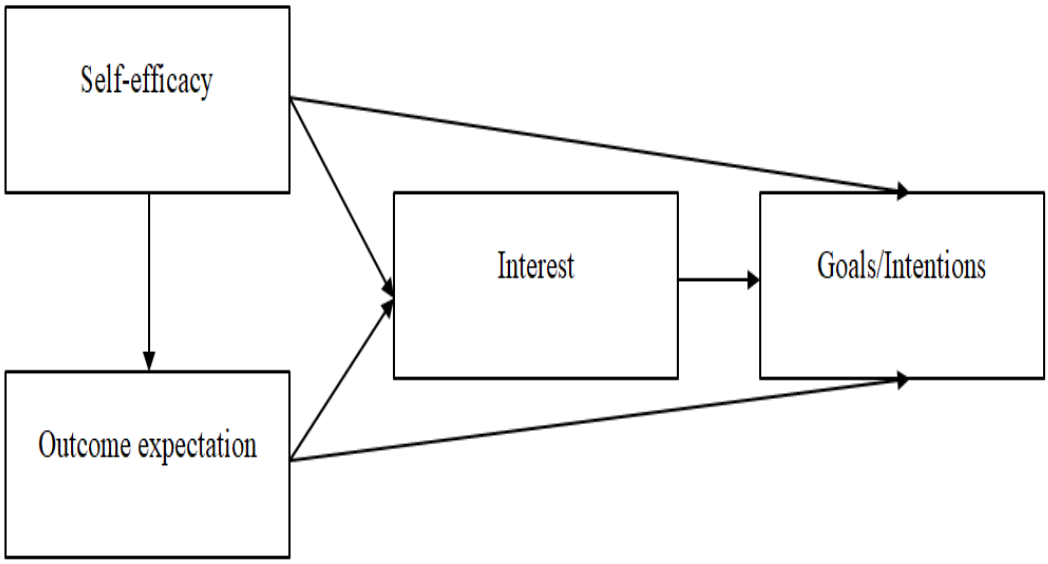

Figure 2-2 Social Cognitive Career Theory (Bandura, 1986)

2.1.3 Entrepreneurial intention model

According to the entrepreneurial intention model, the entrepreneurial intention is determined by combining of individual and other relevant variables (Shapero and Sokol, 1982). Using the notion of social learning, Boyd and Vozikis (1994) investigated the concept of that model and updated it by introducing the notion of entrepreneurial self-efficacy. Shapero-Krueger (2000)'s framework of entrepreneurial intentions was constructed by using TPB and the entrepreneurial event model to characterize the interaction of cultural and social variables that may lead to corporate success by changing an individual's perspectives. Several entrepreneurial research models have been established based on the latter approach, and they have proposed cognitive foundations for characterizing phenomena. Ajzen's (1987, 1991) TPB is one of the main theoretical frameworks, and it has been widely adopted in research on entrepreneurial intention (Liñán, 2008). The TPB is the best-established model in the literature, and it is used extensively in entrepreneurship research (Arshad et al., 2016; Liñán et al., 2011; Marques et al., 2012). In this study, the entrepreneurial intention model is utilized to explore the reasons for entrepreneurial intention.

Entrepreneurial intention depicts the degree of dedication to the entrepreneurial effort required to develop a firm involving self-employment (Kennedy and Renfrow, 2005; Souitaris et al., 2007). Intentions have long been acknowledged as important antecedents to the formation of new businesses in the entrepreneurship literature (Bird, 1988). According to Al-Mamun and Fazal (2018), intentions are expected to reflect the motivating variables that drive action since they demonstrate how much misery individuals are willing to undergo and how much effort they are willing to put forth in executing a behavior.

2.1.4 Definition of entrepreneurship

Entrepreneurship is the fundamental source of commerce that drives economic development and production through small and medium-sized firms, resulting in the creation of new technology and products. The most basic definition of entrepreneurship is starting a firm and growing it to earn a profit. The more current meaning of entrepreneurship, on the other hand, is about transforming the world by solving major challenges. This can be accomplished by developing a new product, starting societal change, or giving a new life-changing solution that has a positive impact on people's lives. Entrepreneurship is a part of company life that contributes to the success of a firm organization. People that are intimately involved in business operations are the most accountable for attaining their goals. Entrepreneurship is a distinct field, it is both a self-contained discipline that can function autonomously and an interdisciplinary undertaking (Croci, 2016). According to another research, entrepreneurship "begins with action and the formation of a new organization." A recent academic defined entrepreneurship as a natural phenomenon in corporate organizations, and it plays roles such as opportunity and market-driven entrepreneurship, innovation, digital technology, and entrepreneurship education (Diandra and Azmy, 2020). To sum up, entrepreneurship is a crucial human endeavor since it not only delivers new ideas, goods, and services to the market but also offers employment opportunities and supports a country's economic progress when done properly.

2.2. Definition of research constructs

2.2.1 Risk-taking

TPB is a solid theoretical model for examining the influence of numerous variables such as personal talents and personality characteristics as antecedents to entrepreneurial intention (Paul and Shrivatava, 2016). Personality factors are important factors in a range of industries. Personality characteristics have a considerable impact on people's decision to become self-employed and differentiate entrepreneurs from others (Awwad et al., 2021). The “Big Five” and specific attributes have been connected to economic success and entrepreneurial purpose (Fietze and Boyd, 2017). Five essential personality traits have been studied: risk-taking propensity, internal locus of control, need for accomplishment, tolerance for ambiguity, and innovativeness. This study solely focuses on risk-taking since it has an indirect role in explaining entrepreneurial intention.

The risk-taking proclivity trait refers to a person's readiness to accept risks in decision-making settings. Stewart et al. (1999) discovered that entrepreneurs have a higher risk-taking inclination than non-entrepreneurs in their study (managers). According to Stewart and Roth (2001), entrepreneurs are likely to work in risky environments. The concept of risk-taking propensity is also described as the degree to which an individual is inclined to accept risks that may result in a loss (Verheul et al., 2015). It includes “...the willingness to devote substantial resources to prospects with a fair possibility of costly failure.” The literature supports the relationship between risk-taking propensity and entrepreneurship. For instance, Cantillon and Say, early eighteenth-century economists, equated entrepreneurship with modest risk-taking (Sheriff and Muffatto, 2015). Furthermore, recent study findings reinforce the idea that risk-taking is a key component of entrepreneurship. (Torres et al., 2017; Ndofirepi, 2020). Therefore, it is realistic to expect future and

prospective entrepreneurs to have a significant risk-taking propensity, given that establishing a business is considered a risk-taking behavior.

2.2.2 Entrepreneurial knowledge

The learning outcomes predicted from acquiring this information are considered in order to identify the specific knowledge reservoirs that would be important for a multifunctional and complicated activity such as a startup (Sandoval, 2021). According to this viewpoint, “entrepreneurial knowledge" should be the outcome of understanding how to identify and capitalize on possible entrepreneurial opportunities, as well as how to cope with unforeseen challenges. Entrepreneurial knowledge is defined by Politis (2005) and Roxas et al. (2009) as “the conceptual and analytic understanding necessary to recognize and act on possibilities in the multi-functional and multi-faceted process of entrepreneurship.” As a knowledge reservoir, entrepreneurial knowledge is thus largely developed by individual exposure to experiences involving structuring new management tasks, producing operations with minimal formal structure but with unforeseen hurdles (Widding, 2007; Politis, 2008; Honig, 2004), and transforming that knowledge into individual knowledge. According to a prior study, the learning activities that build entrepreneurial knowledge are (a) engagement in opportunity detection and growth, and (b) exposure to circumstances that entail coping with the liabilities of newness (Politis, 2005). Another line of thinking holds that entrepreneurial knowledge emerges as a result of access to a formal educational regime focused on entrepreneurship (Sang and Lin, 2019). To sum up, the notion that an entrepreneurial knowledge reservoir is mostly filled via experience may also explain why entrepreneurship training programs have a very minor impact on intentions to engage in entrepreneurial conduct as a standalone effect (Ho et al., 2018). In this research, the study investigates the impact of entrepreneurial

knowledge on entrepreneurial intention across cognitive antecedents, with the purpose of improving their comprehension of the critical role of entrepreneurial knowledge in indirectly affecting their desire to engage in entrepreneurial activity.

2.2.3 Entrepreneurial mindset

An entrepreneurial mindset has been identified as critical for boosting competitiveness in the firm, community, or country (Brorstrom, 2002). Several scholars have offered broad definitions, but the most widely used are those of McGrath and MacMillan (2000, p. 15). According to Ireland et al. (2003), it is a "growth-oriented approach in which individuals support flexibility, creativity, ongoing innovation, and regeneration." In this research, the authors describe a mindset as a cognitive belief system made up of interconnected ideas, assumptions, and knowledge that we use to absorb information, make decisions, and direct our behavior. This suggests that a person's entrepreneurial mindset is directly tied to how he or she thinks (consciously or unconsciously) or his or her worldview, which determines one's proclivity to be entrepreneurial. To sum up, an entrepreneurial mindset is also a way of thinking, individuals with a high perspective will have a high level of dependability because they recognize that following through on essential solutions can lead to unexpected possibilities.

Entrepreneurs' success and failure have been linked to their entrepreneurial mindset (Belousova et al., 2020). Scholars consistently endorse the entrepreneurial mindset as an important factor in entrepreneurship study (Allen, 2020; Schaefer and Minello, 2019). In particular, the entrepreneurial mindset, according to Cui et al. (2019), is connected to more fundamental cognitive processes that form distinct involvement in entrepreneurial activities. Furthermore, the basis of entrepreneurial intention involves cognitive adaptability (Haynie et al., 2010), which is crucial in obtaining desired outcomes after entrepreneurial activity. Liao et al. (2022)

identified the pathways for the influence of entrepreneurial mindset on entrepreneurial intention, suggesting that entrepreneurial mindset has an indirect impact via attitude toward entrepreneurship, societal norms, and entrepreneurial self-efficacy, in addition to a direct impact. Additionally, another study used a quantitative methodology with 450 respondents and used Structural Equation Modeling (SEM) based variance Partial Least Square (PLS) to confirm a strong connection between entrepreneurial mindset and vocational students' entrepreneurial intention (Handayati et al., 2020).

2.2.4 Cognitive antecedents

2.2.4.1 Attitude towards entrepreneurship

According to Ajzen's (1991) TPB, individuals' perceptions of entrepreneurial activities and their expected consequences should predict their desire to go into the new firm formation. Attitudes toward entrepreneurship indicate a person's favorable or unfavorable judgment of target behavior (Ajzen, 1991). Zhang and Cain (2017) stated that it represents people's views regarding the possible entrepreneurial experience. According to Krueger et al. (2000), as a person's view of the attractiveness of starting a firm grows, so does their entrepreneurial ambition. On the other hand, according to Amofah and Saladrigues (2022), individuals' positive attitudes toward entrepreneurship have a significant effect on their intentions to become entrepreneurs. Students' personal attitudes have been characterized by their understanding of the relevance of entrepreneurship and their indication of the desirability or desirability of launching a new enterprise and its implications for them (Henley et al., 2017; Shah et al., 2020). Likewise, Armitage and Conner (2001) discovered in a meta-analysis of entrepreneurship literature that attitude toward entrepreneurship had the strongest predictive value for entrepreneurial intention, accounting for more than 50% of its total variation. In

short, the key driving element behind a person's success or failure to overcome problems when presented with ambiguous life events is their attitude toward entrepreneurship (Lee-Ross, 2017). The more optimistic a person is about a certain scenario (entrepreneurial intention), the more likely that individual is to succeed.

2.2.4.2 Social norms

Social norms pertain to whether or not to engage in such entrepreneurial conduct. It especially refers to the notion that “reference persons” would accept or reject the choices and decisions (Ajzen, 2001). Social norms capture the social influence to conduct or not do an entrepreneurial action. This is a critical determinant for individuals without entrepreneurial experience. When entrepreneurs have limited entrepreneurial experience, they are readily affected by their social surroundings. Friends' and family members' opinions are likely to support or discourage possible entrepreneurial activities (Zhang et al., 2014). Following social norms is often the wisest course of action since collective wisdom benefits both the individual and the group. It can, for example, give handy decision-making heuristic, reducing the need to consider the implications of each decision before acting. Social norms are intrinsically tied to entrepreneurship since they are the foundation of cultural differences in entrepreneurial behavior. The perceived societal pressures to perform or avoid particular actions are referred to as social norms (Laylo, 2018; Park, 2017). This form of pressure might originate from inside the family or from society as a whole, and it drives someone to do or not do certain things (Farrukh et al., 2018). To summarize, social norms are associated with how entrepreneurs think about what those near to them, such as relatives and friends, believe about individuals' entrepreneurial intentions.

2.2.4.3 Entrepreneurial self-efficacy

Entrepreneurial self-efficacy is defined as conscious trust and belief in one's own capacity to perform tasks, and it influences one's cognitive level in entrepreneurship (Kuo et al., 2004; Bandura, 1977). This includes the individual's command of the entrepreneurship role together with their level of confidence in conducting entrepreneurial ventures, and people will have the ability to believe that they can successfully undertake entrepreneurship activities and attain entrepreneurial behavior objectives (Chen et al., 1998). With the development of cognitive theory, entrepreneurial self-efficacy has grown in importance in determining entrepreneurial intention. Entrepreneurial self-efficacy predicts entrepreneurial intention and influences entrepreneurs' assessments of potential self-confidence and entrepreneurship performance (Franke and Lüthje, 2004). As a result, entrepreneurial self-efficacy is critical for entrepreneurial behavior and activities. Entrepreneurial self-efficacy refers to a person's aptitude or talent to arrange the motivation, cognitive capability, and precise plan of action required to achieve success when completing any given endeavor (Dissanayake, 2013). Previous research has identified self-efficacy as a cognitive attribute that promotes entrepreneurial action (Hassan et al., 2020; Yamina and Mohammed, 2019), which boosts entrepreneurs to complete the entrepreneurship process efficiently, including finding opportunities, managing resources, and dealing with challenges. Another study revealed that self-efficacy is required for the formation of a new business (Hutasuhut, 2018).

Human behavior is influenced by self-efficacy in a variety of ways. First, even when there are other options, self-efficacy beliefs have a strong influence on the choice of activity. Second, self-efficacy affects how much effort is invested to finish the activity, and third, tenacity in dealing with the issues and challenges of

effectively completing the work (Zięba and Golik, 2017; Wei et al., 2020). Therefore, self-efficacy perceptions influence not just present task performance but also future task successes (Bandura, 2000). In general, self-efficacy affects the successful execution of a planned and deliberate activity, such as the decision to launch a new company (Garaika and Margahana, 2019). It reflects an individual's level of confidence in their abilities and capabilities to do a certain activity effectively. Researchers contend that perceived self-efficacy drives and governs one's behaviors by guiding one's choice of action, the efforts put in to do the acts, and one's tenacity in the face of hurdles and problems to effectively execute the actions (Bandura, 2012).

2.2.5 Entrepreneurial competencies

Competencies in entrepreneurship are associated with the establishment, growth, and long-term viability of a company (Bird, 1995). Entrepreneurial competencies are important information, skills, and abilities that can assist a company in gaining a competitive advantage (Tehseen and Ramayah, 2015). Entrepreneurial competencies have been shown to favorably affect organizational performance by a number of researchers (Botha and Taljaard, 2020; Komarnicka, 2020). Personal interactions, business management, entrepreneurship, and human relations are examples of competencies required to ensure corporate success, according to Mitchelmore and Rowley (2013). In this study, the author considers entrepreneurial competencies as emotional competencies in some aspects. Emotional aspects are a practical notion since they stress the relationship between a person and his or her environment and place a high value on learning and personal growth (Fernández-Pérez, 2019). Negotiations, accomplishment, organizational resources, opportunity discovery and exploitation, stress management, generating and customer retention, and management and leadership all have a big influence on emotional intelligence

(Awwad and Al-Aseer, 2021). Thus, entrepreneurial competencies are applicable to education and particularly to academic education for entrepreneurship.

2.2.6 Entrepreneurial intention

TPB extends the idea of entrepreneurial intentions by believing that intention is the strongest indicator of conduct in entrepreneurial ventures (Ajzen, 1991, 2002), with the concept referring to an individual's attitude toward the behavior, perceived social norms, and perceived behavioral control. Shane and Venkataraman (2000) emphasized the two goals of entrepreneurial intention: the establishment of a new organization and the enhancement of current organizations. In order to achieve these two objectives, entrepreneurial intentions serve as a "cognitive representation of the activities" carried out by individuals. Saúde et al. (2020) describe entrepreneurial intention as a psychological condition that directs our focus toward certain business objectives in order to accomplish entrepreneurial outcomes. It is also an acknowledgment that individuals take action to start new businesses or add value to current ones. Indeed, there is still a gap between entrepreneurial intention and reality, since the former usually leads to a start-up activity and the observed variation in action toward beginning self-employment is less than 30%. (Kautonen et al., 2017). However, the vast majority of research still identifies entrepreneurial intention as the most dependable predictor of entrepreneurship (Cera et al., 2020).

Entrepreneurial intention is defined as "a state of mind that directs individual actions toward the formation and growth of owning a business or becoming self-employed" by Huq et al. (2016). Entrepreneurs are individuals who can recognize and analyze business possibilities, gather the resources needed to capitalize on those chances, and take the necessary steps to achieve success (Hayes, 2021). According to the research, becoming an entrepreneur is a deliberate and purposeful decision; that is, the entrepreneurial intention is a mindful state of consciousness

that precedes activity and directs attention to the objective of entrepreneurship. Entrepreneurs are those who truly feel they have discovered a one-of-a-kind solution to an unmet demand or unresolved problem and are willing to put in a lot of work to address these requirements for developing their business (Kirkley, 2016; Lee-Ross, 2017).

There are three sorts of entrepreneurial intentions (Lans et al., 2010). First, from a traditional standpoint, the urge to establish a new organization, the ambition to run a business, and an individual's unwavering belief in new enterprise development, as well as a clear plan to carry out this activity at a specified point in the future, are all examples of entrepreneurial intention (Thompson, 2009). The second category is an alternative entrepreneurial intention, which concerns the continuation of operations of an inherited or acquired business. Those who start a business are said to be significantly different from those who are promoted or employed, and entrepreneurs who inherit or purchase a firm fall somewhere in the center, indicating a diversity of people in terms of core motives and attitudes. According to Lans et al. (2010), the third type of entrepreneurial intention is intrapreneurial intention, which expresses a desire to become an intrapreneur or corporate entrepreneur. Entrepreneurial behavior is more likely to occur within the setting of a corporate career, according to Fitzsimmons and Douglas (2011). In turn, corporate entrepreneurship requires personnel to follow and propel the firm toward entrepreneurial behaviors. As a result, each of the intentions stated above will be associated with distinct learning objectives and professional demands. In general, the study of entrepreneurial intention has now progressed to a new stage of inquiry from the standpoint of external factors. The current study focuses on the function of certain situational elements in the establishment and evolution of entrepreneurial intention. Thus, individual entrepreneurs will respond differently in

different settings; internal variables and distinctive contextual circumstances of entrepreneurs will collaborate to enhance the formation and development of entrepreneurial intention. Concerns persist, however, about how these internal and external factors influence entrepreneurial intent and how their effects vary. These concerns must be researched and assessed.

2.2.7 Entrepreneurial passion

Entrepreneurial passion is a special emotion exhibited by plenty of entrepreneurs (Cardon and Kirk, 2013). According to Cardon and colleagues (2009), those who exhibit good passionate feelings and sensations about the entrepreneurial activities they are participating in, as well as a strong motivating desire to pursue such feelings. Entrepreneurial passion is defined in three ways: from an individual characteristic perspective, an emotional perspective, and a motivational one. First, the individual's viewpoint is an intrinsic personality quality that permits individuals to have distinct characteristics from others in various situations and stabilize their existence. However, most entrepreneurs lose their entrepreneurial passion as their firms grow and expand, which cannot be explained by personal attributes (Yu et al., 2019). Second, the emotional viewpoint, which incorporates the five psychological states of sensation, cognition, expression, physiology, and action, is the psychological and physiological response to external stimuli. Entrepreneurial passion, according to researchers, is an emotional experience rather than a reflection of human attributes. When entrepreneurs are filled with entrepreneurial passion, they may engage in entrepreneurial behavior that is consistent with their identity. Scholars have identified the explanation of entrepreneurial passion from this perspective as a result of an in-depth examination of the theory of entrepreneurial passion (Zollo et al., 2021). Third, the motivation perspective is the driving force that drives individuals to achieve their objectives and engage in the

activities that go with them. Passion is an important component of the drive to start a business and can motivate an individual to work harder. Entrepreneurial passion may stimulate the entrepreneur's ideas and actions when motivated appropriately.

Scholars in the twenty-first century brought zeal to the study of entrepreneurship, entrepreneurs may experience obstacles and impediments during the entrepreneurship process; yet, entrepreneurs that are successful will endure, which is inextricably linked to entrepreneurial passion (Hu et al., 2022). Entrepreneurial passion is the motivation that drives people to engage in entrepreneurial activity and it is a powerful and good sensation that may help people reach their full potential. Entrepreneurs with a passion for business have the tenacity to face risks and hurdles; this enthusiasm appears not just psychologically, but also cognitively (Cardon et al., 2009). According to Hu et al. (2022), the aspects of entrepreneurial passion include intense pleasant feelings and identity centrality. When people participate in entrepreneurial activity, they experience intense favorable sentiments. Their entrepreneurship ambition is determined by how interested they are in entrepreneurial activities and how confident they are about unpredictability and challenges. Identity centrality refers to an individual's affiliation with his or her own entrepreneur. Entrepreneurial ideas will emerge as they accept their new identity.

On the other hand, the majority of previous research (Siddiqui, 2016; Saif, 2020; Norena-Chavez and Thalassinos, 2021) has corroborated the concept that entrepreneurial passion influences entrepreneurial intention via the mediation role of cognitive antecedents (e.g., attitude towards entrepreneurship, social norms, entrepreneurial self-efficacy). According to Neneh (2020), persons who are passionate about starting a new business (entrepreneurial passion) will persevere in gaining the necessary abilities and skills to interact with the roles and challenges of

being an entrepreneur (self-confidence), and thus be more motivated to undertake entrepreneurial action. The role of entrepreneurial passion as a mediator seems to have the same results and is not clarified. In this study, the authors examine the new role of entrepreneurial passion as a moderator in the relationship between cognitive antecedents and entrepreneurial intention. This study considers whether it can play an important role or not for determining entrepreneurial intention through the lens of cognitive factors.

2.2.8 Demographic variables

The role of gender in defining the interaction effects of predicting factors and outcome variables, i.e. entrepreneurial intention, has been a focus of entrepreneurship and entrepreneurial intents research (Ward et al., 2019). Previous studies found that the influence of behavioral attitude and perceived self-efficacy on entrepreneurial intention varies experimentally by gender, with women demonstrating less intention to start a business than males (Veciana et al., 2005; Jiam, 2021). Rocha and Praag (2020) discovered that the relationship between predictive factors and entrepreneurial intention is stronger in males than in women, underscoring the importance of gender. Men are reported to be more capable than women in identifying new business prospects and converting them into actual ventures, while women have a lower preference for entrepreneurship (Zastempowski and Cyfert, 2021; Liao et al., 2022). In this research, the author intends to explore the role of gender through the lens of a meta-analysis approach which builds on previous research and provides an overview for entrepreneurs in the moderating role of gender in the start-up process.

2.3 Hypothesis development

2.3.1 Risk-taking and attitude towards entrepreneurship

Entrepreneurs, it is believed, must be willing to accept risks since launching a new business means making decisions and taking decisions under uncertainty (Gürol and Atsan 2006; Stewart and Roth 2004). Entrepreneurial risk-taking, as defined by Hisrich, Peters, and Shepherd (2005), entails "assuming the financial, mental, and social risk" that comes with the entrepreneurial process. Some authors suggest that taking risks is the primary difference between entrepreneurs and managers. One intriguing line of study attributes the distinction between entrepreneurs and non-entrepreneurs to their risk perception (Busenitz, 1999): entrepreneurs may choose more dangerous courses because they believe they are less risky than managers. This viewpoint is tempered by the notion that entrepreneurs are calculated risk-takers who avoid making judgments in instances of excessive risk or uncertainty.

The previous study has discovered a favorable association between risk-taking and entrepreneurship (Nowiński et al., 2020), whereas others have discovered a negative relationship (Baluku et al., 2020). Ahmed et al. (2020) discovered a significant link between risk-taking and entrepreneurial attitudes. Those who have strong entrepreneurial attitudes and intentions take more risks than students who are not entrepreneurially oriented. In this research, we suggest that individuals with a high risk-taking approach have also been demonstrated to have a more positive attitude toward entrepreneurship. Drawing on this information and the TPB, the author formulates the following hypothesis:

H1: Risk-taking has a positive effect on attitude towards entrepreneurship.

Based on an established hypothesis development. The author provides the literature on the link between risk-taking and attitude towards entrepreneurship with data collected methodology is a questionnaire survey for each article. Table 2-1 provides an overview for the reader derived from previous research.

Table 2-1 Illustrative coding of hypothesis 1

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Djaoued et al. (2018)	Risk-Taking	Attitude Towards Entrepreneurship	120	0.211	Algeria
Awang et al. (2016)	Risk-Taking	Attitude Towards Entrepreneurship	220	0.37	Malaysia
Kim-Soon et al. (2014)	Risk-Taking	Attitude Towards Entrepreneurship	414	0.564	Malaysia
Ohanu et al. (2018)	Risk-Taking	Attitude Towards Entrepreneurship	366	0.28	Nigeria
Nowiński et al. (2020)	Risk-Taking	Attitude Towards Entrepreneurship	1414	0.578	Poland & USA

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.2 Risk-taking and social norms

The previous study considered risk-taking as the antecedent to TPB dimensions (Rosique-Blasco et al., 2018). In this instance, this study indicates that entrepreneurs are capable of taking on risks (financial and psychological) without relying on others and these entrepreneurs are not afraid of facing challenges. On this premise, they are cautious of everything and take the necessary preparations to deal with unexpected situations. Therefore, the risk is a psychological trait; every entrepreneur is required to take risks in all of his actions. Similarly, Munir et al. (2019) confirmed that risk-taking has a positive effect on social norms. Furthermore, Awang et al. (2016) proved that it will have more start-ups among

university graduands in the country if we enhance the relationship between their expectations of relentless support from the university, family, friends, peers, and risk-taking propensity. In contrast, Lee and Khabibullo (2018) indicated that risk-taking propensity has a negative effect on social norms. These results indicated that these personality traits have a considerable impact on predicting entrepreneurial behavior in an emerging market scenario. Based on that arguments, the following hypothesis was put forth:

H2: Risk-taking has a positive effect on social norms.

Based on an established hypothesis development. The author provides the literature on the link between risk-taking and social norms with data collected methodology is a questionnaire survey for each article. Table 2-2 presents the reader with an overview derived from previous research.

Table 2-2 Illustrative coding of hypothesis 2

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Awang et al. (2016)	Risk-Taking	Social Norms	220	0.35	Malaysia
Ohanu et al. (2018)	Risk-Taking	Social Norms	366	0.26	Nigeria
Savador et al. (2021)	Risk-Taking	Social Norms	572	0.15	Italy
Yu et al. (2019)	Risk-Taking	Social Norms	1030	0.158	Taiwan

Notes: **r:** means the correlation between independent and depend variable

n: means the sample size of this relationship

Source: Original study

2.3.3 Risk-taking and entrepreneurial self-efficacy

Zhao et al. (2005) investigated the effect of entrepreneurial self-efficacy as a mediating mechanism in the link between risk propensity and entrepreneurial intent. Individuals with a higher risk tolerance are more likely to wish to start their own firm since they are more confident in their capacity to fulfill the tasks and activities necessary to prosper as an entrepreneur. In terms of the theoretical mechanisms for entrepreneurial self-efficacy, they confirmed that risk propensity is connected to an individual's assessment of his or her expected physiological condition when pursuing an entrepreneurial venture, including degrees of anxiety and arousal (Bandura ,1986). According to Krueger and Dickson (1994) and others, there is a positive and significant relationship between risk propensity and self-efficacy. Risk propensity would also boost self-efficacy and business ambition moderately. Self-efficacy and willingness to accept risks are required for shaping entrepreneurial behavior. Individuals who are risk-takers, have high self-efficacy, and are optimistic may overcome setbacks.

According to Densberger (2014), whatever risk aversion that entrepreneurs may have originates from their somewhat high self-efficacy. The findings also revealed that entrepreneurs who have high levels of self-efficacy are more willing to take risks. Nonetheless, Kunshu and Botao (2015) studied the role of self-efficacy on risk propensity and entrepreneurial decision-making. It may be inferred that risk prosperity and self-efficacy are mutual influences. Early risk propensity supports to the formation of entrepreneurial self-efficacy and, later in the entrepreneurship experience, supplements entrepreneurial self-efficacy. In this research, risk-taking is regarded as an independent variable, while entrepreneurial self-efficacy is viewed as a dependent variable. Memon et al. (2019) observed a positive and strong link between risk propensity and entrepreneurial self-efficacy. Researchers

in the literature have related risk propensity to entrepreneurial self-efficacy, maybe due to a readiness to incur risks for the start-up of a new firm. Thus, the author proposes the following hypothesis:

H3: Risk-taking has a positive effect on entrepreneurial self-efficacy.

Based on an established hypothesis development. The author provides the literature on the link between risk-taking and entrepreneurial self-efficacy with data collected methodology is a questionnaire survey for each article. Table 2-3 presents the reader with an overview derived from previous research.

Table 2-3 Illustrative coding of hypothesis 3

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Segal et al. (2005)	Risk-Taking	Entrepreneurial Self-Efficacy	114	0.392	USA
Kim-Soon et al. (2014)	Risk-Taking	Entrepreneurial Self-Efficacy	414	0.714	Malaysia
Dao et al. (2021)	Risk-Taking	Entrepreneurial Self-Efficacy	1844	0.506	Vietnam
Li et al. (2021)	Risk-Taking	Entrepreneurial Self-Efficacy	259	-0.061	China
Nowiński et al. (2020)	Risk-Taking	Entrepreneurial Self-Efficacy	1414	0.464	Poland & USA
Ciuchta & Finch (2019)	Risk-Taking	Entrepreneurial Self-Efficacy	925	0.48	USA
Memon et al. (2019)	Risk-Taking	Entrepreneurial Self-Efficacy	564	0.156	Pakistan
Chen et al. (1998)	Risk-Taking	Entrepreneurial Self-Efficacy	1252	0.68	USA

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship

Source: Original study

2.3.4 Entrepreneurial knowledge and attitude towards entrepreneurship

Knowledge and effective access to it is often regarded as the most important resources in entrepreneurship, and they are essential for successful entrepreneurial initiatives and economic viability (Yin and Jahanshahi, 2018; Boldureanu et al., 2020). Entrepreneurial knowledge is a significant predictor of entrepreneurship since it is generally seen as a prerequisite for entrepreneurial activity (Liao et al., 2022). Academics believe that entrepreneurial knowledge is at the heart of entrepreneurship and has a significant influence on venture creation decisions and entrepreneurial intent (Jebarajakirthy and Thaichon, 2015). Kolvereid and Moen (1997) discovered that students with entrepreneurial expertise exhibited stronger entrepreneurial intentions than others in a study of Norwegian university students. Entrepreneurial knowledge is one exogenous variable that might affect the antecedents of entrepreneurial intentions. Greater knowledge of numerous aspects of beginning and running a business, in particular, would most likely lead to perspectives of entrepreneurial activity that are more realistic which further facilitates entrepreneurial intents indirectly.

To put it another way, entrepreneurial knowledge may lead to more favorable attitudes about entrepreneurship. According to Miralles et al. (2015), persons who have gained entrepreneurial knowledge through job experience and/or education would also have a more entrepreneurial attitude. They also found that potential knowledge gains lead to a personal attitude towards entrepreneurship. Zulfiqar et al. (2017) demonstrated that entrepreneurial knowledge may transform young people's attitudes and drive them to engage in entrepreneurial activity. Entrepreneurial knowledge is regarded as a potential that can assist the unemployed in gaining skills and generating their own source of income. Training programs are designed to change individuals' attitudes and values toward

entrepreneurship, allowing them to either pursue entrepreneurship as a career or appreciate the role of entrepreneurs in society. The following hypothesis is proposed based on evidence from theory and experience:

H4: Entrepreneurial knowledge has a positive effect on attitude towards entrepreneurship.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial knowledge and attitude towards entrepreneurship with data collected methodology is a questionnaire survey for each article. Table 2-4 presents the reader with an overview derived from previous research.

Table 2-4 Illustrative coding of hypothesis 4

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Buana et al. (2017)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	622	0.572	Indonesia
Miralles et al. (2017)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	430	0.340	Spain, Denmark and Philippines
Tshikovhi & Shambare (2015)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	355	0.554	South Africa
Gilaninia et al. (2013)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	278	0.410	Iran
Miralles et al. (2015)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	431	0.336	Spain
Zulfiqar et al. (2017)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	380	0.772	China
Wagle & Adhikari (2021)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	162	0.157	India

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Rana et al. (2021)	Entrepreneurial Knowledge	Attitude Towards entrepreneurship	194	0.14	Pakistan

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.5 Entrepreneurial knowledge and social norms

Prior studies on knowledge and entrepreneurship have mostly described its function as an individual resource or as a component of a new venture's human capital. The attention has been on describing how variations in individuals' past knowledge aid in comprehending the many opportunities that individuals recognize in a certain environment (Shane, 2000). Individual knowledge has been thought to affect venture performance and survival prospects from a human capital perspective (Clercq and Arenius 2006), as well as a possible effect on decision-making processes and entrepreneurs' sense of control in uncertain conditions (McKelvie et al., 2011).

According to Liñán et al. (2013), entrepreneurs with greater knowledge might lead to more accurate awareness of and attractiveness to the entrepreneurial career path, as well as improve social approbation from important others (due to the support systems available in the environment). People who are well educated with knowledge from university or entrepreneurship programs will have a clear vision and hard to change their intention. That can affect their friends and family relationships, which will help them reduce prejudices about nascent startups, thereby fostering and reducing social pressure on entrepreneurs. Gilaninia et al. (2013) found that it exists a significant association between entrepreneurial knowledge and social norms. In contrast, according to Farani et al. (2017), the

association between entrepreneurial knowledge and social norms is not statistically relevant. The author proposes the following hypothesis based on the grounds stated above:

H5: Entrepreneurial knowledge has a positive effect on social norms.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial knowledge and social norms with data collected methodology is a questionnaire survey for each article. Table 2-5 presents the reader with an overview derived from previous research.

Table 2-5 Illustrative coding of hypothesis 5

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Buana et al. (2017)	Entrepreneurial Knowledge	Social Norms	622	0.559	Indonesia
Miralles et al. (2017)	Entrepreneurial Knowledge	Social Norms	430	0.310	Spain, Denmark and Philippines
Gilaninia et al. (2013)	Entrepreneurial Knowledge	Social Norms	278	0.330	Iran
Miralles et al. (2015)	Entrepreneurial Knowledge	Social Norms	431	0.305	Spain
Zulfiqar et al. (2017)	Entrepreneurial Knowledge	Social Norms	380	0.578	China

Notes: **r:** means the correlation between independent and depend variable

n: means the sample size of this relationship

Source: Original study

2.3.6 Entrepreneurial knowledge and entrepreneurial self-efficacy

Entrepreneurial knowledge is a construct that represents the entrepreneurial experience learned from others (vicarious experience). It plays a part in developing a person's cognitive abilities and improving one's efficacy in entrepreneurship (Boyd and Visikis, 1994; Zhao et al., 2005). Being familiar with the business environment and knowing many facets of beginning and running a new business will influence the controllability of developing a firm and gives individuals more confidence in their ability to become entrepreneurs. According to Miralles et al. (2016), direct experience would improve the knowledge reservoirs of young people with minimal job experience (Widding, 2007), improving their sense that they could do the activity. For older people, we may find the reverse process: firsthand experience with the conduct would contradict their past understanding (developed through prior training or work experience), resulting in an experience that may not align with their assumptions of what it means to be an entrepreneur. Previous research has indicated that knowledge has a considerable significant effect on entrepreneurial self-efficacy (Liñán and Rodríguez, 2004; Zarefard et al., 2018; Andriani et al., 218). Such an argument would aid in better understanding the findings of Kautonen et al. (2013), which recommend that older entrepreneurs will stay involved in entrepreneurial behavior despite being less prepared than expected even though their career options become more limited once engaged in entrepreneurial behavior. In this study, the author argues that people who are equipped with specialized knowledge from universities or those who learned from work experience tend to be more confident in the process of establishing a company. They have learned from the experiences of people who have successfully started their own businesses, so they are confident in themselves overcoming personal barriers and increasing their entrepreneurial intention. Therefore, the following hypothesis is recommended by the author:

H6: Entrepreneurial knowledge has a positive effect on entrepreneurial self-efficacy.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial knowledge and entrepreneurial self-efficacy with data collected methodology is a questionnaire survey for each article. Table 2-6 presents the reader with an overview derived from earlier studies.

Table 2-6 Illustrative coding of hypothesis 6

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Memon et al. (2019)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	564	0.140	Saudi Arabia and Pakistan
Zarefard and Cho (2018)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	418	0.189	Korea
Darmanto & Yuliari (2018)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	162	0.220	Indonesia
Mamman et al. (2018)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	400	0.735	Nigeria
Liñán (2004)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	93	0.415	Spain
Liñán and Rodríguez (2004)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	93	0.39	Spain
Andriani et al. (2020)	Entrepreneurial Knowledge	Entrepreneurial Self-Efficacy	68	0.149	Indonesia

Notes: **r:** means the correlation between independent and depend variable

n: means the sample size of this relationship

Source: Original study

2.3.7 Entrepreneurial mindset and attitude towards entrepreneurship

According to a growing body of scholarship, implementing entrepreneurship programs through educational perspectives can help to foster an entrepreneurial mindset (Cui et al., 2019). The core argument is that entrepreneurial education equips students with the ability, understanding, attitude, and ambition to pursue a career in business. Furthermore, Fayolle and Gailly (2015) stated that entrepreneurship education at all levels of education fosters two key entrepreneurial mindset functions. These findings proposed that an entrepreneurial mindset can enhance entrepreneurs' attitudes through their education and experience. First, having a good entrepreneurial mindset means equipping entrepreneurs with the necessary knowledge. It might be knowledge learned via their own company experience or knowledge gained through a shift in thinking in areas such as law, accounting, and management, among others. This knowledge will increase their attitude towards entrepreneurship which leads them to choose appropriate strategists when they have enough of it and that is a necessary condition on the future business path. To sum up, this study proposes that having an entrepreneurial mindset means entrepreneurs will have a high personal attitude that leads us to be less influenced by negative thoughts from others. Hence, the author suggests the hypothesis:

H7: Entrepreneurial mindset has a positive effect on attitude towards entrepreneurship.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial mindset and attitude towards entrepreneurship with data collected methodology is questionnaire survey for each article. Table 2-7 presents the reader with an overview derived from recent studies.

Table 2-7 Illustrative coding of hypothesis 7

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Wardana et al. (2020	Entrepreneurial Mindset	Attitude Towards Entrepreneurship	376	0.28	Indonesia
Garaika et al, (2019)	Entrepreneurial Mindset	Attitude Towards Entrepreneurship	200	0.41	Indonesia
Rana et al. (2021)	Entrepreneurial Mindset	Attitude Towards Entrepreneurship	194	0.193	Pakistan
Liao et al. (2022)	Entrepreneurial Mindset	Attitude Towards Entrepreneurship	280	0.265	Taiwan
Al-Ghazali et al. (2022)	Entrepreneurial Mindset	Attitude Towards Entrepreneurship	270	0.252	Saudi Arabi

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.8 Entrepreneurial mindset and social norms

Sense-giving has also gotten a lot of interest in organizational and entrepreneurship research. It “includes acts in which participants shape and disseminate visions and beliefs to others; encompasses activities in which stakeholders frame and distribute views and beliefs to others” providing descriptions and explanations delivering signals, developing persuasive and cohesive narratives, and projecting images through stories, slogans, metaphors, and objects to increase comprehension and support. Through those arguments our research suggests that people with a higher entrepreneurial mindset will be able to navigate and convince other people's thoughts (e.g., friends, colleagues, and family). Those who achieve a high level of mindset, have their own strengths and understanding of the entrepreneurial intention are built on previous success stories and they have a clear career path

planning. Therefore, they can receive positive feedback and support from family, friends, and social relationships and avoid the barriers that young entrepreneurs face as pressure and negative opinions from the environment and their surrounding relationships. Individuals with a higher entrepreneurial mindset mean having a higher awareness of the problems they face in the process of self-employment. The author proposes the following hypothesis based on theoretical and empirical documentation:

H8: Entrepreneurial mindset has a positive effect on social norms.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial mindset and social norms with data collected methodology is a questionnaire survey for each article. Table 2-8 presents the reader with an overview derived from recent studies.

Table 2-8 Illustrative coding of hypothesis 8

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Sáfrányné Gubik and Bartha (2021)	Entrepreneurial Mindset	Social norms	9,667	0.193	Hungary
Karimi & Makreet (2020)	Entrepreneurial Mindset	Social norms	452	0.29	Afghanistan & Iran
Kibler, (2013)	Entrepreneurial Mindset	Social norms	834	0.09	Finland
Liao et al. (2022)	Entrepreneurial Mindset	Social norms	280	0.215	Taiwan

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship

Source: Original study

2.3.9 Entrepreneurial mindset and entrepreneurial self-efficacy

According to a recent study, self-efficacy is an important element in understanding an individual's entrepreneurial intent and behavior (Liao et al, 2022). Furthermore, in the domains of business and social psychology, a rising amount of research on entrepreneurial intents/behavioral models have identified self-efficacy as a significant mediation function as a direct and indirect factor (Newman et al., 2019). As per McGee and Peterson (2019), self-confidence is an important personality trait that influences an individual's behavior through cognitive antecedents, decision-making, and outcome expectations. Self-efficacy, according to Burnette et al. (2020), explains the cognitive process, promotes inventive thinking, and assists entrepreneurs in controlling self-employment company judgments. Previous research has highlighted the significance of an individual's creative thinking in the context of new business ventures (Hsu et al., 2019). Kumar and Shukla (2019) explored the direct impact of creativity and proactiveness on university students' entrepreneurial intent, as well as the role of entrepreneurial self-efficacy as a mediator.

Jiatong et al. (2021) performed a study on 365 university students' entrepreneurial mindsets and discovered that the entrepreneurial mindset had a significant and positive effect on self-efficacy. They stated that developing an entrepreneurial mindset among educators by university top leadership will enhance their confidence to continue their higher education for higher output. Furthermore, Liao et al. (2022) confirmed that self-employed entrepreneurs had a higher chance of success when they gain the ability to look at an issue or scenario, examine all important current facts, and make a confident decision to proceed. Examining self-efficacy is one approach that entrepreneurs may use to better understand their motivations, abilities, and limits since self-efficacy allows them to assess their

competency in carrying out business operations (Ngek, 2015). Thus, the following hypothesis is proposed by the author:

H9: Entrepreneurial mindset has a positive effect on entrepreneurial self-efficacy.

Based on an established hypothesis development. The author provides the literature on the association between entrepreneurial mindset and entrepreneurial self-efficacy with data collected methodology is a questionnaire survey for each article. Table 2-9 presents the reader with an overview derived from recent studies.

Table 2-9 Illustrative coding of hypothesis 9

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Wardana et al. (2020)	Entrepreneurial Mindset	Entrepreneurial Self-efficacy	376	0.11	Indonesia
Rana et al. (2021)	Entrepreneurial Mindset	Entrepreneurial Self-efficacy	194	0.046	Pakistan
Liao et al. (2022)	Entrepreneurial Mindset	Entrepreneurial Self-efficacy	280	0.309	Taiwan

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.10 Social norms and attitude towards entrepreneurship

In studies of entrepreneurial purpose, social norms were found to be a lesser predictor of behavioral intention (Autio et al., 2001). Moriano et al. (2012) discovered that social norms were strongly predictive for student populations in the Netherlands and India, as well as for diverse learners in Russia Subjective norms have an indirect impact on behavior and perceived behavioral control, if not

directly (Liñán et al., 2011). The higher the perceived importance of entrepreneurship as a career path, the more likely entrepreneurs are to perceive positive social norms in their surrounding context. Previous studies indicated that social norms have a strong influence on attitude towards entrepreneurship (Aloulou, 2016; Hasmidyani et al., 2020).

Usman and Yennita (2019) conducted research by collecting data from 122 international students that have recently studied in 12 major cities and 25 universities around Turkey to explore the relationship between social norms and attitude, it can be seen that the total mean score for the social norms parameter is 3.65. This figure indicates that the respondent's social norms for his or her surroundings is rather high. Friends (3.76), rather than close relatives (3.88) and coworkers, affect motivation to start a new company, according to the mean scores of the instruments (3.52). The items were constructed as 5-point Likert-type scales. Individuals who receive a great deal of help from their external environment have a better attitude in this situation. Individuals will be more willing (entrepreneurial intents) to start a new economic activity if they have some encouragement about their talents and abilities. Based on empirical evidence, the following hypotheses are developed:

H10: Social norms have a positive effect on attitude towards entrepreneurship.

Based on an established hypothesis development. The author provides the literature on the link between social norms and attitude towards entrepreneurship with data collected methodology is a questionnaire survey for each article. Table 2-10 presents the reader with an overview derived from recent studies.

Table 2-10 Illustrative coding of hypothesis 10

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Angulo et al. (2019)	Social Norms	Attitude Towards Entrepreneurship	237	0.495	France and Spain
Liñán (2004)	Social Norms	Attitude Towards Entrepreneurship	93	0.212	Spain
Wibowo (2016)	Social Norms	Attitude Towards Entrepreneurship	517	0.420	Indonesia
Liñán & Chen (2006)	Social Norms	Attitude Towards Entrepreneurship	533	0.456	Spain and Taiwan
Maes et al. (2014)	Social Norms	Attitude Towards Entrepreneurship	437	0.49	France, USA and Belgium

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.11 Social norms and entrepreneurial self-efficacy

The perceived social pressure to engage in - or avoid engaging in - that entrepreneurial activity would be measured using social norms. It would particularly apply to the notion that "reference individuals" would either disapprove or approve of the intention to become an entrepreneur (Ajzen, 2001). Social norms refer to a society's perception of a specific behavior. Norms influence much of social and political life; an established norm may be highly strong. The prevalent social reward system is highly crucial in paving the way for the development of behavior. Individuals will follow the path of action that is more rewarded and valued inside a cultural context. In terms of entrepreneurship, certain societies have higher levels of entrepreneurship than others. From those arguments, our research suggests that social norms are a measure and a mental resource that affects the confidence of entrepreneurs who intend to start a business. Recent scholars found that social norms have a substantial influence on self-efficacy (Pérez-Pérez et al., 2021).

Family and friends are essential and important resources for young entrepreneurs. When facing financial problems or difficulties in starting a business, if individuals receive support and encouragement from family and other sources, they will gain confidence to overcome obstacles. Based on that, entrepreneurs will build confidence to facilitate success in the future. Individuals with strong self-efficacy, on the other side, a goal execute more carefully and are more likely to try and succeed than individuals who have low self-efficacy (Asimakopoulos et al., 2019). A notable social group's action norms encourage people to witness perform it more consistently, have more positive feelings about it, and feel greater personality about it. The presentation of self-confidence is more vital than actual talents to participate in a particular act. This study proposes that entrepreneurs which receive positive reinforcement from their friends and families, or coworkers may have a more optimistic perspective of their potential and, as a result, a stronger determination to achieve a goal. Hence, the authors propose the hypothesis as follows:

H11: Social norms have a positive effect on entrepreneurial self-efficacy.

Based on an established hypothesis development. The authors provides the literature on the link between social norms and entrepreneurial self-efficacy with data collected methodology is a questionnaire survey for each article. Table 2.11 presents the reader with an overview derived from previous studies.

Table 2-11 Illustrative coding of hypothesis 11

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Liñán & Chen (2006)	Social Norms	Entrepreneurial Self-Efficacy	533	0.293	Spain and Taiwan
Pfeifer et al. (2014)	Social Norms	Entrepreneurial Self-Efficacy	467	0.156	Croatia

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Gorgievski et al. (2017)	Social Norms	Entrepreneurial Self-Efficacy	823	0.250	Netherlands, Germany, and Poland
Maes et al. (2014)	Social Norms	Entrepreneurial Self-Efficacy	437	0.42	France, USA and Belgium

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.12 Attitude towards entrepreneurship and entrepreneurial intention

According to Ajzen (1991), "attitude relates to individuals' own beliefs about any given object or behavior". Furthermore, they observed that perceptions about anything or behavior are generated by certain features connected with that object or behavior. Individuals develop their attitudes toward a given behavior as a result of strong convictions. Moreover, Armitage and Conner (2001) discovered in a meta-analysis of entrepreneurship literature that attitude towards entrepreneurship had the strongest predictive value for entrepreneurial intention, accounting for more than 50% of its total variation. Amofah and Saladrigues (2022) found a significant link between attitude toward entrepreneurship and entrepreneurial intention. According to Hepler and Albarracin (2014), individuals' liking or disliking is determined by their own attitude, which enhances the possibility of partaking in a certain activity (e.g., entrepreneurial activities in our case).

Such a relationship has been widely validated in the existing empirical literature, and in numerous circumstances. For instance, Nowiński et al. (2020) conducted a study with 1414 responses from 2014 to 2016 at multiple colleges in three different countries: two in Poland and one in the United States. They observed that positive attitudes regarding entrepreneurship are connected to the

entrepreneurial intents of entrepreneurs. Furthermore, attitudes toward entrepreneurship are the most highly predictive of entrepreneurial intents, which is consistent with previous studies (Singh et al., 2014; Miranda et al., 2017; Jubari, 2019; Afroz et al., 2020). In another context, Bagheri (2018) adopted a quantitative method with 348 master students from three faculties to explore the role of attitude towards entrepreneurship on entrepreneurial intent. They claimed that entrepreneurial attitude is one of two mechanisms via which entrepreneurship education impacts students' entrepreneurial intention. Similarly, the majority of previous research has discovered a favorable association between attitude and entrepreneurial intents (Afroz et al., 2020; Anjum et al., 2022) with this element frequently demonstrating the most powerful effect on the desire to start a new business. Phong et al. (2020) found that attitude towards entrepreneurship is the best factor to predict entrepreneurial intention and the majority of the students were enthusiastic about starting a new firm because they admired entrepreneurs who play important roles in society. Thus, the author offers the following hypothesis:

H12: Attitude towards entrepreneurship has a positive effect on entrepreneurial intention.

Based on an established hypothesis development. The authors provide the literature on the link between attitude towards entrepreneurship and entrepreneurial intention with data collected methodology is a questionnaire survey for each article. Table 2-12 presents the reader with an overview derived from previous studies.

Table 2-12 Illustrative coding of hypothesis 12

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Doanh and Trang (2019)	Attitude towards entrepreneurship	Entrepreneurial Intention	2218	0.696	Vietnam
Arshad et al. (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	495	0.410	Pakistan
Angulo et al. (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	237	0.589	France, Mexico, and Spain
Miralles et al. (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	430	0.450	Spain
Singh et al. (2014)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	324	0.510	India and Netherlands
Ana et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	114	0.287	Indenosia
Izquierdo and Buelens (2011)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	236	0.370	Ecuador and Belgium
Utami (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	1237	0.313	Indonesia
Miralles et al. (2012)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	467	0.499	Portugal
Nieuwenhuizen et al. (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	182	0.755	South Africa and Poland
Carr & Sequeira (2007)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	308	0.410	United States
Karimi et al. (2013)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	331	0.300	Netherlands and Iran
Miranda et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	1178	0.641	Spain
Dinc and Budic (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	216	0.533	Bosnia and Herzegovina

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Karimi et al. (2015)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	331	0.280	Netherlands and Iran
Ebewo et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	150	0.183	South Africa
Mohammed et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	175	0.341	Algeria
Agolla et al. (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	245	0.488	Botswana
Jubari (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	622	0.534	Malaysia
Gredig et al. (2007)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	982	0.250	Switzerland
Shiri et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	169	0.320	Iran
Liñán (2004)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	93	0.480	Spain
Awan and Ahmad (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	250	0.376	Pakistan
Rodríguez et al. (2013)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	810	0.494	Spain
Marques et al. (2012)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	202	0.723	Portugal
Wibowo (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	517	0.440	Indonesia
Ranga et al. (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	125	0.334	India
Usman and Yennita (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	122	0.496	Indonesia and Turkey
Tshikovhi and Shambare (2015)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	355	0.624	South Africa

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Entrialgo and Iglesias (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	111	0.149	Spain
Gorgievski et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	823	0.360	Netherlands, UK, Poland, and Spain
Shi et al. (2020)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	523	0.487	UK, China, and South Korea
Shah et al. (2020)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	192	0.239	Canada
Samo and Hashim (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	499	0.810	Malaysia
Henley et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	322	0.510	UK
Mothibi and Malebana (2019)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	349	0.304	South Africa
Naushad (2018)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	315	0.524	Saudi Arabia
Papzan et al. (2014)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	154	0.160	Malaysia
Liñán & Chen (2006)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	533	0.587	Spain and Taiwan
Gilaninia et al. (2013)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	278	0.450	Iran
Maes et al. (2014)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	437	0.56	France, USA and Belgium
Miralles et al. (2016)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	431	0.453	Spain and Germany
Zulfiqar et al. (2017)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	380	0.430	China and Parkistan
Amofah and Saladrigues (2022)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	216	0.559	Spain and Gana

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Rana et al. (2021)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	194	0.508	Parkistan
Anjum et al. (2022)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	377	0.425	Malaysia, Parkistan, China, and Ausria
Afroz et al (2020)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	250	0.605	Bangladesh
Phong et al. (2020)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	396	0.47	Vietnam
Wathanakom et al. (2020)	Attitude Towards Entrepreneurship	Entrepreneurial Intention	330	0.460	Thailand

Notes: **r:** means the correlation between independent and depend variable

n: means the sample size of this relationship

Source: Orignial study

2.3.13 Social norms and entrepreneurial intention

Social norms or subjective norms refer to the possibility that major referent persons or groups approve or disapprove of a given behavior (Krueger et al., 2000). It pertains to the individual's opinion of what family members, friends, and mentors think about the activity (Ajzen, 1991). Subjective norms as determinants of intention have had conflicting outcomes in research. Bazan (2022) cites various research that finds no significant association between social norms and entrepreneurial intention, as well as those that find a strong link between them (e.g., Al-Mamary and Alraja, 2022; Pascucci et al., 2022). According to Robledo et al. (2015), the notion that “reference individuals” will approve or disapprove of the intention to be an entrepreneur; gives the criterion by which the subject should perform. Compliance with normative ideas demonstrates an individual's desire and motivation to comply with societal norms and to act in accordance with the

expectations of the individuals involved. Perceived social valuation relates to how individuals see the societal value of entrepreneurial operations in light of social structural ideals and beliefs (Santos et al., 2016). Subjective norms, in particular, seemed to contribute very little to the desire to engage in various behaviors in the nineteen empirical studies examined by Ajzen (1991). Similarly, Liao et al. (2022) in a meta-analysis of the TPB, discovered that in comparison to the other two cognitive antecedents, social norms had the least impact on intention. For any individual behavior, the exact arrangement of linkages among those components would have to be empirically discovered (Ajzen, 1991, 2002).

According to studies, an entrepreneur's surroundings and resources, and procedures may have a major influence on such entrepreneurial inclinations (Buli and Yesuf, 2015). The students begin by rating how supportive their immediate family members, friends, and significant others are of their company concept. Then they assess how essential they believe their family members, friends, and significant others' opinions. Zhang et al. (2015) hypothesized that social norms assess the effect of an external environment on the wish to launch a business, and they discovered that nature is more essential than nurture in influencing students' intentions. According to Ephrem et al. (2019), psychological capital is influenced by social norms and account for a major amount of the variation in entrepreneurial intention. They proposed that taking purposeful measures to emphasize the entrepreneurial success of prior star-ups throughout social media stories will have a favorable influence on entrepreneurs' self-confidence, leading to an increase in their capacity to start up. Previous studies had found a significant link between social norms and entrepreneurial intent (Abbas et al., 2020; Safaruddin et al., 2021). However, other research found a lower significant or not significant effect of social norms on entrepreneurial intent when compared with other dimensions of

TPB (e.g., personal attitude, self-efficacy, Sahinidis et al., 2012; Gorgievski et al., 2017; Phong et al., 2020; Rana et al., 2021). Hence, the author offers the following hypothesis:

H13: Social norms have a positive effect on entrepreneurial intention.

Based on an established hypothesis development. The author provides the literature on the link between social norms and entrepreneurial intention with data collected methodology is a questionnaire survey for each article. Table 2-13 presents the reader with an overview derived from previous studies.

Table 2-13 Illustrative coding of hypothesis 13

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Zhang et al. (2015)	Social Norms	Entrepreneurial Intention	275	0.187	United States
Sahinidis et al. (2012)	Social Norms	Entrepreneurial Intention	354	0.11	Greece
Gorgievski et al. (2017)	Social Norms	Entrepreneurial Intention	823	0.130	UK, Poland, Netherlands, and Spain
Liñán and Rodríguez (2004)	Social Norms	Entrepreneurial Intention	93	0.330	Spain
Gilaninia et al. (2013)	Social Norms	Entrepreneurial Intention	278	0.400	Iran
Zulfiqar et al. (2017)	Social Norms	Entrepreneurial Intention	380	0.201	China
Abbas et al. (2020)	Social Norms	Entrepreneurial Intention	364	0.721	Nigeria

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Phong et al. (2020)	Social Norms	Entrepreneurial Intention	396	0.17	Vietnam

Notes: r: means the correlation between independent and depend variable

n: means the sample size of this relationship

Source: Original study

2.3.14 Entrepreneurial self-efficacy and entrepreneurial intention

Individuals who have confidence in their entrepreneurial ability are more inclined to pursue their entrepreneurial career ambitions or who have taken entrepreneurship courses, have more desire to create their own businesses, and perform well in entrepreneurial tasks (Karlsson and Moberg, 2013). Entrepreneurial self-efficacy, according to entrepreneurship research, is the degree to which a person believes in his or her own abilities and capacity to effectively perform the activities required to begin a new commercial organization. Entrepreneurship necessitates not just innovation, risk, and initiative, but also a lengthy and challenging process that requires excitement, devotion, and perseverance (Newman et al., 2019). As a result, entrepreneurial self-efficacy correlates favorably with successful entrepreneurship (Bignetti, et al., 2021). A high sense of self-efficacy as an entrepreneur reflects an individual's desire and capacity to deal with difficult circumstances while starting a new business and following the firm's goals (Memon et al., 2019).

As an encouraging source, self-efficacy refers to one's conscious trust and belief in one's ability to accomplish, which defines one's cognitive ability (Caraway et al., 2003), i.e. the notion is connected with self-evaluation, which determines efforts and fortitude in the face of adversity, as well as decisions regarding activities to be taken. As a result, one distinguishing feature of self-

efficacy is its predilection for behaviors (Naktiyok et al., 2010). Individuals perform better in jobs where they have a greater degree of self-efficacy; conversely, they avoid jobs where they have a low level of self-efficacy owing to failure fear (Piperopoulos and Dimov, 2015). More crucially, in two important theories of entrepreneurial intentions, Nowinski et al. (2019) revealed that self-efficacy is crucial in the formation of entrepreneurial intention.

According to Elnadi and Gheith, self-efficacy is among the most significant elements influencing students' entrepreneurial intention. This finding indicated that self-efficacy is the most powerful element affecting students' decisions to become entrepreneurs, which is consistent with numerous related studies (Fitzsimmons and Douglas, 2011; Mei et al., 2017; Sukavejworakit et al., 2018; Yamina and Mohammed, 2019). According to Jiatong et al. (2021), entrepreneurs with growth of self-efficacy appear to be more confident in their skills to launch their own enterprises and overcome obstacles along the way than those with lower self-efficacy. Furthermore, as per Liao et al. (2022), self-efficacy is fundamental in the establishment of entrepreneurial intent and is becoming more relevant in defining entrepreneurial intent as SCCT advances. Hence, students are more likely to support entrepreneurial endeavors when they have greater confidence in entrepreneurship ability to succeed (Hou et al., 2019). Based on empirical shreds of evidence, the author proposes the following hypothesis:

H14: Entrepreneurial self-efficacy has a positive effect on entrepreneurial intention.

Based on an established hypothesis development. The author provides the literature on the link between social norms and entrepreneurial intention with data

collected methodology is a questionnaire survey for each article. Table 2-14 presents the reader with an overview derived from previous research.

Table 2-14 Illustrative coding of hypothesis 14

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Darmanto and Yuliari (2018)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	162	0.412	Indonesia
Moraes et al. (2017)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	287	0.314	Brazil
Tammubua et al. (2015)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	204	0.280	Spain, Malaysia, and Indonesia
Doanh and Trang (2019)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	2218	0.369	Vietnam
Shahab et al. (2017)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	808	0.155	China
Arshad et al. (2016)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	495	0.310	Pakistan
Akanbi (2013)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	470	0.107	Nigeria
Mei et al. (2017)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	280	0.324	United States and China
Ana et al. (2017)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	114	0.216	Indonesia

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Laviolette et al. (2012)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	276	0.390	France
Ayodele (2013)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	210	0.270	Nigeria
Hutasuhut (2018)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	319	0.452	Indonesia
Izquierdo and Buelens (2011)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	236	0.120	Ecuador and Belgium
Utami (2017)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	1237	0.480	Indonesia
Baidi and Suyatno (2018)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	500	0.153	Indonesia
Santoso and Oetomo (2018)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	97	0.394	Indonesia
Khodabakhshi and Talebi (2012)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	130	0.364	Iran
Nwankwo et al. (2012)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	350	0.340	Nigeria
Garaika and Margahana (2019)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	200	0.139	Indonesia
Pfeifer et al. (2014)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	982	0.250	Croatia
Oyugi (2015)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	281	0.418	Uganda
Asimakopoulos et al. (2019)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	208	0.181	Spain
Carr & Sequeira (2007)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	308	0.190	United States

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Liñán (2004)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	93	0.314	Spain
Marques et al. (2012)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	202	0.723	Portugal
Papzan et al. (2014)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	154	0.200	Malaysia
Sukavejworakit et al. (2018)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	60	0.726	Thailand
Solesvik et al. (2012)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	192	0.280	UK
Fitzsimmons and Douglas (2011)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	414	0.600	Singapore and Australia
Maes et al. (2014)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	437	0.300	France, USA and Beligum
Liñán and Chen (2006)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	533	0.275	Spain and Taiwan
Yamina and Mohammed (2019)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	165	0.471	Algeria
Tung et al. (2019)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	819	0.301	Vietnam and Malaysia
Shah et al. (2020)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	192	0.363	Canada
Hassan et al. (2020)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	334	0.229	India

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Bignetti et al. (2021)	Entrepreneurial Self-Efficacy	Entrepreneurial Intention	351	0.652	Brazil

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.15 Entrepreneurial mindset and entrepreneurial intention

Hsu et al. (2019) describe entrepreneurial intention as a self-avowed desire to start a new business. Furthermore, research has discovered that entrepreneurial intent is linked to the development, appraisal, and discovery of new possibilities using strategies, organizational, procedures, and environmental assets (Kaffka and Krueger, 2018). Previous research has also found the crucial role of entrepreneurial mindset in the development of entrepreneurial intents (Cui et al., 2019; Handayati et al., 2020; Liao et al., 2022). An entrepreneurial mindset is a person's commitment to entrepreneurial activities (Kuratko et al., 2020). It is characterized by an individual's proclivity for risk-taking, a desire for success, and a drive to establish a new business, as well as to devise design, and coordinate initiatives to attain entrepreneurial objectives (King, 2019).

Jiatong et al. (2021) performed research with 365 university students from the Chinese provinces of Jiangsu and Zhejiang. They discovered that an entrepreneurial mindset is significantly linked with a student's entrepreneurial intention, which is in the line with previous studies (Mamman et al., 2108; Hartanto et al., 2020). SCCT explains how students can acquire an entrepreneurial mindset as well as increasing cognitive variables that encourage entrepreneurial behaviour (Yuan et al., 2020). Entrepreneurship education and activities in colleges foster the entrepreneurial mindset, which motivates students to pursue careers as

entrepreneurs. However, Karyaningsih et al. (2020) conduct research on 351 vocational students enrolled in an entrepreneurship course in Indonesia and discovered that there is no significant relationship between entrepreneurial mindset and entrepreneurial intent. According to scientists, mindset is a holistic perspective used to produce new ideas, analyze opportunities and risks, or grow and run a business, and it occurs when a person assesses his or her own ideas using holistic rather than functional criteria.

Based on the above arguments, this research proposes entrepreneurial mindset as a guideline for planning activities of individuals when making business decisions. It is a premise to determine the right goals and orientation when individuals refer to previous successful entrepreneurs as well as to limit the negative effects from individuals who have failed in their business. An entrepreneurial mindset will help entrepreneurs keep their ground and recognize opportunities, challenges, and risks to have the right strategy on their start-up journey. Thus, the author proposes the following hypothesis:

H15: Entrepreneurial mindset has a positive effect on entrepreneurial intention.

Based on an established hypothesis development. The author provides the literature on the link between entrepreneurial mindset and entrepreneurial intention with data collected methodology is a questionnaire survey for each article. Table 2-15 presents the reader with an overview derived from previous research.

Table 2-15 Illustrative coding of hypothesis 15

Author(s) name	**Independent variable**	**Dependent variable**	**n**	**r**	**Data source**
Jiatong et al. (2021)	Entrepreneurial Mindset	Entrepreneurial Intention	365	0.276	China and Parkistan

Author(s) name	Independent variable	Dependent variable	n	r	Data source
Handayati et al, (2020)	Entrepreneurial Mindset	Entrepreneurial Intention	450	0.302	Indonesia
Liao et al. (2022)	Entrepreneurial Mindset	Entrepreneurial Intention	280	0.212	Taiwan

Notes: **r:** means the correlation between independent and depend variable
n: means the sample size of this relationship
Source: Original study

2.3.16 Entrepreneurial mindset and entrepreneurial competencies

It is feasible to attain corporate success if entrepreneurial competencies include entrepreneurial abilities, marketing capabilities, sales orientation, and connectivity (Al Mamun et al., 2019). As a consequence, this study proposes that entrepreneurial competencies may act as a mediator to promote entrepreneurial behavior. Returning to the resource-based viewpoint, entrepreneurial competencies (e.g., skills, product development, notify, and relations) are essential and distinct resources that give capabilities (i.e., entrepreneurship competency) to improve a company's success. Our research suggests that an entrepreneurial mindset when affecting entrepreneurial competencies plays a role as a market orientation through thinking analysis from experiences drawn from our predecessors.

This study hypothesizes that entrepreneurial mindset plays a role in market orientation because it symbolizes adaptive learning, which assists businesses in detecting and responding to environmental changes by making assumptions about consumers and rivals. Market orientation, according to Narver and Slater (1990), is an organizational culture that fosters abilities to provide higher value to consumers, which defines competitive advantage. As per previous research, market orientation is an adaptable skill that leads firms to respond (grow capabilities) to alternating market circumstances. Additionally, according to Lekmat et al. (2018),

entrepreneurs' capacity to innovate existing products and services, as well as build a marketing mix to target certain client groups, may be influenced by market orientation. There has been little study on the influence of an entrepreneurial mindset on entrepreneurial competencies. Thus, based on current research, this study suggests the following hypothesis:

H16: Entrepreneurial mindset has a positive effect on entrepreneurial competencies.

2.3.17 Entrepreneurial competencies and entrepreneurial intention

In the sphere of entrepreneurship, competence is a critical notion. The term competency has been defined in numerous ways theoretically, depending on the context and viewpoints used (Fischer et al., 1993). Floris and Dettori (2020) describe competencies as a collection of talents and abilities that individuals possess and/or may learn and enhance in order to become proactive and demonstrate the spirit of initiative. As a consequence, entrepreneurial competencies may be described as the set of learning, experiences, and abilities that enable an entrepreneur to perform a required job successfully. The knowledge component of entrepreneurial competencies is the topic of this research, and it relates to entrepreneurs' understanding of what entrepreneurs should do in order to finish a certain entrepreneurial task in an acceptable and successful manner.

Previous studies have shown that personality influences a person's desire to become a business owner, and the relationship between entrepreneurship and emotional intelligence (Ellwood, 2021; Barbazzeni, 2021). Individuals with a high entrepreneurial intent are more aware of how different outcomes impact their behavior and are more able to control their emotions (Swift, 2013), displaying emotional abilities that promote an entrepreneurial orientation (Padilla-Meléndez

et al., 2014). First, unlike intellect and skills, competencies reveal that within certain settings, an individual is capable of transforming potential into actuality. Second, schooling may have an impact on such competencies and other cognitive characteristics. Various research undertaken in educational contexts has indicated that training in entrepreneurial competencies may be advantageous to individuals (Chien-Chi et al., 2020; Velástegui et al., 2021). Based on the above arguments, the authors recommend the following hypothesis:

H17: Entrepreneurial competencies have a positive effect on entrepreneurial intention.

2.3.18 The potential moderator effect of entrepreneurial passion

Passion, according to Vallerand et al. (2003, 756), is "a strong inclination for an activity that individuals value, feel is essential, and to which they dedicate substantial time and attention." Philippe et al. (2010) described it simply as a strong desire to engage in certain behaviors. Additionally, these authors emphasized the complex character of entrepreneurial passion, proposing three unique entrepreneurial identities associated with specific aspects of the entrepreneurial process: (1) an innovator who is passionate about activities involving the discovery, invention, and exploration of new prospects; (2) a founder who is passionate about the actions associated with launching a company in order to commercialize and utilize prospects; and (3) a developer who is passionate about activities relating to the establishment, growth, and expansion of a business.

Tehseen and Haider (2021) performed a study with 542 undergraduate students from Malaysian institutions in Kuala Lumpur and Selangor to investigate the function of entrepreneurial passion as a moderator in the link between three dimensions of TPB and entrepreneurial intent. They discovered that

entrepreneurial passion positively moderates the impact of entrepreneurial attitude and entrepreneurial self-efficacy on sustainable entrepreneurship intention among university students. When entrepreneurial passion is high, the positive effect of entrepreneurial attitude on sustainable entrepreneurship intents will be amplified. According to Biraglia and Kadile (2016), the process of creating a firm necessitates a high degree of skill in order to overcome many barriers and issues along the route. As a result, entrepreneurial self-efficacy may be seen as a mediator in the relationship between entrepreneurial passion and entrepreneurial intent. The positive and significant association discovered between entrepreneurial passion and entrepreneurial self-efficacy provides a new determinant factor to the already identified elements that cause persons to become entrepreneurs. Based on those arguments and empirical shreds of evidence, this study proposed that entrepreneurial passion can play a role as a moderator among attitude towards entrepreneurship, social norms, entrepreneurial self-efficacy, and entrepreneurial intention. Thus, the author proposes the following hypothesis:

H18a: Entrepreneurial passion moderates the relationship between attitude towards entrepreneurship and entrepreneurial intention.

H18b: Entrepreneurial passion moderates the relationship between social norms and entrepreneurial intention.

H18c: Entrepreneurial passion moderates the relationship between entrepreneurial self-efficacy and entrepreneurial intention.

CHAPTER THREE
META-ANALYSIS APPROACH

This study adopted meta-analysis as the further step of literature. The purpose of meta-analysis is to combine the conclusions from multiple previous studies and to determine the robustness and generalization of the stated linkages. Meta-analysis is very critical to check the consistency or contradiction among findings. The research framework, the conclusion of criteria and coding, data collection, procedure, analytic techniques, and meta-analysis results are included in this chapter.

3.1 Meta-analysis framework and research hypothesis

Due to the lack of research articles, this study will not be able to conduct meta-analysis on all research hypotheses as stated in chapter two. In addition, since the author published articles in the meta-approach, making the same associations between constructs in the comprehensive framework in chapter four will be redundant and will not add novelty value to this dissertation. However, the author maintains the association between entrepreneurial mindset, attitude towards entrepreneurship, and entrepreneurial intention for deep knowledg. Furthermore, since meta-analysis combines several studies, readers can use these references for their own models in future research. The moderating effect of gender on the relationship between attitude towards entrepreneurship and entrepreneurial intention is also investigated. The proposed meta-analysis is shown in figure 3.1.

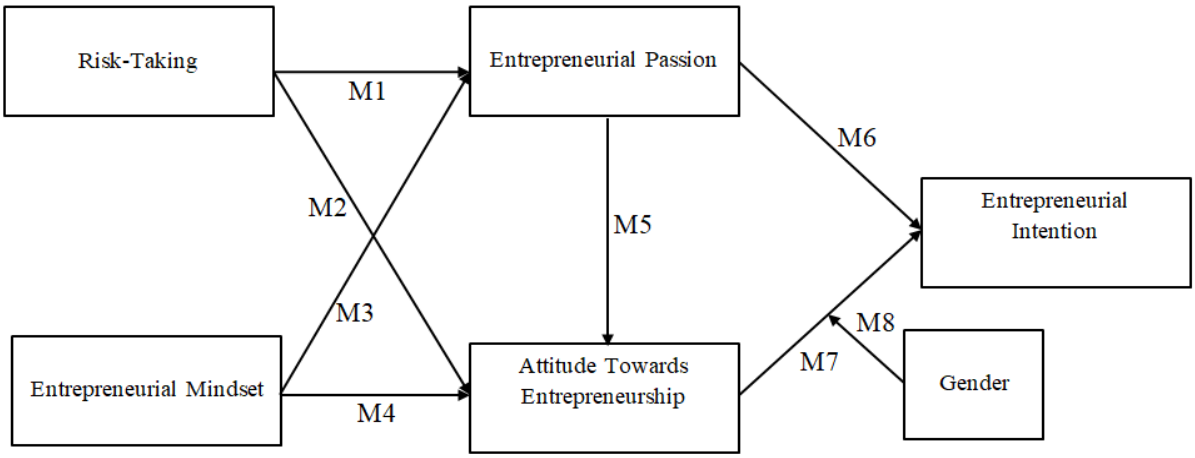

Figure 3-1 Meta Proposed Framework

Based on the research proposed framework as shown in figure 3.1. The author proposed the following hypotheses:

Hypothesis M1: Risk-taking has a positive effect on entrepreneurial passion.

Hypothesis M2: Risk-taking has a positive effect on attitude towards entrepreneurship.

Hypothesis M3: Entrepreneurial mindset has a positive effect on entrepreneurial passion.

Hypothesis M4: Entrepreneurial mindset has a positive effect on attitude towards entrepreneurship.

Hypothesis M5: Entrepreneurial passion has a positive effect on attitude towards entrepreneurship.

Hypothesis M6: Entrepreneurial passion has a positive effect on entrepreneurial intention.

Hypothesis M7: Attitude towards entrepreneurship has a positive effect on entrepreneurial intention.

Hypothesis M8: Gender moderates the relationship between attitude towards entrepreneurship and entrepreneurial intention.

3.2 Meta-analysis approaches

Meta-analysis approaches allow for the evaluation of several independent and/or moderator factors using regression analysis techniques (Lipsey and Wilson 2004). For this study, meta-analysis provides fresh evidence, leading to the development of hypotheses employing moderators that were not explored in the original investigations (Rauch and Frese 2006).

3.3 Literature search and inclusion criteria

This study adhered to standard procedures in meta-analytic entrepreneurship research (Martin et al., 2013) and conducted searches with a set of catchphrases and different combinations thereof, including attitude towards entrepreneurship, risk-taking, entrepreneurial mindset, entrepreneurial passion, entrepreneurial intention, and gender. This study gazed for related articles in several database searches, including ProQuest, JSTOR, ScienceDirect, Emerald, SAGE, Frontiers, ResearchGate, and Springer. The author also gazed through management and entrepreneurship journals such as Academy of Entrepreneurship Journal, Career Development International, International Journal of Entrepreneurial Behaviour & Research, Journal of Small International Entrepreneurship and Management Journal, and Journal of Innovation and Entrepreneurship and other 59 journal. Furthermore, from 2004 to 2022, to eliminate the file compartment problem, the author searched Google, Google Scholar related to entrepreneurship and management for this study meta-analysis framework.

The data begins with the pooling of effect sizes from several studies, and each study was required to produce a correlation matrix or other information that could be translated into a correlation coefficient.

3.4 Variable coding

The study coded two independent variables (risk-taking and entrepreneurial mindset) to be used in the study and the aggregate published. The dependent variables including attitude toward entrepreneurship, entrepreneurial passion, and entrepreneurial intention were coded as positive work outcomes.

In keeping with a recent meta-analytical investigation on a particular multi-faceted level effect size of development (Bae et al., 2012), considers providing a single effect estimate. Since the way demographic information was presented to participants changed across the publications, three major features of each sample were identified as potential moderators: gender (male/female).

To assure the number of articles that may be included, the author relied on three fundamental conditions. First, empirical and quantitative primary research was required. In addition, published articles prior to 2004 were omitted since risk-taking, entrepreneurial mindset, and entrepreneurial passion were less prevalent themes at the time. Second, research has to offer a correlation coefficient between antecedents and entrepreneurial intention, or provide enough information to convert effect size. Third, articles were also rejected if they (a) featured only theoretical contributions or literature reviews, (b) lacked empirical data, (c) were irrelevant to our hypotheses, or (d) lacked adequate data for meta-analysis. Following that, all coding differences discovered throughout the coding process were rectified before attaining a 100% consensus among the coders. This study discovered 82 papers that satisfied the criteria for inclusion as shown in Table 3-1.

Table 3-1 The studies included in the meta-analysis

Studies Alphabetically by Source and Codes for Hypotheses Tests[a,b]	
Afroz et al (2020, 61, (ATE-EI)	Liñán and Chen (2006), 51, (ATE-EI)
Agolla et al. (2019), 40, (ATE-EI)	Majeed et al. (2021), 50, (EP-EI, EP-ATE)
Al-Ghazali et al. (2022), 19, (EM- ATE)	Marques et al. (2012), 12, (ATE-EI)
Al-Mamary & Alshallaqi (2022), 40, (RT-EP)	Miralles et al. (2012), 16, (ATE-EI)
Amofah and Saladrigues (2022), 41, (ATE-EI)	Miralles et al. (2016), 23, (ATE-EI)
Ana et al. (2017), 43, (ATE-EI)	Miranda et al. (2017), 17, (ATE-EI)
Angulo et al. (2019), 12, (ATE-EI)	Mohammed et al. (2017), 36, (ATE-EI)
Anjum et al. (2019), 26, (EP-ATE)	Mothibi and Malebana (2019), 1, (ATE-EI)
Anjum et al. (2022), 12, (EP-ATE)	Murad et al. (2021), 30, (EP-EI)
Arshad et al. (2016), 8, (ATE-EI)	Muzaffar (2021), 24, (EP-ATE)
Awan & Ahmad (2017), 11, (ATE-EI)	Nasiru et al. (2015), 49, (EP-EI)
Awan et al. (2017), 11, (RT-ATE)	Naushad (2018), 13, (ATE-EI)
Cai et al. (2021), 59, (EP-ATE)	Neneh (2022), 58, (EP-EI)
Carr & Sequeira (2007), 32, (ATE-EI)	Nieuwenhuizen et al. (2016), 57, (ATE-EI)
Chandra et al. (2021), 53, (EP-EI)	Nowiński et al. (2020), 45, (RT-ATE)
Dinc & Budic (2016), 15, (ATE-EI)	Obschonka (2019), 19, (EM-EP)
Djaoued et al. (2018), 47, (RT-ATE)	Ohanu & Ogbuanya (2018), 39, (RT-ATE)
Doanh & Trang (2019), 48, (ATE-EI)	Papzan et al. (2014), 38, (ATE-EI)
Ebewo et al. (2017), 46, (AtE-EI)	Phong et al. (2020), 9, (ATE-EI)
Entrialgo and Iglesias (2017), 14, (ATE-EI)	Rana et al. (2019), 28, (EM-ATE)
Fellnhofer (2017), 36, (EP-EI)	Rana et al. (2021), 7, (ATE-EI)
Garaika et al, (2019), 36, (EM-ATE)	Ranga et al. (2019), 64, (ATE-EI)
Gilaninia et al. (2013), 22, (ATE-EI)	Rodríguez et al. (2013), 23, (ATE-EI)
Gorgievski et al. (2017), 33, (ATE-EI)	Samo and Hashim (2016), 42, (ATE-EI)
Gredig et al. (2018), 56, (ATE-EI)	Shah et al. (2020), 34, (ATE-EI)
Henley et al. (2017), 28, (ATE-EI)	Shamsudin et al, (2017), 62, (RT-EP)
Ismail et al, (2015), 54, (RT-EP)	Shiri et al. (2017), 25, (ATE-EI)
Iyortsuun et al. (2020), 37, (EP-ATE)	Shiri et al. (2020), 25, (ATE-EI)
Izquierdo & Buelens (2011), 29, (ATE-EI)	Singh et al. (2014), 2, (ATE-EI)
Jamil et al (2014), 5, (RT-EP)	Soleimanof et al. (2021), 32, (EP-ATE)
Jubari (2019), 55, (ATE-EI)	Tehseen & Haider (2021), 59, (EP-ATE)
Karimi (2020), 3, (EP-EI,EP-ATE)	Tshikovhi and Shambare (2015), 52, (ATE-EI)
Karimi et al. (2013), 53, (ATE-EI)	Türk et al. (2022), 44, (EM-EP)
Karimi et al. (2015), 10, (ATE-EI)	Uddin et al. (2022), 60, (EP-EI)
Kiani et al. (2021), 44, (EM-EP)	Usman and Yennita (2019), 39, (ATE-EI)
Kiani et al. (2022), 60, (EP-EI)	Utami (2017), 18, (ATE-EI)
Kim & Lee (2014), 35, (RT-ATE)	Vamvaka et al. (2020), 41, (EP-ATE)
Koe, (2016), 39, (RT-EP)	Wardana et al. (2020), 21, (EM-ATE)
Li et al. (2020), 19, (EP-EI, EM-EP)	Wathanakom et al. (2020), 41, (ATE-EI)
Liao et al. (2022), 20, (EM-ATE)	Wibowo (2016), 6, (ATE-EI)
Liñán (2004), 31, (ATE-EI)	Zulfiqar et al. (2017), 7, (ATE-EI)

Notes: [a]**Codes in parentheses**: RT: Risk-taking, EM: Entrepreneurial Mindset, EP: Entrepreneurial Passion, ATE: Attitude Towards Entrepreneurship, EI: Entrepreneurial Intention

[b]**Alphabetical order of journals coding following meta-analysis technique:**

(1) Academy of Entrepreneurship Journal

(2) Acta Universitatis Sapientiae, Economics and Business

(3) American Journal of Educational Research

(4) American Journal of Economics

(5) Asia-Pacific Management and Business Application

(6) Asia Pacific Journal of Innovation and Entrepreneurship

(7) African Journal of Business Management

(8) Business and Economic Research

(9) Busisness Innovation & Entrepreneurship Journal

(10) Career Development International

(11) Cogent Business & Management

(12) Dinamika Pendidikan

(13) Education and Training

(14) Eurasian Journal of Business and Economics

(15) Entrepreneurship Research Journal

(16) Entrepreneurship and Sustainability Issues

(17) European Research on Management and Business Economics

(18) European Research Studies Journal

(19) European Journal of Business and Social Sciences

(20) European Journal of Business and Management Research

(21) European Management Journal

(22) Expert Journal of Marketing

(23) Frontiers in Psychology

(24) Interdisciplinary Journal of Contemporary Research in Business

(25) International Entrepreneurship and Management Journal

(26) International Journal of Entrepreneurship

(27) International Journal of Entrepreneurship and Small Business

(28) International Journal of Psychology

(29) International Journal of Agricultural Management and Development

(30) International Journal of Business, Economics and Law

(31) International Journal of Entrepreneurial Behaviour & Research

(32) International Journal on Integrated Information Management;

(33) Journal of Applied Social Psychology

(34) Journal of Business and Management

(35) Journal of Business Research

(36) Journal of Business Venturing

(37) Journal of Career Assessment

(38) Journal of Contemporary Administration

(39) Journal of Entrepreneurship Education

(40) Journal of Education and Vocational Research

(41) Journal of Economic Structures

(42) Journal of Entrepreneurship, Management and Innovation

(43) Journal of Entrepreneurship: Research & Practice

(44) Journal of Global Entrepreneurship Research

(45) Journal of International Business Research and Marketing

(46) Journal of Innovation and Entrepreneurship

(47) Journal of Public Health

(48) Journal of Small Business Management

(49) Journal of Small Business and Enterprise Development

(50) Journal of Research in Business and Management

(51) Management Science Letters

(52) Problems and Perspectives in Management

(53) Proceedings of The 7th European Conference On Innovation and Entrepreneurship

(54) Procedia - Social and Behavioral Sciences

(55) Problems and Perspectives in Management

(56) SAGE Open

(57) Studies in Higher Education

(58) Southern African Business Review

(59) Sustainability

(60) The African Symposium: An online journal of the African Educational Research Network

(61) Theoretical Economics Letters

(62) The Online Journal for Technical and Vocational Education and Training in Asia

(63) The Journal of Entrepreneurship Education

(64) The Jahangirnagar Journal of Marketing

Source: Original study

3.5 Analytical techniques

The correlation coefficients (r) were used as the sample's principal effect size. These study results and trials employing standardized regression coefficients (β) were transformed to r for future study. Following the formula as developed by Peterson and Brown (2005):

(1) $r = 0.99\,\beta + 0.4\,\lambda + 0.02\,\eta$

wher $\eta = 0$ if the average intercorrelation of the predictor variable set is 0.17 or less, $\eta = 1$ if the average intercorrelation is greater than 0.17.

λ is inflation factor which is denoted as a generic measure of effect. λ is commonly used for controlling ancestry effects by yielding more conservative standard errors and wider confidence intervals. The correction was performed when λ exceeded 1, otherwise original λ were retained.

A Q-test was conducted for the moderator test. The author conducted z-tests as done by Hunter and Schmidt (1990 p. 438). In the null hypothesis, there is no difference between the two parametric effect sizes, Hunter and Schmidt proposed the z_{HS} test:

(2) $$z_{HS} = \frac{\overline{d_1} - \overline{d_2}}{\sqrt{\left(s_{\overline{d_1}}\right)^2 + \left(s_{\overline{d_2}}\right)^2}}$$

where $\overline{d_1}$ and $\overline{d_2}$ are the average effect sizes for the first and second categories respectively, and $\overline{d_i}$ is given as:

(3) $$\overline{d_i} = \frac{\sum_{j=1}^{m_i} N_{ij}\, d_{ij}}{\sum_{j=1}^{m_i} N_{ij}}$$

Moreover, the variance of *i*th mean, $(\sigma_{\overline{d_i}})^2$, can be estimated (Hunter and Schmidt, 1990, p.437) using:

$$(4) \quad (S_{\overline{d_i}})^2 = \frac{\sum_{j=1}^{m_i} N_{ij}(\overline{d_{ij}} - \overline{d_i})^2}{mi \sum_{i=1}^{m_i} N_{ij}}$$

The study produced the 95 percent confidence interval (CI) for each effect size after collecting and aggregating all of the relevant correlation coefficients (r). The effect size was determined to be statistically significant when the 95 percent CI did not contain 0. Lipsey and Wilson (2001) proposed Q-statistics, which were employed and applied to examine the homogeneity of the effect size distribution. If Q-value is greater than χ^2 certain threshold ($\chi^2$with degree of freedom equals (k−1), where k = number of studies) the authors conclude it validates the null hypothesis of homogeneity. If the null hypothesis of homogeneity is rejected, there will be variance heterogeneity. In other words, variations in effect size may be due to reasons other than sampling. To find moderators, a Q-test was utilized by Hedges and Olkin (1985) to determine the possible outcomes of moderators in homogeneity studies. A considerable Q-statistic implies that the observed influence is varied, and modifiers are required to explain the further variation in the results. Hunter and Schmidt's (1990) z-test was then used to determine the statistical significance of between-group differences. In addition, the I^2 statistic denotes the proportion of variation between studies that is due to heterogeneity rather than chance. It is used to quantify the amount of dispersion. If $I^2 > 50\%$ the study need to adopted random model and if $I^2 < 50\%$ the study should adopted fixed model (Higgins et al., 2003). In terms of publication bias, the author adopted Rosenthal (1979) who invented the fail-safe N or file drawer number technique, which is now widely used. This technique assumes that the true

number of missing studies can be computed and contends that finding studies to include in a meta-analysis is critical before determining whether the p-value is significant. This technique is used under the assumption that the principal effect of missing research has no effect. To be considered a publication bias, Z-values should be positive outcome and p-value < 0.05 in fail-safe N results then the author concludes that there is no publication bias.

3.6 Meta-analysis results

Table 3-2 displays the main effect results. In terms of publication bias, as shown in table 3-2, the fail-safe N results indicate that all Z-values of constructs are positive and p-value < 0.05. For that reason, this study concludes that the effect size of the connected research can be considered as not having a significant publication bias. Regarding the association between constructs, according to Lipsey and Wilson (2001), the effect size can be categorized as small ($r \leq 0.1$), medium ($0.1 < r < 0.4$), and large ($r > 0.4$). The author discovered that risk-taking is highly and positively related to entrepreneurial intention ($r = 0.246$, $p \leq 0.001$, $Q = 23.304$, $\chi^2 = 9.488$). Therefore, the effect size is medium. Furthermore, the Q-value is bigger than χ^2 value, indicating the impact on this path is due to variation assigned to variations rather than sampling error. The adjusted 95% confidence interval (CI) extends from 0.121 to 0.363, which does not include 0, showing that M1 is supported. Moreover, risk-taking has a remarkable positive influence on attitude toward entrepreneurship ($r = 0.419$, $p \leq 0.001$, $Q = 63.791$, $\chi^2 = 9.488$), and adjusted 95% confidence interval (CI) varies from 0.262 to 0.555, with the findings supporting a non-zero value. Hence, M2 is supported and the effect size is large. This study also discovered that entrepreneurial mindset influences entrepreneurial passion positively ($r = 0.297$ $p \leq 0.001$, $Q = 8.494$, $\chi^2 = 7.815$), and, thus, M3 is supported. Therefore, the effect size is medium. Furthermore, the Q-value is bigger

than χ^2 value, indicating the impact on this path is due to variation assigned to variations rather than sampling error. The estimated 95% CI varies from 0.210 to 0.380, with the findings supporting a non-zero value. Similarly, entrepreneurial mindset had a significant influence on attitude toward entrepreneurship ($r = 0.323$, $p \leq 0.001$, $Q = 13.851$, $\chi^2 = 9.488$), having an altered 95% CI range from 0.229 to 0.402 and non-zero value. Therefore, the effect size is medium. In addition, the Q-value is bigger than χ^2 value, indicate the impact on this path is due to variation assigned to variations rather than sampling error. Thus, M4 is supported. This research also discovered that entrepreneurial passion influences attitude toward entrepreneurship positively ($r = 0.455$), and adjusted 95% confidence interval (CI) ranges from 0.318 to 0.573, excluding 0. Therefore, the effect size is large. The Q-value is bigger than χ^2 value, indicating the impact on this path is due to variation assigned to variations rather than sampling error. Thus, M5 is supported.

Additionally, the results demonstrate that entrepreneurial passion ($r = 0.459$, $p \leq 0.001$, $Q = 423.688$, $\chi^2 = 16.919$) had slightly least positive influence on entrepreneurial intention, with a corrected 95% CI ranging from 0.324 to 0.576, excluding 0. Therefore, M6 is supported, and the effect size is large. Attitude towards entrepreneurship has the strongest positive effect on entrepreneurial intention ($r = 0.469$, $p \leq 0.001$, $Q = 900.767$, $\chi^2 = 65.171$), and the corrected 95% CI ranges from 0.420 to 0.516, excluding 0. Hence, the effect size is large. Furthermore, the Q-value is bigger than χ^2 value, indicating the impact on this path is due to variation assigned to variations rather than sampling error. Thus, M7 is supported.

Table 3-2 Meta-analysis results of main effects

Hyp.	Variables		N	k	Effect Size & 95% Confidence Interval			Heterogeneity				Fail-Safe N	
	Independent	Dependent			r	LCI	UCI	p-value	χ^2	Q	I^2	Z-value	Signifcant
M1	RT	EP	1363	5	0.246	0.121	0.363	0.000	9.488	23.304	82.836	9.28084	0.000
M2	RT	ATE	2519	5	0.419	0.262	0.555	0.000	9.488	63.791	93.73	22.91492	0.000
M3	EM	EP	1614	4	0.297	0.210	0.380	0.000	7.815	8.494	64.683	11.16517	0.000
M4	EM	ATE	1050	5	0.323	0.229	0.402	0.000	9.488	13.851	71.121	18.44483	0.000
M5	EP	ATE	3911	10	0.455	0.318	0.573	0.000	16.919	233.119	96.139	30.37068	0.000
M6	EP	EI	8635	10	0.459	0.324	0.576	0.000	16.919	423.688	97.876	39.91162	0.000
M7	ATE	EI	20,231	49	0.469	0.420	0.516	0.000	65.171	900.767	94.671	69.67384	0.000

Notes: RT: Risk-taking, EM: Entrepreneurial Mindset, EP: Entrepreneurial Passion, ATE: Attitude Towards Entrepreneurship, EI: Entrepreneurial Intention.

Abbreviations: *p*, level of statistical significance; LCI, Lower confidence interval; UCI, Upper confidence interval

Source: Original study

In terms of the moderating effect, Q-values for the impacts of attitude towards entrepreneurship, on entrepreneurial intention were found to be considerably higher than χ^2. This discovery implies the presence of moderators (Hedges and Olkin, 1985). A z-test from Hunter and Schmidt (1990) was used to assess moderating effects by determining the statistical significance of group differences. Table 3-3 illustrates the moderator effects of gender on the influence of attitude toward entrepreneurship on entrepreneurial intention. With regards to gender, it served as a significant moderator on the effect of attitude towards entrepreneurship on entrepreneurial intention. As a result, the findings show that there is a considerable difference in the desire for entrepreneurial business formation between male and female company owners. In the attitude towards

entrepreneurship - entrepreneurial intention link, the group of males (r = 0.630) had higher correlation scores on the attitude towards entrepreneurship scale than the female group (r = 0.454). The moderator testing results as shown in Table 3-3. Figure 3-2 presents the correlation effects of the main results and moderating of gender on the relationship between attitude towards entrepreneurship and entrepreneurial intention.

Table 3-3 Meta-analysis results of moderator effects

Variables		N	k	Effect Size & 95% Confidence Interval			Heterogeneity				Significant difference
Independent	Dependent			r	LCI	UCI	p-value	χ^2	Q	I-squared	
ATE	EI	20,231	49	0.469	0.420	0.516	0.000	65.171	900.767	94.671	
Gender											
Male		12,877	23	.630	.619	.640	.000	33.92	2932.6	99.250	Y
Female		4,940	15	.454	.432	.476	.000	23.68	77.724	81.988	

Notes: Y, yes; N, no;, ATE: Attitude Towards Entrepreneurship, EI: Entrepreneurial Intention.

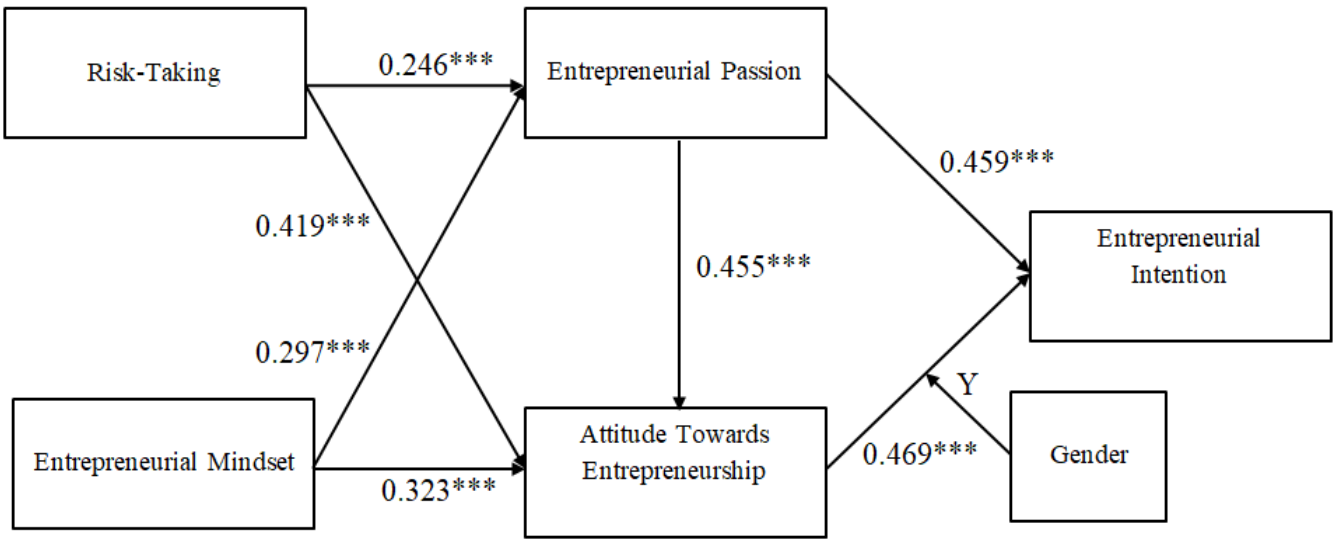

Figure 3-2 Meta-analysis results

CHAPTER FOUR
QUANTITATIVE METHODOLOGY

4.1 Research framework

The purposes of this study are: Firstly, to examine the role of risk-taking, entrepreneurial knowledge, and entrepreneurial mindset on cognitive antecedents (attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy, and the influence of cognitive antecedents on entrepreneurial intention. Secondly, the moderating role of entrepreneurial passion on the link between cognitive antecedents and entrepreneurial intention is also investigated.

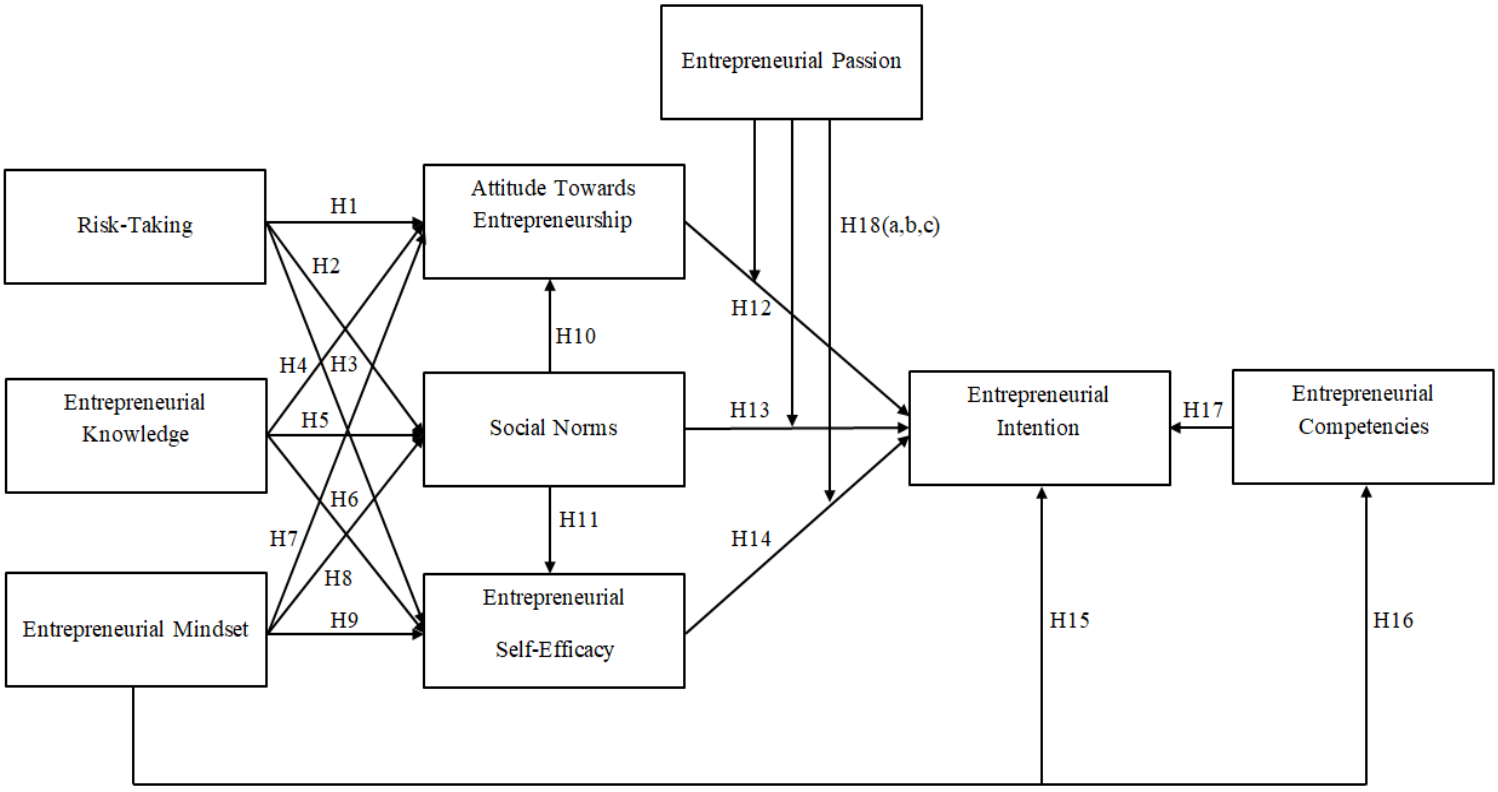

Figure 4-1 Research Proposed Framework

4.2 Research hypotheses

Specifically, 18 research hypothesis were developed:

Hypothesis 1: Risk-taking has a positive effect on attitude towards entrepreneurship.

Hypothesis 2: Risk-taking has a positive effect on social norms.

Hypothesis 3: Risk-taking has a positive effect on entrepreneurial self-efficacy.

Hypothesis 4: Entrepreneurial knowledge has a positive effect on attitude towards entrepreneurship.

Hypothesis 5: Entrepreneurial knowledge has a positive effect on social norms.

Hypothesis 6: Entrepreneurial knowledge has a positive effect on entrepreneurial self-efficacy.

Hypothesis 7: Entrepreneurial mindset has a positive effect on attitude towards entrepreneurship.

Hypothesis 8: Entrepreneurial mindset has a positive effect on social norms.

Hypothesis 9: Entrepreneurial mindset has a positive effect on entrepreneurial self-efficacy.

Hypothesis 10: Social norms have a positive effect on attitude towards entrepreneurship.

Hypothesis 11: Social norms have a positive effect on entrepreneurial self-efficacy.

Hypothesis 12: Attitude towards entrepreneurship has a positive effect on entrepreneurial intention.

Hypothesis 13: Social norms have a positive effect on entrepreneurial intention.

Hypothesis 14: Entrepreneurial self-efficacy has a positive effect on entrepreneurial intention.

Hypothesis 15: Entrepreneurial mindset has a positive effect on entrepreneurial intention.

Hypothesis 16: Entrepreneurial mindset has a positive effect on entrepreneurial competencies.

Hypothesis 17: Entrepreneurial competencies have a positive effect on entrepreneurial intention.

Hypothesis 18a: Entrepreneurial passion moderates the relationship between attitude towards entrepreneurship and entrepreneurial intention.

Hypothesis 18b: Entrepreneurial passion moderates the relationship between social norms and entrepreneurial intention.

Hypothesis 18c: Entrepreneurial passion moderates the relationship between entrepreneurial self-efficacy and entrepreneurial intention.

4.3 Research design

This study adopted a survey approach to collect data from university students. This study selected students from the college of management disciplines, including business, economics, and students who took entrepreneurship courses. With the approval of the students and teachers, an email with the informed consent form and a link to the survey was delivered to 470 students enrolled via their college's email system. The author stated unequivocally that there were no correct or incorrect

responses, and that all information submitted by respondents would be kept secret and anonymous (Spector, 2006).

This study identified 9 research constructs. This research evaluated the interrelationship among these constructs. These constructs are as follows: (1) risk-taking, (2) entrepreneurial knowledge, (3) entrepreneurial mindset, (4) attitude towards entrepreneurship, (5) social norms, (6) entrepreneurial self-efficacy, (7) entrepreneurial competencies, (8) entrepreneurial intention, and (9) entrepreneurial passion. A detailed description of the questionnaire items is shown in the Appendix. A 44-item questionnaire was designed including the following constructs:

(1) Risk-taking (6 items)

(2) Entrepreneurial knowledge (4 items)

(3) Entrepreneurial mindset (6 items)

(4) Attitude towards entrepreneurship (4 items)

(5) Social norms (3 items)

(6) Entrepreneurial self-efficacy (6 items)

(7) Entrepreneurial competencies (4 items)

(8) Entrepreneurial intention (6 items)

(9) Entrepreneurial passion (5 items)

4.4 Sample and data collection procedure

The hypotheses were tested utilizing quantitative data collected from a convenient sample of university students. Many studies have been conducted to determine the optimum sample size for a certain study. This study used a 7-point scale questionnaire for the survey. According to Burn and Bush (1995), when determining sample size, three elements must be considered: the confidence interval, relative standard error, and proportion. When the population size is unknown, the sample size is calculated as follows:

$$n = Z^2 \frac{p * q}{e^2}$$

in which:

n: sample size

p: the estimated percentage of population size

q = 1 – p

e: margin of error

Z: the number of standard deviations a given proportion corresponding with the sampling confidence level

Assuming ***e*** **=** 5% $Z_{\alpha/2}$ = 1.96, p = 50%

Then, The predicted number of samples was then as follows:

$$n = 1.96^2 \frac{0.5 * 0.5}{(0.05)^2} = 384$$

Furthermore, Hair et al. (2016) suggested that the sampling size rule should be as follows: the sample size should be 10 times larger or similar to that for many of the largest numbers of path directions of a specific construct in a certain structural model. To achieve these criteria, the study collected a valid sample size of 422 individuals, using a survey via mail during the first quarter of 2022.

4.5 Research instruments and measurements

The operational definitions and measurement items for each construct were also specified. Appendix contains the detailed questionnaire items. To acquire data for this study, a questionnaire survey technique was used, and it was the primary source of data collection. This study adapted existing scales to measure the major concepts of interest since they had previously been proven to be valid and reliable. A seven-point Likert scale was used in all items of the questionnaire, ranging from "1 = strongly disagree" to "7 = strongly agree."

As shown Appendix, to measure risk-taking the author used a six-item scale created by Sun et al. (2020) and Ahmed et al. (2019) ($\alpha = 0.88$). Sample items include "If the potential payout was really large, I would not be hesitant to invest in a new firm that may fail," and "I would appreciate the challenge of a project that may result in a promotion or a job loss." To measure entrepreneurial knowledge, the author adopted a four-item scale from Liñán and Chen (2009) ($\alpha = 0.87$) with sample items that include: "I know how to create a viable business because of my experience," and "I am at ease at work since I understand how the firm operates." For measuring entrepreneurial mindset, the author used the six-item scale created by Handayati et al. (2020) ($\alpha = 0.82$) with sample items that include: "I considered replies combining with entrepreneurial operations from both sides (opportunities or problems)," and "I considered if it is advantageous for me to be involved in entrepreneurial activity."

To examine attitude toward entrepreneurship, the author used a four-item scale developed by Liñán et al. (2011) (α = 0.93): “Being an entrepreneur will give me a lot of satisfaction,” and “I think that if I decide to start a spin-off company, it will be successful.” In addition, to measure social norms, the authors utilized a three-item scale developed by Liñán and Chen (2006) (α = 0.80) that included sample items: “My closest family members would support my decision to start a business,” and “My coworkers and friends would support me if I decided to start a business.” The author used a six-item scale from De Noble et al. (1999) and Liñán (2008) (α = 0.92) to assess entrepreneurial self-efficacy: “I can operate effectively despite persistent stress, pressure, and disagreement,” and “I can foster a work environment that encourages employees to try new things.” Appendix has the whole list of things.

The author utilized four items from Man et al. (2008) (α = 0.85) to measure entrepreneurial competencies: “I discover items or services that people desire,” and “I am aware of and seek to improve my own deficiencies.” Additionally, we used six items from Liñán (2011) (α = 0.89) to measure entrepreneurial intention: “I am prepared to go to any length to become a company owner,” and “I have really pondered starting my own business.” Finally, the authors utilized a five-item scale developed by Biraglia and Kadile (2016) (α = 0.90) to assess entrepreneurial passion: “It's exhilarating to start your own company,” and “It will be exciting to watch a new company grow and succeed.” The Appendix contains these things.

4.6 Data analysis techniques

Following data collection, this study used quantitative analysis to analyze the data. SPSS 23.0 and SmartPLS were used to analyze the data collected in order to evaluate the hypotheses. The following tools were used in this study to examine the hypotheses and identify the role of the variables:

4.6.1 Descriptive statistic analysis

Descriptive statistics were used to quantitatively explain the properties of a set of data. Each study variable's descriptive statistics, including frequency, mean, and standard deviation, as well as a cross-tabulation of demographic factors, were given.

4.6.2 Reliability and validity measures

Various purification approaches, including factor analysis, correlation analysis, and internal consistency analysis (Cronbach's alpha), were employed in this study to confirm the dimensionality and reliability of the research constructs. The purpose of factor analysis was to identify the dimensionality of each study construct by picking questionnaires with high factor loadings and comparing these questions to those provided theoretically. The item-to-total correlation and coefficient alpha were also determined to measure the internal consistency and dependability of the constructs. The number of dimensions derived from the main component factor analysis was calculated using latent roots, the scree test, and the eigen-value.

Partial least squares structural equation modeling (PLS-SEM) is the preferred technique when normatively specified constructs are included in the PLS path model. Hair et al. (2021) stated that assessing formative measurement models consists of three steps: (1) convergent validity, (2) indicator collinearity, and (3) statistical significance and relevance of the indicator weights. Hair et al. (2021) proposed essential criteria for assessing reflective measurement models, which comprised the following: indicator reliability, internal consistency reliability (Cronbach’s alpha, and composite reliability), convergent validity, and discriminant validity. This study fully follows these criteria. First, the composite reliability ratings are greater than 0.80 and less than 0.95, exceeding the 0.70 minimum thresholds for confirming internal consistency reliability (Hair et al.,

2021). Second, to confirm indicator reliability, the outer loadings of each item should be more than 0.708, since this indicates that the construct explains more than half of the variance in the indicator, resulting in adequate indicator reliability (Hair et al., 2021). Third, the average variance extracted (AVE) of each notion was examined using a 0.50 threshold value to determine convergent validity (Hair et al., 2019).

All square roots of AVE values on the diagonals should be greater than the correlation between each corresponding row and column value, indicating that the core construct measures discriminant between construct variances using the Fornell-Larcker (1981) and the authors employed the heterotrait–monotrait ratio (HTMT) of correlations by Henseler et al. (2015) to examine discriminant validity criteria.

4.6.3 Collinearity statistics

In the context of PLS-SEM, common method bias is a phenomena produced by the measuring method employed in an SEM investigation rather than the network of causes and effects in the model being analyzed. For example, the instructions at the beginning of a questionnaire may influence the replies provided by different respondents in the same general direction, resulting in a certain amount of common variance among the indicators. Another type of comparable method bias is the implicit social desirability associated with answering questions in a questionnaire in a particular way, causing the indicators to have some common variation. In short, common bias has a significant effect on the quality of surveys and results testing. For that reason, it is necessary to use collinearity method to check whether there is a common bias in the questionnaire.

Collinearity has usually been defined in multiple regression models as a predictor-predictor phenomenon. When two or more predictors measure the same underlying idea or aspect of a construct, this is referred to as collinearity. This term only relates to standard or vertical collinearity. Lateral collinearity is a predictor-criterion phenomenon that occurs when a predictor variable measures the same underlying construct, or a subset thereof, as a variable in a model to which it alludes (Kock and Lynn, 2012; Kock and Gaskins, 2014). Variance inflation factors (VIFs) are calculated for all latent variables in a model using this approach, which is completely automated by the softwareWarpPLS. VIFs greater than 3.3 has been suggested as a symptom of pathological collinearity, as well as the possibility that a model is polluted by common method bias. In a nutshell, the model is free of common method bias if all VIFs from a comprehensive collinearity test are equal to or less than 3.3.

4.7 Hypotheses testing techniques

The major hypotheses were tested using PLS-SEM. The structural model was validated by reporting the coefficient of determination (R^2), path coefficient (β), p-values, effect size (f^2), and t-values using a bootstrapping approach with 5,000 sub-samples as indicated by Hair et al (2019). Furthermore, in response to previous criticisms that just testing hypotheses using p-values is insufficient, this study used p-values with confidence intervals and effect sizes as an additional criterion (Hahn and Ang, 2017). The coefficient of determination (R^2) is calculated to estimate the amount of variation in the dependent constructs explained by the related independent constructs in order to assess the predictive capacity of the structural model that is statistically known as both endogenous and exogenous variables, respectively (Hair et al., 2017). R^2 has values between zero and 1, with a higher value suggesting more forecasting accuracy. R^2 values of 0.19, 0.33, and 0.67 in

PLS-SEM are perceived as weak, medium, and strong, respectively (Hair et al., 2017). A moderate quantity of R^2 is also acceptable, particularly when the endogenous construct is described by a few exogenous constructs linked to it.

The structural model represents the hypothesized relationships of the constructs, with estimated route coefficient values ranging from -1 to +1 (Hair et al., 2017). A path coefficient with a value near +1 suggests a strong and significant correlation, whereas a negative value implies a negative relationship. Coefficients close to zero suggest that the constructs have weak correlations (Hair et al., 2017). Furthermore, the bootstrap 95% confidence interval (CI) determines the importance of the coefficients by revealing how important the route coefficient is different from zero.

The impact of an exogenous construct on an endogenous construct may be measured by omitting its inclusion from the model, which influences the R^2 value (Hair et al., 2017). The impact size (f^2) of the exogenous component is defined as the change in R^2 value (Hair et al., 2017). Small, medium and large impacts are defined as f^2 values of 0.02, 0.15, and 0.35, respectively.

CHAPTER FIVE
EMPIRICAL RESULTS AND DISCUSSIONS

5.1 Descriptive analysis

5.1.1 Characteristics of respondents

The quantitative data collected from a convenient sample of university students was used to validate our hypothesis. During the first quarter of 2022, data were collected via a self-administered online survey to examine students' entrepreneurial mindset, personal characteristics, entrepreneurial knowledge, cognitive antecedents, entrepreneurial competencies, and entrepreneurial intention. The survey began in January and ended at the end of March. The author recruited students from the college of management of one university in Vietnam. These students majored in economics and took entrepreneurship courses or training. With the students' and lecturers' approval, an email containing the form of informed consent and a link to the survey was sent to 470 students via their university's email system. The author emphasized that there were no proper or incorrect answers and that all information supplied by our respondents would be kept confidential and anonymous (Podsakoff et al., 2003; Spector, 2006). A total of 422 questionnaires were returned before the deadline, representing an 89.78% response rate. The majority of the respondents were males (59.24%) rather than females (40.76%). Regarding age, descriptive results found that it has 51.19% are younger than 22 years (18-22), the 23-25 age group has a lower proportion with 32.70%, and the remaining two groups account for 10.66% (26-30), and 5.45% (age > 30). In the case of educational level, the results present that the respondents who pursue a bachelor's degree occupied 61.37% while those who pursue a master’s degree is 31.28%, the lowest proportion pursuing a doctoral degree with 7.35%. For work experience, 68.25% of the respondents had short-term work

experience while others had long-term experience 31.75%. In terms of family background, the table displays the respondents who have business occupied significant rates with 63.74% compared with that non-business 36.26%. Table 5-1 shows the descriptive analysis of the respondents.

Table 5-1 Descriptive analysis of the respondents

Variables	Categories	Frequency	Percentage
Gender	Male Female	250 172	59.24 40.76
Age	18-22 23-25 26-30 >30	216 138 45 23	51.19 32.70 10.66 5.45
Educational Level	Bachelor Master Doctoral	259 132 31	61.37 31.28 7.35
Work Experience	Short-term Long-term	288 134	68.25 31.75
Family Background	Business Non-business	269 153	63.74 36.26

Source: Original study.

5.1.2 Descriptive analysis of questionnaire items

Table 5-2 presents descriptive statistics for each questionnaire item in this research, containing mean values and standard deviations, for a total of 422 respondents. According to the findings, all respondents tend to express a higher level of agreement for the majority of the variables of this research framework. With respect to items of risk-taking, the highest level of agreement is RT1 (5.18) and the lowest level of agreement is RT4 (4.68). With respect to items of entrepreneurial knowledge, the highest level of agreement is EK2 (5.21) and the lowest level of agreement is EK4 (4.96). With respect to items of entrepreneurial mindset, the highest level of agreement is EM1 (5.47) and the lowest level of agreement is EM4 (4.90). With respect to items of attitude towards

entrepreneurship, the highest level of agreement is ATE1 (5.52) and the lowest level of agreement is ATE3 (5.39). With respect to items of social norms, the highest level of agreement is SNs1 (4.11) and the lowest level of agreement is SNs3 (4.07). With respect to items of entrepreneurial self-efficacy, the highest level of agreement is ESE1 (5.59) and the lowest level of agreement is ESE6 (5.11). With respect to items of entrepreneurial competencies, the highest level of agreement is EC1 (4.86) and the lowest level of agreement is EC2 (4.54). With respect to items of entrepreneurial intention, the highest level of agreement is EI1 (5.45) and the lowest level of agreement is EI4 (4.97). For items of entrepreneurial passion, the highest level of agreement is EP2 (5.60) and the lowest level of agreement is EP4 (5.01).

Table 5-2 Descriptive analysis questionnaire items

Research Items		**Mean**	**SD**
Risk-Taking			
RT1	If the potential reward was really high, I would not be hesitant to invest my money in a new firm that may fail	5.18	1.245
RT2	People have told me that I seem to relish taking risks	5.01	1.281
RT3	The prospect of making a business investment intrigues me	4.79	1.379
RT4	I adore taking risks	4.68	1.443
RT5	Taking risks does not concern me if the rewards are substantial	4.78	1.333
RT6	I would relish the challenge of a project that may result in a promotion or joblessness	4.95	1.237
Entrepreneurial Knowledge			
EK1	I know how to create a viable business because of my experience.	5.15	1.273
EK2	Because of my work expertise, I am familiar with the issues that my clients face	5.21	1.185

Research Items		Mean	SD
EK3	It is simple for me to locate business possibilities in my field of expertise	5.03	1.214
EK4	I am at ease at work since I understand how the firm operates	4.96	1.420
Entrepreneurial Mindset			
EM1	I considered interactions combining with entrepreneurial operations from both sides (opportunities or problems)	5.47	1.188
EM2	I have seen time set aside for business matters	5.24	1.269
EM3	I have considered the financial benefits of engaging in entrepreneurial pursuits	5.04	1.225
EM4	I investigated for both possibilities and obstacles associated with entrepreneurial endeavors	4.90	1.410
EM5	I have decided to explore entrepreneurial ideas for business opportunities	5.11	1.303
EM6	I discussed if it is advantageous for me to engage in entrepreneurial activities	5.36	1.151
Attitude Towards Entrepreneurship			
ATE1	Being an entrepreneur appeals to me	5.52	1.098
ATE2	Given the opportunity and resources, I would like to launch a spin-off company	5.44	1.106
ATE3	Being an entrepreneur will provide me with a lot of fulfillment	5.39	1.112
ATE4	I think that if I decide to launch a spin-off firm, it will be successful	5.46	1.107
Social Norms			
SNs1	Would my closest family members support my desire to start a business?	4.11	1.602
SNs2	Would my closest friends support my desire to start a business?	4.09	1.631
SNs3	Would my Colleagues and Mates support me if I wanted to start my own business?	4.07	1.655
Entrepreneurial Self-Efficacy			

Research Items		Mean	SD
ESE1	I am capable of working efficiently in the face of constant stress, pressure, and disagreement	5.59	1.058
ESE2	I have the ability to generate fresh ideas and products	5.36	1.109
ESE3	I am capable at establishing and maintaining positive relationships with possible investors	5.40	1.082
ESE4	I have the ability to envision new markets for new products and services	5.35	1.110
ESE5	I can hire and train essential personnel	5.19	1.186
ESE6	I can create a work atmosphere that inspires individuals to attempt new things	5.11	1.175
Entrepreneurial Competencies			
EC1	I identify products or services that clients desire	4.86	1.351
EC2	I cultivate long-term, trustworthy relationships with people	4.54	1.482
EC3	I can deal with others	4.77	1.387
EC4	I am aware of and working to improve my own flaws	4.61	1.399
Entrepreneurial Intention			
EI1	I am willing to go to any length to become a business owner	5.45	1.127
EI2	My professional ambition is to establish myself as an entrepreneur	5.16	1.155
EI3	I will make every attempt to establish and operate my own business	5.08	1.162
EI4	I am resolved to start a business in the future	4.97	1.381
EI5	I have seriously considered launching a business	5.11	1.194
EI6	I have a tremendous desire to open my own business eventually	5.02	1.202
Entrepreneurial Passion			
EP1	It is exhilarating to start a new business	5.40	1.168
EP2	It will be exciting to watch a new company grow and succeed	5.60	1.032
EP3	I am inspired to find out ways to improve existing products/services	5.24	1.291
EP4	Scanning the surroundings for fresh prospects stimulates me much	5.01	1.281
EP5	Being a company owner might become a significant part of who I am	5.47	1.135

Soure: Orginal study; **Note:** SD = standard deviation.

5.2 Confirmative factor analysis and reliability test

Several data purification procedures, including factor analysis, correlation analysis, and coefficient alpha analysis, are used in this study to validate the dimensionality and reliability of the constructs. Factor analysis investigates the fundamental structure of the data. Correlation analysis validates variable multicollinearity, and coefficient (Cronbach's) alpha measures each variable's internal consistency for research variables within one factor.

For each research construct, factor analysis is used to identify the items with the highest factor loading and then compare them to the theoretically indicated items. Following factor analysis, the item-to-total correlation, coefficient alpha, and correlation matrix are produced in order to give internal consistency metrics for each construct.

Factor analysis was performed on all constructs because the data were gathered and adapted from previous studies, and the following criteria were used for the factor analysis (Hair et al., 2012).

- Factor loading: Higher than 0.6
- Eigen value: Higher than 1
- Explained variance (accumulative): Higher than 0.6
- Cronbach’s coefficient alpha (α): Higher than 0.7
- Item-to-total correlation: Higher than 0.5

5.2.1 Risk-taking

Personal characteristics in this study only include one construct: risk-taking consists of 6 measurement questions. In general, the KMO value for all items is 0.889, hence it represents data in each item is well suitable to perform factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Factor risk-taking has 6 entries from RT1 to RT6. Based on Table 5-3, it can be seen that almost all observed items of risk-taking have factor loading greater than 0.6 with the highest factor loading on RT4 (0.891) and the lowest is RT5 (0.805), whereas the item-to-total correlations for each item from 0.652 to 0.747. In contrast, only RT6 (0.489) has factor loading lower than 0.6 and item-to-total correlation is 0. 378. Therefore, RT6 was deleted in this research. The cumulative variance explained by this factor is 71.952%, the Cronbach's alpha value for this factor is 0.887 and the eigen value for this factor is 3.597. The results are shown above; it can be concluded that the reliability of the risk-taking factor from RT1 to RT5 meets the criteria as mentioned above.

Table 5-3 Results of factor analysis and reliability test for risk-taking

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Risk-Taking (KMO=0.889)			3.597	71.952%		0.887
RT1	If the potential reward was really high, I would not be hesitant to invest my money in a new firm that may fail	0.854			.711	
RT2	People have told me that I seem to relish taking risks	0.885			.723	

Research Items		Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
RT3	The prospect of making a business investment intrigues me	0.804			.681	
RT4	I adore taking risks	0.891			.747	
RT5	Taking risks does not concern me if the rewards are substantial	0.803			.652	

Soure: Original study

5.2.2 Entrepreneurial knowledge

In this study, entrepreneurial knowledge includes 4 measurement questions. Factor entrepreneurial knowledge has 4 entries from EK1 to EK4. In general, the KMO score for all items is 0.842, indicating that the data in each item is well suited to factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-4, it can be seen that almost observed items of entrepreneurial knowledge have factor loading greater than 0.6 with the highest factor loading on EK3 (0.876) and the lowest is EK2 (0.827), whereas the item-to-total correlations ranged from 0.690 to 0.725 for each item. This factor explains 72.365% of the cumulative variance, the Cronbach's alpha value for this factor is 0.876 and the eigen value for this factor is 2.895. The results are shown above; it can be concluded that the reliability of the entrepreneurial knowledge factor meets the criteria mentioned above.

Table 5-4 Results of factor analysis and reliability test for entrepreneurial knowledge

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Entrepreneurial Knowledge (KMO=0.842)			2.895	72.365		0.876
EK1	I know how to create a viable business because of my experience.	0.851			.714	
EK2	Because of my work expertise, I am familiar with the issues that my clients face	0.827			.690	
EK3	It is simple for me to locate business possibilities in my field of expertise	0.876			.725	
EK4	I am at ease at work since I understand how the firm operates	0.848			.702	

Source: Orignial study

5.2.3 Entrepreneurial mindset

In this study, entrepreneurial mindset includes 6 measurement questions. Factor entrepreneurial mindset has 6 entries from EM1 to EM6. In general, the KMO value for all items is 0.815, indicating that the data in each item is well suited for factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-5, it can be seen that almost observed items of entrepreneurial mindset have factor loading greater than 0.6 with the highest factor loading on EM3 (0.871) and the lowest is

EM1 (0.804), whereas the item-to-total correlations for each item from 0.623 to 0.725. In contrast, only EM6 (0.488) has factor loading lower than 0.6 and item-to-total correlation is 0.352. Therefore, EM6 will be deleted in this research. This factor accounts for 70.712% of the cumulative variance explained, the Cronbach's alpha value for this factor is 0.827 and the eigen value for this factor is 3.536. The results are shown above; it can be concluded that the reliability of the entrepreneurial mindset factor from EM1 to EM5 meets the criteria as mentioned above.

Table 5-5 Results of factor analysis and reliability test for entrepreneurial mindset

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Entrepreneurial Mindset (KMO=0.815)			3.536	70.712		0.827
EM1	I considered interactions combining with entrepreneurial operations from both sides (opportunities or problems)	0.833			.659	
EM2	I have seen time set aside for business matters	0.856			.699	
EM3	I have considered the financial benefits of engaging in entrepreneurial pursuits	0.871			.725	
EM4	I investigated for both possibilities and obstacles associated with entrepreneurial endeavors	0.804			.623	

Research Items		Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
EM5	I have decided to explore entrepreneurial ideas for business opportunities	0.839			.662	

Source: Original study

5.2.4 Attitude towards entrepreneurship

In this study, attitude towards entrepreneurship includes 4 measurement questions. Factor attitude towards entrepreneurship has 4 entries from ATE1 to ATE4. In general, the KMO value for all items is 0.898, hence it represents data in each item well suitable to perform factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Table 5-6 show that all observed items of attitude towards entrepreneurship have factor loading greater than 0.6 with the highest factor loading on ATE3 (0.910) and the lowest is ATE4 (0.867), whereas the item-to-total correlations ranged from 0.745 to 0.793 for each item. This factor accounts for 79.368% of the cumulative variance investigated, the Cronbach's alpha value for this factor is 0.932 and the eigen value for this factor is 3.174. The results are shown above; it can be concluded that the reliability of the attitude towards entrepreneurship factor meets the criteria mentioned above.

Table 5-6 Results of factor analysis and reliability test for attitude towards entrepreneurship

Research Items	Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
Attitude Towards Entrepreneurship (KMO=0.898)		3.174	79.368		0.932

Research Items		Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
ATE1	Being an entrepreneur appeals to me	0.896			.763	
ATE2	Given the opportunity and resources, I would like to launch a spin-off company	0.890			.750	
ATE3	Being an entrepreneur will provide me with a lot of fulfillment	0.910			.793	
ATE4	I think that if I decide to launch a spin-off firm, it will be successful	0.867			.745	

Source: Original study

5.2.5 Social norms

In this study, social norms include 3 measurement questions. Factor social norms have 3 entries from SN1 to SN3. In general, the KMO score for all items is 0.801, indicating that the data in each item is well suited to factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Table 5-7 presents that all observed items of social norms have factor loading greater than 0.6 with the highest factor loading on SN1 (0.797) and the lowest is SN3 (0.772), whereas the item-to-total correlations ranged from 0.632 to 0.681 for each item. This factor accounted for 61,380% of the cumulative variance explained, the Cronbach's alpha value for this factor is 0.805 and the eigen value for this factor is 1.841. The results are shown above; it can be concluded that the reliability of the social norms factor meets the criteria mentioned above.

Table 5-7 Results of factor analysis and reliability test for social norms

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Social Norms (KMO=0.801)			1.841	61.380		0.805
SN1	Would my closest family members support my desire to start a business?	0.797			.681	
SN2	Would my closest friends support my desire to start a business?	0.781			.645	
SN3	Would my Colleagues and Mates support me if I wanted to start my own business?	0.772			.632	

Source: Original study

5.2.6 Entrepreneurial self-efficacy

In this study, entrepreneurial self-efficacy includes 6 measurement questions. Factor entrepreneurial self-efficacy has 6 entries from ESE1 to ESE6. In general, the KMO value for all items is 0.892, hence it represents data in each item well suitable to perform factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-8, it is apparent that all observed items of entrepreneurial self-efficacy have factor loading greater than 0.6 with the highest factor loading on ESE1 (0.903) and the lowest is ESE2 (0.864), whereas the item-to-total correlations for each item from 0.748 to 0.785. This factor explains 79.260% of cumulative variance, has a Cronbach's alpha of 0.920, and an eigen value of 4.755. The results are shown above; it is

possible to conclude that the reliability of the entrepreneurial self-efficacy component fits the aforementioned requirements.

Table 5-8 Results of factor analysis and reliability test for entrepreneurial self-efficacy

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Entrepreneurial Self-Efficacy (KMO=0.892)			4.755	79.260		0.920
ESE1	I am capable of working efficiently in the face of constant stress, pressure, and disagreement	0.903			.785	
ESE2	I have the ability to generate fresh ideas and products	0.901			.780	
ESE3	I am capable at establishing and maintaining positive relationships with possible investors	0.895			.772	
ESE4	I have the ability to envision new markets for new products and services	0.899			.779	
ESE5	I can hire and train essential personnel	0.879			.763	
ESE6	I can create a work atmosphere that inspires individuals to attempt new things	0.864			.748	

Source: Original study.

5.2.7 Entrepreneurial competencies

In this study, entrepreneurial competencies include 4 measurement questions. Factor entrepreneurial competencies have 4 entries from EC1 to EC4. In general, the KMO score for all items is 0.822, indicating that the data in each item is well suited to factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-9, it is completely obvious that all items of entrepreneurial competencies have factor loading greater than 0.6 with the highest factor loading on EC4 (0.860) and the lowest is EC1 (0.814), whereas the item-to-total correlations ranged from 0.688 to 0.739 for each item. This factor accounts for 70.556% of the cumulative variance explained, the Cronbach's alpha value for this factor is 0.854 and the eigen value for this factor is 2.822. The results are shown above; it can be concluded that the reliability of the entrepreneurial competencies factor meets the criteria mentioned above.

Table 5-9 Results of factor analysis and reliability test for entrepreneurial competencies

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach's Alpha (α)**
Entrepreneurial Competencies (KMO=0.822)			2.822	70.556		0.854
EC1	I identify products or services that clients desire	0.828			.694	
EC2	I cultivate long-term, trustworthy relationships with people	0.860			.739	
EC3	I can deal with others	0.857			.716	

Research Items		Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
EC4	I am aware of and working to improve my own flaws	0.814			.688	

Source: Original study.

5.2.8 Entrepreneurial intention

In this study, entrepreneurial intention includes 6 measurement questions. Factor entrepreneurial intention has 6 entries from EI1 to EI6. In general, the KMO value for all items is 0.850, hence it represents data in each item well suitable to perform factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-10, it can be seen that almost observed items of entrepreneurial intention have factor loading greater than 0.6 with the highest factor loading on EI5 (0.892) and the lowest is EI2 (0.855), whereas the item-to-total correlations for each item from 0.721 to 0.799. In contrast, only EI1 (0.402) has factor loading lower than 0.6 and item-to-total correlation is 0.375. Therefore, EI1 will be deleted in this research. This factor accounts for 76.997% of the cumulative variance explained, the Cronbach's alpha value for this factor is 0.891 and the eigen value for this factor is 3.850. The results are shown above; it can be concluded that the reliability of the entrepreneurial intention factor from EI2 to EI6 meets the criteria mentioned above.

Table 5-10 Results of factor analysis and reliability test for entrepreneurial intention

Research Items		Factor Loading	Eigen value	Cumulative Explained (%)	Item-to-total correlation	Cronbach's Alpha (α)
Entrepreneurial Intention (KMO=0.850)			3.850	76.997		0.891
EI2	My professional ambition is to establish myself as an entrepreneur	0.855			.717	
EI3	I will make every attempt to establish and operate my own business	0.880			.777	
EI4	I am resolved to start a business in the future	0.881			.780	
EI5	I have seriously considered launching a business	0.892			.799	
EI6	I have a tremendous desire to open my own business eventually	0.879			.721	

Source: Original study.

5.2.9 Entrepreneurial passion

In this study, entrepreneurial passion includes 5 measurement questions. Factor entrepreneurial passion has 5 entries from EP1 to EP5. In general, the KMO value for all items is 0.885, suggesting that the data in each item is well appropriate to factor analysis. Bartlett test values are 0.000, which indicates correlations between the variables are significant. Based on Table 5-11, it is evident that all observed items of entrepreneurial passion have factor loadings greater than 0.6, with EP5 having the highest factor loading (0.881) and EP4 having the lowest (0.815), whereas the item-to-total correlations ranged from 0.699 to 0.780 for each item.

This factor accounts for 74.641% of the cumulative variance explained, the Cronbach's alpha value for this factor is 0.905 and the eigen value for this factor is 3.732. The results are shown above; it can be concluded that the reliability of the entrepreneurial passion factor meets the criteria mentioned above.

Table 5-11 Results of factor analysis and reliability test for entrepreneurial passion

Research Items		**Factor Loading**	**Eigen value**	**Cumulative Explained (%)**	**Item-to-total correlation**	**Cronbach 's Alpha (α)**
Entrepreneurial Passion (KMO=0.885)			3.732	74.641		0.905
EP1	It is exhilarating to start a new business	0.867			.731	
EP2	It will be exciting to watch a new company grow and succeed	0.879			.753	
EP3	I am inspired to find out ways to improve existing products/services	0.876			.770	
EP4	Scanning the surroundings for fresh prospects stimulates me much	0.815			.699	
EP5	Being a company owner might become a significant part of who I am	0.881			.780	

Source: Original study.

5.3. Evaluation of the measurement model

To estimate the measurement model, this study employed the four approaches given by Hair et al. (2021) as follows: internal consistency, composite reliability, indicator reliability, and convergent and discriminant validity. First, as demonstrated in Table 5-12, composite dependability ratings were more than 0.70 minimal thresholds and showed internal consistency (Hair et al., 2021). Second, to determine convergent validity, the average variance extracted (AVE) of each concept was evaluated using a 0.50 threshold value (Hair et al., 2021). The AVE values in this research varied from 0.719 for attitude toward entrepreneurship to 0.615 for social norms, indicating that convergent validity is supported for this research. The results of estimating the measurement model as shown in Table 5-12.

Table 5-12 Evaluation of the measurement model

Construct items	No. of items	AVE	Composite reliability
Risk-Taking	6	0.685	0.858
Entrepreneurial Knowledge	4	0.657	0.827
Entrepreneurial Mindset	6	0.632	0.791
Attitude Towards Entrepreneurship	4	0.719	0.933
Social Norms	3	0.615	0.786
Entrepreneurial Self-Efficacy	6	0.716	0.925
Entrepreneurial Competencies	4	0.643	0.815
Entrepreneurial Intention	6	0.698	0.890
Entrepreneurial Passion	5	0.745	0.930

Source: Original study.

5.4 Discriminant validity assessment

The Fornell-Larcker criterion (Fornell and Larcker, 1981) and the Heterotrait-Monotrait (HTMT) ratio (Hair et al., 2019) were used to assess discriminant validity, and it was discovered that all AVEs on the diagonals were greater than the corresponding row and column values in Table 5-13, indicating that measures were discriminant. Following the 0.85 cut-off value for proving discriminant validity, all HTMT ratio values in this investigation were less than 0.85 in Table 5-14. As a result, these data confirmed the discriminant validity of the measurement model.

Table 5-13 Assessment of discriminant validity using Fornell-Larcker

	ATE	EC	EI	EK	EM	ESE	RT	SNs
ATE	0.848							
EC	0.384	0.802						
EI	0.455	0.250	0.836					
EK	0.354	0.184	0.555	0.811				
EM	0.317	0.225	0.438	0.388	0.795			
ESE	0.344	0.238	0.518	0.346	0.440	0.846		
RT	0.230	0.254	0.303	0.368	0.334	0.513	0.828	
SNs	0.316	0.137	0.338	0.279	0.369	0.372	0.347	0.784

Diagonal elements (in bold) are the square root of AVE. Elements below the diagonal are the correlations among constructs.

Notes: ATE: Attitude Towards Entrepreneurship; ESE: Entrepreneurial Self-Efficacy; EC: Entrepreneurial Competencies; EK: Entrepreneurial Knowledge; EM: Entrepreneurial Mindset; EI: Entrepreneurial Intention; RT: Risk-Taking, SNs: Social Norms.

Source: Original study

Table 5-14 Assessment of discriminant validity using HTMT

	ATE	EC	EI	EK	EM	ESE	RT	SNs
EC	0.312							
EI	0.406	0.391						
EK	0.315	0.363	0.324					
EM	0.383	0.206	0.355	0.305				
ESE	0.422	0.362	0.600	0.415	0.515			
RT	0.331	0.379	0.320	0.396	0.412	0.387		
SNs	0.275	0.121	0.286	0.295	0.340	0.359	0.261	

Diagonal elements (in bold) are the square root of AVE. Elements below the diagonal are the correlations among constructs

Notes: ATE: Attitude Towards Entrepreneurship; ESE: Entrepreneurial Self-Efficacy; EC: Entrepreneurial Competencies; EK: Entrepreneurial Knowledge; EM: Entrepreneurial Mindset; EI: Entrepreneurial Intention; RT: Risk-Taking, SNs: Social Norms.

Source: Original study

5.5 Collinearity statistics

The softwareWarpPLS was used in this study to perform a comprehensive collinearity test, as described by Kock and Lynn (2012), and to analyze both vertical and lateral collinearity simultaneously, as proposed by Kock and Gaskins (2014). Table 5-15 illustrates the VIFs obtained from a comprehensive collinearity test for each of the latent variables in this study's models. All of the resulting variance inflation factors are less than 3.3. It claims to be successful in finding common method bias based on the overall collinearity test approach.

Table 5-15 Collinearity statistics

Constructs	VIF
Attitude Towards Entrepreneurship	2.122
Entrepreneurial Self-Efficacy	2,838
Entrepreneurial Knowledge	1.675
Entrepreneurial Mindset	2.075
Entrepreneurial Competencies	2,066
Entrepreneurial Intention	2,284
Risk-Taking	1,605
Social Norms	1.419

Abbreviation: VIF, variance inflation factor.
Source: Original study

5.6 Evaluation of the structural model: Hypotheses testing

Following the successful validation of the measurement model, the structural model was analyzed by reporting the coefficient of determination (R^2). Hair et al. (2019) proposed using a bootstrapping approach with a resample of 5,000 to calculate the path coefficient (β), p-values, and t-values. Furthermore, current research has claimed that p-values without confident intervals are not good and adequate criteria for assessing the significance of hypotheses, and they have advocated for the use of both criteria, such as p-values with confidence ranges and effect sizes (Hahn and Ang, 2017). This research has proposed 18 hypotheses, and each of these hypotheses was assessed in the structural model.

5.6.1 Main hypotheses results

PLS-SEM was used to examine the main hypotheses in general. The structural model was validated by reporting the coefficient of determination (R^2), path coefficient (β), p-values, effect size (f^2), and t-values using a bootstrapping

approach with 5000 sub-samples as indicated by Hair et al. (2019). As a result, the criteria indicated in Table 5-16 were employed to test the hypothesis.

As presented in Table 5-16, The R^2 values for the three endogenous latent constructs are 0.437 for attitude towards entrepreneurship, 0.168 for social norms, 0.408 for entrepreneurial self-efficacy, and 0.133 for entrepreneurial competencies. These are principles that are moderate and acceptable (Hair et al., 2016). Tables 5-16 show that, with the exception of H2, H8, and H16, at 1% or more, all of the main effects are positive and significant. Cohen (1988) and Hair et al. (2016) define f^2 values as small, medium, or large, with thresholds of 0.02, 0.15, or 0.35. In terms of the impact of entrepreneurial education on cognitive antecedents, the H1 hypothesis asserts that risk-taking is positively associated with attitude towards entrepreneurship. As predicted, risk-taking was found to have a considerable influence on attitude towards entrepreneurship ($\beta = 0.265$, $f^2 = 0.109$, $t = 3.948$ $p < .001$). Thus, H1 is confirmed. However, it stated that it has no significant effect of risk-taking on social norms ($\beta = 0.012$, $f^2 = 0.000$, $t = 0.193$). Hence, H2 is not confirmed. Furthermore, as noted in the association between risk-taking and entrepreneurial self-efficacy, the findings revealed that risk-taking had a significant influence on entrepreneurial self-efficacy ($\beta = 0.260$, $f^2 = 0.118$, $t = 3.864$ $p < .001$). Thus, H3 is confirmed.

In terms of the influence of entrepreneurial knowledge on cognitive factors, H4 revealed that entrepreneurial knowledge is positively associated with attitude towards entrepreneurship. Table 5-16 shows that entrepreneurial knowledge has a positive influence on attitude toward entrepreneurship ($\beta = 0.253$, $f^2 = 0.174$, $t = 4.298$, $p < .001$). Hence, H4 is confirmed. Similarly, entrepreneurial knowledge influences social norms positively ($\beta = 0.198$, $f^2 = 0.038$, $t = 2.919$, $p < .001$) and

entrepreneurial self-efficacy ($\beta = 0.248$, $f^2 = 0.082$, $t = 4.105$, $p < .001$). Thus, H5 and H6 are confirmed. These findings indicated that it has a strong relationship between entrepreneurial knowledge, attitude towards entrepreneurship, and entrepreneurial self-efficacy but social norms it has a lower coefficient when compared with other cognitive antecedents.

In terms of the association between entrepreneurial mindset and cognitive factors, Table 5-16 shows that entrepreneurial mindset has a positive effect on attitude towards entrepreneurship ($\beta = 0.153$, $f^2 = 0.037$, $t = 2.296$, $p < 0.01$). Thus, H7 is confirmed. In contrast, the findings found that it has no significant influence of entrepreneurial mindset on social norms ($\beta = 0.105$, $f^2 = 0.002$, $t = 1.914$). Hence, H8 is only marginally supported. In addition, entrepreneurial mindset was discovered to be significantly positive to entrepreneurial self-efficacy ($\beta = 0.319$, $f^2 = 0.182$, $t = 4.224$, $p < 0.001$). Therefore, H9 is confirmed. This finding indicated that an entrepreneurial mindset has the strongest positive effect on entrepreneurial self-efficacy.

In terms of the link between social norms and attitude towards entrepreneurship, H10 suggested that social norms are positively related to attitude towards entrepreneurship. As expected, social norms were found significant effect on attitude towards entrepreneurship ($\beta = 0.313$, $f^2 = 0.109$, $t = 4.811$, $p < 0.001$). Thus, H10 is confirmed. Furthermore, the study found that social norms have a significant influence on entrepreneurial self-efficacy ($\beta = 0.195$, $f^2 = 0.48$, $t = 3.105$, $p < 0.001$). Therefore, H9 is confirmed. As shown in Table 5-16.

With respect to the link between cognitive factors and entrepreneurial intention, Table 5-16 shown that attitude toward entrepreneurship has a strongly

positive effect on entrepreneurial intention ($\beta = 0.397$, $f^2 = 0.179$, $t = 5.212$, $p < 0.001$). Thus, H12 is confirmed. Similarly, social norms have a significant positive influence on entrepreneurial intention ($\beta = 0.173$, $f^2 = 0.035$, $t = 2.467$, $p < 0.01$). Hence, H13 is confirmed. Furthermore, the findings revealed that entrepreneurial self-efficacy significantly influenced entrepreneurial intention ($\beta = 0.283$, $f^2 = 0.142$, $t = 4.522$, $p < 0.001$). Therefore, H14 is confirmed. Based on these findings, we stated that social norms have the lowest correlation with entrepreneurial intention when compared with other cognitive antecedents.

With regards to the association between entrepreneurial mindset and entrepreneurial intent, H15 stated that entrepreneurial mindset is positively related to entrepreneurial intent, the author discovered that it has a significant influence on the association between entrepreneurial mindset and entrepreneurial intention in this research ($\beta = 0.156$, $f^2 = 0.092$, $t = 2.215$, $p < 0.01$). Hence, H15 is confirmed. hese findings suggested that entrepreneurial mindset had an indirect effect on entrepreneurial intention via the lens of cognitive antecedents (attitude toward entrepreneurship, social norms, and entrepreneurial self-efficacy) and has a direct effect on entrepreneurial intention. However, it found that entrepreneurial mindset has no significant effect on entrepreneurial competencies ($\beta = 0.052$, $f^2 = 0.000$, $t = 0.907$). Thus, H16 is not confirmed. Last, for the link between entrepreneurial competencies and entrepreneurial intention, this study indicated that entrepreneurial competencies are positively related to entrepreneurial intention ($\beta = 0.207$, $f^2 = 0.165$, $t = 3.868$, $p < 0.001$). Hence, H17 is confirmed. As shown in Table 5-16.

Table 5-16 PLS main effects results

Hypotheses	β	SE	t-value	p value	LLCI	ULCI	Result
H1 Risk-Taking → Attitude Towards Entrepreneurship	0.265	0.067	3.948	0.000***	0.130	0.392	Supported
H2 Risk-Taking → Social Norms	0.012	0.061	0.193	ns	-0.106	0.131	Unsupported
H3 Risk-Taking → Entrepreneurial Self-Efficacy	0.260	0.065	3.864	0.000***	0.131	0.393	Supported
H4 Entrepreneurial Knowledge → Attitude Towards Entrepreneurship	0.253	0.059	4.298	0.000***	0.142	0.371	Supported
H5 Entrepreneurial Knowledge → Social Norms	0.192	0.066	2.919	0.001**	0.061	0.317	Supported
H6 Entrepreneurial Knowledge → Entrepreneurial Self-Efficacy	0.248	0.060	4.125	0.000***	0.134	0.366	Supported
H7 Entrepreneurial Mindset → Attitude Towards Entrepreneurship	0.153	0.064	2.296	0.003**	0.024	0.281	Supported
H8 Entrepreneurial Mindset → Social Norms	0. 105	0.065	1.914	ns	-0.016	0.161	Unsupported
H9 Entrepreneurial Mindset → Entrepreneurial Self-Efficacy	0. 319	0.068	4.224	0.000***	0.184	0.449	Supported
H10 Social Norms → Attitude Towards Entrepreneurship	0.313	0.061	4.811	0.000***	0.180	0.434	Supported
H11 Social Norms → Entrepreneurial Self-Efficacy	0.195	0.063	3.105	0.004**	0.071	0.319	Supported
H12 Attitude Towards Entrepreneurship → Entrepreneurial Intention	0.397	0.071	5.212	0.000***	0.171	0.443	Supported
H13 Social Norms → Entrepreneurial Intention	0.173	0.070	2.467	0.014*	0.026	0.301	Supported
H14 Entrepreneurial Self-Efficacy → Entrepreneurial Intention	0.283	0.067	4.522	0.000***	0.155	0.418	Supported
H15 Entrepreneurial Mindset → Entrepreneurial Intention	0.156	0.071	2.215	0.002**	0.017	0.292	Supported
H16 Entrepreneurial Mindset → Entrepreneurial Competencies	0.052	0.053	0.907	ns	-0.058	0.168	Unsupported
H17 Entrepreneurial Competencies → Entrepreneurial Intention	0.207	0.063	3.868	0.000***	0.155	0.316	Supported

Notes: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$; ns, not significant.

Abbreviations: β, standardized regression coefficient; p, level of statistical significance; t, calculated value of t; LLCI, Lower-level confidence interval; ULCI, Upper-level confidence interval; level of confidence = 95%; number of bootstrap samples = 5000; SE, standard error.

Source: Original study

5.6.2 Moderating effects of entrepreneurial passion

The moderating effects of entrepreneurial passion on the link between cognitive variables and entrepreneurial intention were investigated. As shown in Table 5-17, the findings verified the hypothesis that entrepreneurial passion serves as a positive

moderator in the relationship between attitude toward entrepreneurship and entrepreneurial intention (β = 0.148, t = 3.115, 95% bias-corrected CI = [0.066, 0.293]). Thus, H18a is confirmed. However, the results reveal that entrepreneurial passion has no moderating influence on the link between social norms and entrepreneurial intention (β = -0.035, t = 0.443, 95% bias-corrected CI = [-0.019, 0.021]). Hence, H18b is not confirmed. Last, hypothesis H18c, hypothesizes that entrepreneurial passion has a significant moderating effect on the relationship between entrepreneurial self-efficacy and entrepreneurial intention (β = 0.126, t = 2.841, 95% bias-corrected CI = [0.051, 0.177]). Therefore, H18c is confirmed. The results of the main and moderating effects as shown in Figure 5.1.

Table 5-17 Moderation tests using PLS

Hypotheses	β	SE	t-value	p-value	LLCI	ULCI	Result
Entrepreneurial Passion → Attitude Towards Entrepreneurship on Entrepreneurial Intention	0.148	0.065	3.115	0.000***	0,066	0.293	Supported
Entrepreneurial Passion → Social Norms on Entrepreneurial Intention	-0.035	0.047	-0.443	ns	-0.019	0.021	Unsupported
Entrepreneurial Passion → Entrepreneurial Self-Efficacy on Entrepreneurial Intention	0.126	0.063	2.841	0.001**	0.051	0,177	Supported

Notes: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$; ns, not significant.

Abbreviations: β, standardized regression coefficient; p, level of statistical significance; t, calculated value of t; LLCI, Lower-level confidence interval; ULCI, Upper-level confidence interval; level of confidence = 95%; number of bootstrap samples = 5000; SE, standard error.

Source: Original study

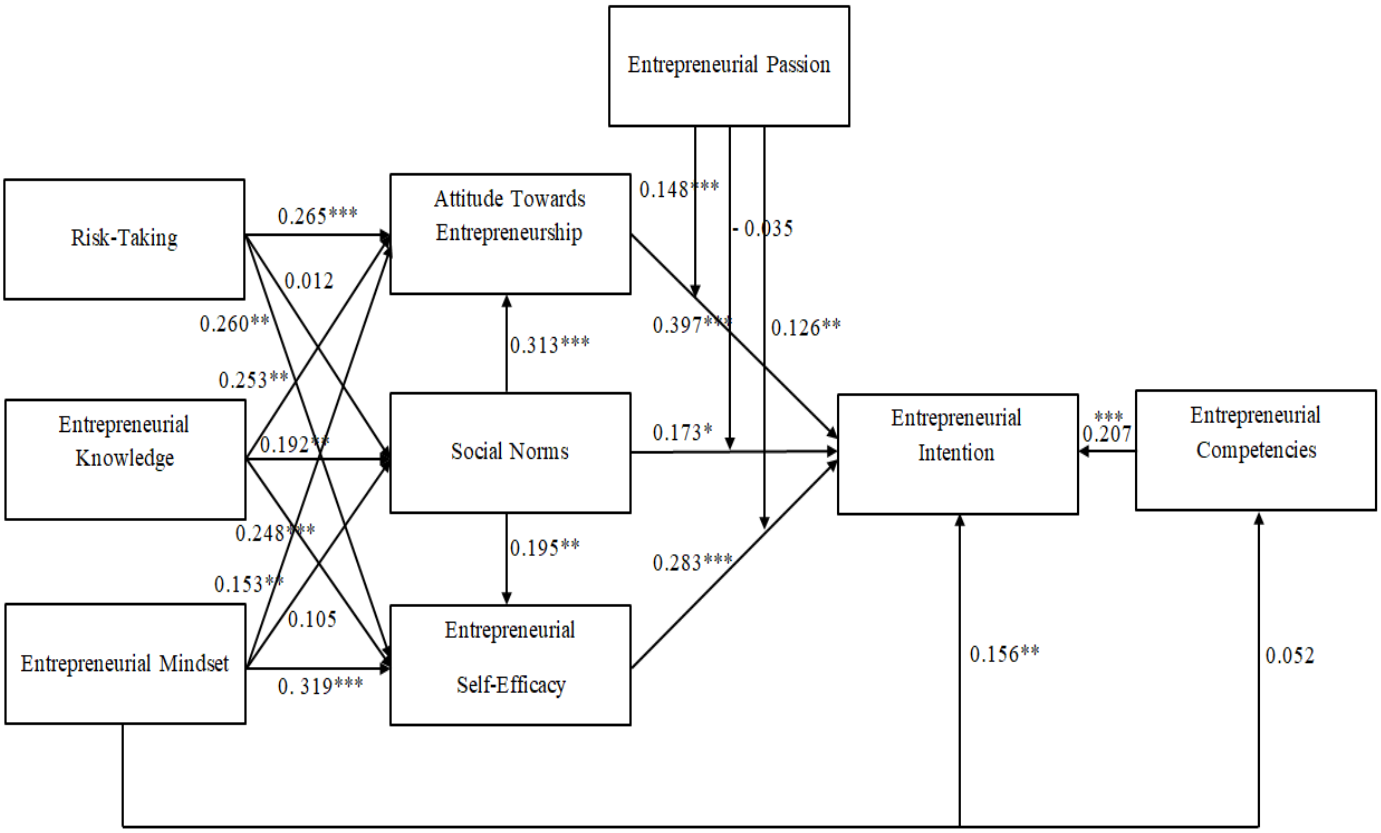

Figure 5-1 The main and moderating effects

CHAPTER SIX

RESEARCH CONCLUSIONS AND SUGGESTIONS

6.1 Discussion

The objective of this research was to create an integrated model that used personality traits (risk-taking), cognitive antecedents, external variables, and TPB to predict entrepreneurial intention and explain how these factors impact entrepreneurs' intentions toward self-employment. The current study investigated how risk-taking and entrepreneurial knowledge, entrepreneurial mindset, and entrepreneurial competencies influenced entrepreneurial intention indirectly through the lens of three dimensions of TPB (attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy). The moderating roles of entrepreneurial passion and gender on entrepreneurial intention are also evaluated. Table 6-1 is shown as the summary of the study results.

Table 6-1 Summary of the study results

Hypotheses	**Relationships**	**Assessment**
H1	Risk-Taking → Attitude Towards Entrepreneurship	Supported (β = 0. 265; t-value = 3.948; p-value < 0.001)
H2	Risk-Taking → Social Norms	Unsupported (β = 0.012; t-value = 0.193)
H3	Risk-Taking → Entrepreneurial Self-Efficacy	Supported (β = 0. 260; t-value = 3.864; p-value < 0.001)
H4	Entrepreneurial Knowledge → Attitude Towards Entrepreneurship	Supported (β = 0. 253; t-value = 4.298; p-value < 0.001)
H5	Entrepreneurial Knowledge → Social Norms	Supported (β = 0. 192; t-value = 2.919; p-value < 0.01)

Hypotheses	Relationships	Assessment
H6	Entrepreneurial Knowledge → Entrepreneurial Self-Efficacy	Supported (β = 0. 248; t-value = 4.125; p-value < 0.001)
H7	Entrepreneurial Mindset → Attitude Towards Entrepreneurship	Supported (β = 0. 153; t-value = 2.296; p-value < 0.01)
H8	Entrepreneurial Mindset → Social Norms	Unsupported (β = 0. 105; t-value = 1.914)
H9	Entrepreneurial Mindset → Entrepreneurial Self-Efficacy	Supported (β = 0. 319; t-value = 4.224; p-value < 0.001)
H10	Social Norms → Attitude Towards Entrepreneurship	Supported (β = 0. 313; t-value = 4.811; p-value < 0.001)
H11	Social Norms → Entrepreneurial Self-Efficacy	Supported (β = 0. 195; t-value = 3.105; p-value < 0.01)
H12	Attitude Towards Entrepreneurship → Entrepreneurial Intention	Supported (β = 0. 397; t-value = 5.212; p-value < 0.001)
H13	Social Norms → Entrepreneurial Intention	Supported (β = 0. 173; t-value = 2.467; p-value < 0.1)
H14	Entrepreneurial Self-Efficacy → Entrepreneurial Intention	Supported (β = 0. 283; t-value = 4.522; p-value < 0.001)
H15	Entrepreneurial Mindset → Entrepreneurial Intention	Supported (β = 0. 156; t-value = 2.215; p-value < 0.01)
H16	Entrepreneurial Mindset → Entrepreneurial Competencies	Unsupported (β = 0. 052; t-value = 0.907)
H17	Entrepreneurial Competencies → Entrepreneurial Intention	Supported (β = 0. 207; t-value = 3.868; p-value < 0.001)

Source: Original study.

Regarding risk-taking and cognitive factors, the significant impact of risk-taking propensity also serves as a defining feature of entrepreneurship. Launching a company involves financial, psychological, and social risks, and people who can endure risk are more likely to embark on an entrepreneurial endeavor than those who cannot. The influence of risk propensity shown in our study adds to the rising interest in the function of risk tolerance in entrepreneurship, it in the line with the previous study (Ahmed et al., 2019). These findings support earlier research indicating risk-taking has a considerable impact on attitude toward entrepreneurship. Individuals with high risk-taking have also been demonstrated to have a higher attitude toward entrepreneurship (Munir et al., 2018; Djaoued et al., 2018). However, this study found that it has no significant impact of risk-taking on social norms, these findings in contrast with Awang et al. (2016). Furthermore, the findings of this study imply that risk-taking has a considerable influence on entrepreneurial self-efficacy, which is similar to prior studies (Ciuchta and Finch, 2019). Memon et al. (2019) revealed that entrepreneurs who have a high sense of self-efficacy are more willing to take risks.

In terms of the link between entrepreneurial knowledge and cognitive factors, entrepreneurial knowledge has a strongly positive impact on attitude towards entrepreneurship. This study indicated that individuals with higher knowledge of many facets of beginning and maintaining a business will most likely contribute to more accurate opinions of entrepreneurial activity. Entrepreneurial knowledge has a significant influence on social norms as well, and this finding is in the line with Liñán et al. (2013). They noted that more knowledge may aid in a more accurate impression of an appeal to the entrepreneurial career option, as well as increase social approval from significant individuals (due to the support systems available in the environment).

Furthermore, entrepreneurial knowledge is significantly associated with entrepreneurial self-efficacy, which is in the line with the previous study (Farani et al., 2017). The author proposed that knowledge about many elements of establishing and operating a new business affects the controllability of starting a business and makes individuals more confident in their own ability to become entrepreneurs.

In terms of entrepreneurial mindset, our study suggested that the entrepreneurial mindset not only has a positive link with entrepreneurial intention, but it also has an indirect impact via attitude toward entrepreneurship and entrepreneurial self-efficacy. This finding is consistent with earlier research (Handayati et al., 2020; Hussain and Hashim, 2015). When self-employed entrepreneurs gain the capacity to look at an issue or scenario, they will have a greater probability of success if they assess all relevant current evidence and make a confident decision to proceed (Liao et al., 2022). However, this research discovered that it had no influence on the relationship between entrepreneurial mindset and entrepreneurial competencies. Since the individuals have equipped high entrepreneurial competencies (creative thinking, innovation, problem-solving skills, the ability to mobilize resources, and technological and financial knowledge) developed through learning and experience and can be achieved with the education system, they will tend to follow their beliefs, they can recognize their own capacity, and are not affected by redundant factors or other mindsets that affect their inner ability. Furthermore, this study found that it has a strongly positive effect on entrepreneurial competencies on entrepreneurial intention. Individuals with higher emotional competencies higher tend to self-employed they are. The author confirmed with Liao et al. (2022), indicated that when university students' emotional competence develops, they acquire confidence in their

entrepreneurial abilities, helping them to detect competitive dynamics, capitalize on entrepreneurial opportunities, and reorganize resources to deal with changes.

For the relationship among social norms, attitude towards entrepreneurship, and entrepreneurial self-efficacy, social norms have a positive influence on attitude towards entrepreneurship. This findings are consistent with the observation of Hasmidyani et al. (2020). Individuals who are highly influenced by social relationships, friends, and family are more likely to adjust attitudes and behaviors in entrepreneurship. Moreover, the authors also discovered a significant association between social norms and entrepreneurial self-efficacy, which is in line with previous research (Asimakopoulos et al., 2019; Usman and Yennita, 2019). When young entrepreneurs receive positive advice and business experience from individuals, organizations, or through successful startup programs, it fosters confidence to overcome obstacles. Therefore, increasing success rate when starting their own business.

In terms of attitude towards entrepreneurship and entrepreneurial intention, the observation is that attitude towards entrepreneurship has a strongly positive effect on entrepreneurial intention. This finding is in accordance with previous studies (Bagheri, 2018; Nowiński et al., 2020). Entrepreneurship attitude is one of the best factors which forms a person's intention, and subsequently, will directly affect behaviour. Furthermore, in terms of motivational antecedents in entrepreneurial intention, our study revealed that the attitude towards entrepreneurship is the variable with the strongest effect on the establishment of academic entrepreneurial intents (Pérez et al., 2021). Recent research has indicated that attitude towards entrepreneurship has a mediating role in determining students' entrepreneurial intents by forming the influence of personal values (Entrialgo and Iglesias 2016).

In terms of social norms and entrepreneurial intention, this study found that social norms exists an indirect effect on entrepreneurial intention. It is in the line with previous research (Vuković et al., 2017; Akilimali et al., 2019; Safaruddin et al., 2021). The research proposes that perceived social support by people through difficult circumstances is critical for preserving resilience. Students' perceptions of entrepreneurship's social value as a career option might be impacted. Students' beliefs would be influenced positively if deliberate measures were taken to showcase success tales of past entrepreneurs shared on social media. Similarly, interactions between students and successful entrepreneurs may influence their perceptions of how they regard entrepreneurship as a possible career path (Akilimali et al., 2019). This research confirmed with Farooq et al. (2017), who stated that becoming an entrepreneur is a significant personal life decision. Before settling on a career, the majority of people seek advice from their parents, husband, father-in-law, and colleagues. In this regard, the perspectives of potential entrepreneurs' relatives, partners, father-in-law, and friends may be significant.

In terms of entrepreneurial self-efficacy and entrepreneurial intention, the findings indicate that entrepreneurial self-efficacy is strongly associated with entrepreneurial intention. This result is consistent with current research (Liao et al., 2022; Elnadi and Gheith, 2021; Yang et al., 2021; Chi et al., 2020). In numerous ways, self-efficacy boosts an individual's entrepreneurial intent to become an entrepreneur and their ability to successfully carry out entrepreneurial obligations. First, self-efficacy beliefs allow a person to pursue entrepreneurship as a professional objective. Second, self-efficacy may enable a person to plan for success by controlling his or her attitudes and behaviors and perceiving more facilitators in the environment than obstacles (Bandura, 2012). Additionally, self-efficacy enhances people's perceived capacity to influence the entrepreneurship

process, which increases entrepreneurial intention (Carr and Sequeira, 2007). This study confirms that entrepreneurial self-efficacy is crucial in developing students' entrepreneurial intentions. Therefore, the higher contribution of entrepreneurs' self-efficacy to their intents reflects their better belief in their abilities and skills to carry out critical entrepreneurial activities, coupled with higher expectations of accomplishment in launching their own businesses.

On the other hand, the author turns to the test of the potential moderating effect of entrepreneurial passion on the influence of cognitive antecedents (attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy) on the formation of entrepreneurial intention. These findings indicate that entrepreneurial passion acts as a positive moderator of the impacts of entrepreneurial attitude and self-efficacy on entrepreneurial intention. It is also consistent with other research results that students exhibit positive entrepreneurial attitudes, consider themselves as more desirable and capable of creating a sustainable entrepreneurial business, and their excitement boosts their entrepreneurial attitude, perceived desirability, and feasibility in launching a sustainable entrepreneurial business (Liao et al., 2022). However, the author notes that entrepreneurial passion has no significant influence on the link between social norms and entrepreneurial intention. In this approach, this study proposes that individuals with enough passion will disregard and overcome societal preconceptions (friends, family, current business trends) and pursue their own direction and attitude to establish a new business with numerous differences in the future. Passion for entrepreneurial activities might serve as a catalyst for business startup planning. To put it another way, a general influencing condition of entrepreneurial passion entrenched inside a specific setting is most likely to inspire action-oriented entrepreneurial intention. Hence, it is reasonable to

believe that an entrepreneurial passion can lead to a successful entrepreneurial career.

In terms of demographics, the author used meta-analytic approaches to investigate the moderating influence of gender in the relationship between attitude towards and entrepreneurial intention. This study indicated that gender had a significant influence on the link between entrepreneurial attitude and entrepreneurial intention. It is disturbing and worth considering that female entrepreneurs have much lower entrepreneurial intentions than male entrepreneurs (Karim et al., 2022). Traditional gender roles may encourage both males and females to adhere to gender stereotypes, which are commonly associated with the assumption that "due to a perceived lack of needed competencies, women are more likely than males to limit their self-employment aspirations." Moreover, the authors confirmed with Nowiski et al. (2020), who used PLS-SEM to perform a study among university students in Poland and the United States indicated that the function of control variables such as gender, exposure to the family business, employment, and age in predicting entrepreneurial intention, finding that three of them all had a statistically significant effect on entrepreneurial intents. They discovered that male pupils generate more intent than female students.

Hassan et al. (2020) performed a study with 334 undergraduate and postgraduate university students to investigate the role of gender in moderating the interaction between entrepreneurial self-confidence and entrepreneurial desire, females have lesser self-efficacy than males. The findings supported previous study, revealing that women are less confident in their entrepreneurial talents than men, resulting in a lack of entrepreneurial purpose. Furthermore, they observed that due to limited exposure to the industrial and entrepreneurial environment, women are less proficient than males at discovering new and possible business

prospects, which reduces females' perceived degree of opportunity awareness, resulting in less effect on their entrepreneurial ambition.

Li et al. (2020) indicated that starting a business is generally associated with male characteristics. These gender stereotypes have an impact on household and occupational duties, as well as creating a social atmosphere in which men, rather than women, are considered entrepreneurs (Jennings and Tonoyan, 2022). As a result, female entrepreneurship is regarded as less attractive and receives little normative societal support. Women continue to feel inferior and unable to overcome unfavorable preconceptions because they are heavily conditioned by cultural standards and the roles assigned to women (Welter et al., 2007; Marlow and Patton, 2005).

In addition, the author confirmed with Steinmetz et al. (2013), they conducted successful gender effects on entrepreneurial intention through meta-analytic techniques from 30 quality studies with a sample is 52,367 respondents. They discovered a link between gender and entrepreneurial intention, showing that the significant discrepancies in the number of male and female entrepreneurs cannot be explained merely by differences in motivation. They also suggested that gaps emerge during the process of becoming an entrepreneur and that women are less likely to transfer intention into action. One explanation for this differential is that their perceived control may be greater than their real control. That is, women may be driven by perceived facilitators and small hindrances, but they may face a greater number of hindrances than males. Based on empirical pieces of evidence and our findings, this study noted that males tend to adopt more entrepreneurial behaviors than females.

6.2 Academic and managerial implications

6.2.1 Academic implications

Several academic implications could be drawn from the results of this study. TPB may be utilized as a model to examine distinct profiles of entrepreneurial behavior and as a strong foundation to investigate its moderating influence when additional antecedents are given to explain an individual's behavior. The results propose that entrepreneurial knowledge is critical in shaping entrepreneurial intention. Entrepreneurial knowledge in vocational schools helps students to have both theoretical and practical experience with entrepreneurship. The positive impact of entrepreneurial knowledge indirect effect on the formation of entrepreneurial intention via the lens of cognitive factors. It encourages the government to revitalize the curriculum and practice of entrepreneurial knowledge; this move is believed to improve young entrepreneurs' abilities via formal education. Moreover, our empirical findings support the concept that an individual's self-efficacy with his/her ability to pursue desire, cognitive resources, and a plan for action will be critical in developing business objectives, in line with SCCT. This result also gives support to the theoretical contribution of SCCT, which contends that the interaction between cognition factors such as mindset and environment is positively associated with the student's entrepreneurial intents.

6.2.2 Managerial implications

The findings of this study could have several managerial implications. First, risk-taking enhances cognitive antecedents in several ways: Risk-taking had a significant positive influence in predicting attitudes toward entrepreneurship, but it had no significant effect on social norms. Moreover, risk-taking has a considerable effect on self-efficacy. Based on these findings, universities should develop appropriate pedagogical methods to improve their entrepreneurial skills (e.g.,

managerial and business skills), their capacity to take risks, and the successful execution of their entrepreneurial activities. The author confirmed with Munir et al. (2018) risk-taking can enhance entrepreneurs' ability to seek opportunities. In addition, this study extends the literature gap by proposing that when compared to the majority of regular people, who typically dread and give up when faced with problems in beginning a business, those who take risks build their self-confidence and retain a positive attitude toward an ever-changing competitive environment. Therefore, they may turn problems into chances for growth and achieve a greater rate of success. This study suggests that the higher the risk, the greater the potential for gains, thus entrepreneurs should learn to take risks rather than avoid them. To effectively manage risk and recognize its significance, we propose that universities and startup programs give the required understanding of intelligent risk management for entrepreneurs, such as: at the onset, test assumptions; keep frequent vigilance; trends and changes; key connection management; anticipated failure reasons; information authentication; maintain a margin of safety; establishing long-term objectives and balancing long-term and short-term interests; maintaining labor discipline.

Second, by building an integrated intention model based on TPB. The study adds to a deeper understanding of the role of entrepreneurial knowledge in forming entrepreneurial career intentions. Specifically, predicated on the major findings of the research, the authors indicated that it exist indirect effects of entrepreneurial knowledge on entrepreneurial intention through three dimensions of theory planned behavior. Entrepreneurial knowledge gained via training programs is intended to transform individuals' attitudes and beliefs about entrepreneurship, allowing them to either pursue entrepreneurship as a profession or appreciate the role of entrepreneurs in society. Entrepreneurial knowledge correlates positively

with people's attitudes about entrepreneurship ventures. People who are well-versed in business will be more aware of the challenges that arise throughout the business process, reducing high uncertainty avoidance in society, as well as a fear of losing cash and competition, and entrepreneurs are driven to pursue entrepreneurial careers. The study also suggests that entrepreneurship education has a greater effect on students' self-confidence than on their entrepreneurial mindset. It is also decisive that corrective measures and additional efforts are required for students will be able to develop business opportunities into business project ventures.

Based on major findings, the study recommends the following: The university management should build an effective entrepreneurship curriculum in several ways: develop personal competencies such as collaboration, self-confidence, self-awareness, measured risk-taking, problem-solving, innovation, thinking as an employer rather than an employee member, and dealing with uncertainty bravely. Core operational skills include mathematics, accounting, communication, and a basic understanding of domestic business law and governance concepts. They reflect the principles of being effective at work while also assisting in the improvement of personal and family budget management. Comparative advantage analysis, market research, firm plan formation, marketing, financial management, sales, and human resources are all examples of business and management competencies. Case studies and exercises in founding and running a business should be included in the curriculum, as well as the ability to recognize and capitalize on commercial possibilities to tackle social and/or environmental concerns. For the formation and sustainability of a new organization, financial and human resource management abilities are also essential.

In addition, lecturers play a vital role in shaping entrepreneurs' careers; therefore, to teach effectively entrepreneurship, instructors must model some of the same characteristics that they would instill in their pupils. Entrepreneurship course instructors should display critical business skills and traits, set a good example, and serve as role models and business mentors to varying degrees of students. Teachers might encourage entrepreneurs and students to participate in the classrooms and extracurricular activities, as well as to serve as role models, mentors, or coaches. To date, the majority of teacher training projects and networks have been carried out in higher education. Faculty training in entrepreneurship can be done much more at the secondary and vocational levels through workshops, learning platforms, and exchanges with entrepreneurs. The author recommended that entrepreneurship education expertise and programs should be disseminated further through a national, regional, and global network of entrepreneurship educators.

Furthermore, one of the primary success factors for entrepreneurship education is successful private-sector interaction. Existing businesses, particularly big organizations (including international corporations) have a strategic interest in building local supplier capacity and are commonly participating (e.g., through cost sharing) in local skill development and improvement projects. The government should encourage many multinational corporations for contributing to the local economy through corporate social responsibility projects, collaborating with local suppliers to grow current businesses, or create new products or services. As a result, circumstances are created for entrepreneurs to collaborate in learning and development in order to increase the success of businesses in the future. There are several instances of such initiatives, most notably the business links program, which supports the establishment of connections between multinational firms, and domestic SMEs in developing countries.

Senior managers and policymakers should create opportunities for private enterprises and entrepreneurs to support private start-up institutions and centers, as well as unique university programs. This engagement can foster collaboration and synergy between established enterprises and startups. “teaching” and “mentoring” in these institutions become easier for experienced entrepreneurs. The governments should consider ways to promote and facilitate such funding, such as offering incentives. Private enterprises and non-profit organizations are also engaged to provide entrepreneurial education and skill development to community target groups in order to assist the poor prosper and provide opportunities for self-employment. Finally, an international business may help to increase access to entrepreneurship education through technology and media. Technology and media not only make it easier to create novel interactive programs and materials, but they may also assist to reach a larger audience, including people in distant nations or underdeveloped regions where entrepreneurship education is unavailable.

Third, entrepreneurial mindset can enhance entrepreneurial intention through cognitive antecedents (attitude towards entrepreneurship and entrepreneurial self-efficacy). SCCT can enhance an entrepreneurial mindset in pupils and increases cognitive elements that lead to entrepreneurial behavior (Yuan et al., 2020). This study has responded to the call of Jiatong et al. (2021) by investigating the effect of entrepreneurial mindset on entrepreneurial intention using three dimensions of TPB to measure actual entrepreneurial behavior. Furthermore, the author address research gaps by giving a sample size in a developing country, Vietnam, and reveal that mindset influences not just self-confidence but also attitude. Individuals with a higher mindset will maintain a positive attitude and have the right direction throughout their entrepreneurial journey.

Fourth, regarding the relationship between entrepreneurial mindset, entrepreneurial intention, and entrepreneurial competencies, this study confirmed with Jiatong et al. (2021) that people with entrepreneurial mindsets engage in more entrepreneurial activities than others, an entrepreneurial mindset has a greater impact on entrepreneurial intent than entrepreneurial education and innovation. As an extension of this research, there are numerous chances to examine the influence of interactions between emotion and intention, therefore increasing the vitality of business research. In particular, entrepreneurial competencies can enhance entrepreneurial intention, personal interactions, business management, and entrepreneurial and human relations are all examples of skills that may assist a firm in its success. Existing research suggests that different abilities produce better financial outcomes in small enterprises (Gerli et al., 2011). This study indicated that entrepreneurial competencies are strong determinants of entrepreneurial intention.

Based on these findings, this study indicated that to be successful in starting a business, students need to have a reasonable mindset. Since their rational mindset is appropriate for their circumstances and skills, it may be beneficial, and they should not be frightened to change. Entrepreneurs should boldly come up with solutions to situations and problems that arise in the process of starting a business, The ability to solve problems is a must and necessary to practice an entrepreneurial mindset, there will be financial barriers, opportunities, and challenges, so equipping a good business mindset will help entrepreneurs make informed decisions to steer their businesses in the right direction.

Additionally, entrepreneurs with higher entrepreneurial mindset will enhance the spirit of enthusiasm, optimism, and alertness a factor that helps entrepreneurs get closer to success. Entrepreneurial mindset will help the startup

process go smoothly with less risk because entrepreneurs will then make decisions based on rational analysis instead of emotions. Entrepreneurial mindset helps entrepreneurs to have the right attitude that helps them stay on track and recognize their strengths to avoid rambling under the influence of others, it also enhances their confidence when faced with obstacles and dilemmas that help them confidently pursue the end and provides solutions to overcome barriers in the early start-up process. As a result, the university's top management should offer study programs to stimulate business thinking for students in order to assist them to develop a flexible attitude in order to deal with obstacles later in the process of beginning a firm.

Fifth, with respect to the relationship between cognitive factors and entrepreneurial intention, the authors confirmed with Farani et al. (2016) that attitude and self-efficacy are two vital factors that have strong effects on students' entrepreneurial intention and attitude towards entrepreneurship is the strongest factor when compared with three dimensions of TPB (Prajapati, 2019). In addition, the authors extend the literature gaps by indicating that social norms play an important role in affecting attitude towards entrepreneurship. The more individuals are criticized by their family and friends, the more drastic a change in their attitude toward business will be, arming them with a better attitude when faced with problems and hardship on their entrepreneurial road. Previous studies suggested individual attitudes in terms of business perception, but they did not specify what types of attitudes are available to determine which are defining attitudes for young entrepreneurs (Hasmidyani et al., 2021; Phong et al., 2020; Pérez et al., 2021). This research will shed light on the shape of personal attitudes so that entrepreneurs can rely on arguments to determine what criteria they are classified according to and thereby form the right attitude for individuals in starting their own businesses. The

author confirmed with Vasiliki et al. (2020) that it contains four indications of entrepreneurial attitude: (1) Being an entrepreneur offers more benefits than drawbacks, (2) entrepreneurship is rewarding, (3) if adequate finances are available, will become an entrepreneur, and (4) would rather be a businessman than an employer. A research investigation found that entrepreneurial attitudes include both affective (thoughts and emotions) and cognitive elements (rational arguments). Therefore, individuals who realize that their attitudes are consistent with the above arguments will equip them with the right attitude compared to individuals with only general awareness and they will build for themselves a strong attitude to overcome challenges as well as see opportunities in difficulties and enhance their success in entrepreneurship.

Moreover, these results indicate that the entrepreneurial self-efficacy of students who obtained entrepreneurial knowledge through entrepreneurship training programs had a greater influence on their entrepreneurial intentions than students who did not get entrepreneurial knowledge. Entrepreneurs who have received entrepreneurship education are more likely to pursue entrepreneurship as a career option because they have a higher efficacy on their entrepreneurial skills, plan to start their own businesses, and are better able to carry out entrepreneurial activities. As a result, college administrators should offer students entrepreneurial education programs and learning environments that boost their perceived self-confidence in executing entrepreneurship-related activities, with a focus on more experiential and social interaction learning.

Besides the main effects, the findings found that entrepreneurial passion can play a critical role as a moderator for shaping entrepreneurial intention through three dimensions of TPB. As earlier remarked, passion is considered to be “at the core of entrepreneurial” (Cardon et al. 2013; Huyghe et al., 2016), and it is a key

motivator of entrepreneurial behavior (Mosakowski and Cardon, 2014; Huyghe et al., 2016). Therefore, passion may prove to be an important supplementary predictor in the TPB-entrepreneurship model. A passion to engage in entrepreneurial activities might act as a motivator for business launch design. Therefore, it is reasonable to believe that entrepreneurial passion can evolve into an entrepreneurial career (Biraglia and Kadile, 2016).

Both the scholarly and general press identified passion as a major and essential motivator influencing entrepreneurial activities and efforts. The importance of passion in understanding people's intentions for future actions is emphasized in this study. It fosters research interest in the context of entrepreneurship by presenting entrepreneurial passion as a moderator of the cognitive antecedents- entrepreneurial intention link. These moderating effects provide credence to the TPB idea that extra situational/person exogenous traits (such as passion) influence individual moderate intentions via their effects on intention antecedents. The results of this study support the indication that entrepreneurial passion is a crucial factor in shaping entrepreneurial intention. This study's results confirmed with Karimi (2019) that educators should place a greater emphasis on assisting potential entrepreneurs in discovering their passion or identifying a specific new business feature that would lead to them becoming more passionate. Furthermore, educators (or other mentor groups) may assist aspiring future entrepreneurs in exploring their self-identities, particularly the most essential and conspicuous identities. Consequently, legislators and academics should prioritize them in the creation of university curricula, resulting in more impactful education for entrepreneurship (Fernández-Pérez et al., 2019).

The research suggests that by determining the level of passion, entrepreneurs will increase their attitude and self-confidence in forming entrepreneurial intentions. To determine what stage a passion is and how it needs to be developed to match individual and social circumstances, we recommend the following criteria: To begin, we would want to add to earlier comments that passion is generated via competencies. Dalborg and Wincent (2015, p. 974) "provide a skill-based account of how founder passion builds," indicating that pursuing entrepreneurship for pull reasons boosts passion via self-efficacy. Second, we expand the concept to entrepreneurial passion emergence competence by demonstrating that entrepreneurs' passion may evolve as an environment socialization product. The author postulates that this occurs in two parallel steps: First, perceived emotional support produces positive feelings initially, making entrepreneurs more motivated to interact with their environment (Fredrickson, 2001), even overcoming difficulties caused by heightened levels of uncertainty (Brundin and Gustafsson, 2013), in addition to positively altering their perceptions of objects, concepts, and people; second, these acts and altering perspectives progressively transform into more passionate feelings about their entrepreneurial pursuits.

Lastly, gender moderating has been an issue of research in the field of entrepreneurship and entrepreneurial intention investigations, with an emphasis on the role of gender in defining the effects of predicting factors and outcome variables, such as entrepreneurial intent (Choukir et al., 2019; Nikou et al., 2019; Liao et al., 2022). Earlier study revealed that the influence of attitude towards entrepreneurship and perceived self-efficacy on entrepreneurial intention varied experimentally throughout gender, with women showing less intention toward entrepreneurship than men (Anwar et al., 2020a). Dragin et al. (2022) investigated

the link between personal characteristics and entrepreneurial intention, they stated that the new businesses that male entrepreneurs start are more likely to succeed than females, highlighting the significance of gender. Men are reported to be more skilled than women at discovering new business opportunities and turning them into actual companies, whereas women have a lesser proclivity for entrepreneurship.

According to the demographics of the respondents, gender is a significant moderator of the association between attitude towards entrepreneurship and entrepreneurial intent. Drawing on these results and hypotheses, including Bem's (1981) gender schema theory, Eagly's (1987) social role theory, and Sidanius and Pratto's (1999) social dominance theory, as well as further research evidence (Gefen and Straub, 1997) and meta-analysis research results. Male students are more likely than female students to be agentic (that is, aggressive, assertive, autonomous, courageous, dominating, instrumental, and task-oriented). They may also be expected to rely more on personal intuitions in forming their entrepreneurial intentions than female students, while female students are likely to be more communal (i.e. social bonding, talkative, subservient, supporting, gentle, and caring). When considering starting a new business, female students can anticipate depending less on their own judgment and more on the opinions of their families and other relevant persons (Karimi et al., 2013). It is also possible to argue that women are more sensitive to social influence - which can also come from role models - than males are because of differences in socialization processes. Furthermore, women may receive more training or instructional assistance from role models than men, expecting or feeling that women have a higher lack of entrepreneurial skills than men.

According to this study, gender has a moderating influence on the impact of entrepreneurial attitude on entrepreneurial intention, and the finding is consistent with earlier research (Liao et al., 2022). They observed a link between opportunity recognition and entrepreneurial intention is 11.70% less for females than for males. Women are less skilled than men in discovering new and potential entrepreneurial opportunities due to their restricted exposure to the industrial and entrepreneurial context, which reduces females' perceived degree of opportunity recognition, resulting in less effect on their entrepreneurial ambition (Verheul et al., 2012).

Furthermore, although being in the same entrepreneurship education program, this apparent discrepancy between male and female students may be due to male students having more exposure to the outside environment, a wider social network with successful entrepreneurs, and positive social norms. To close the perceived gender gap, entrepreneurship education programs must be remodeled to expose female students to successful female entrepreneurial role models, to permit pupils to look for potential business opportunities in their environment and to improve entrepreneurship projects by collaborating with their friends and colleagues. Additionally, the duty barrier of women in the family is a factor contributing to the gender disparity in the process of beginning a business. Gender equality education programs in schools should be implemented, as should proposals for equality between men and women in all parts of society so that women can overcome societal preconceptions and develop their intellectual potential and inventiveness in bringing values to society via entrepreneurship.

6.3 Conclusions

This research developed a comprehensive research framework for analyzing research issues that had not been addressed by previous studies. Several inferences may be reached based on the current findings.

First, the purpose of this study was to investigate the influence of personality traits (risk-taking) on cognitive antecedents and entrepreneurial intention. Risk-taking is likely to act indirectly in forming entrepreneurial intention and providing entrepreneurs with a greater resolve to start their own firm through influencing attitudes toward entrepreneurship and entrepreneurial self-efficacy. The study's findings add to the personality traits that are significant for the creation of ideas related to the entrepreneurial process and behavior, which then explain entrepreneurial intention.

Second, the aim of this study is to highlight the significant role of entrepreneurial knowledge in developing entrepreneurial intents using a TPB-based integrated intention model. These results suggest that the TPB properly accounts for the direct effects of entrepreneurial knowledge. Entrepreneurial knowledge influences young people's attitudes and inspires them to engage in entrepreneurial activity. Entrepreneurial knowledge is regarded as having the ability to assist jobless individuals in acquiring skills and generating their own source of income. Furthermore, when entrepreneurs are fully prepared with business knowledge, they will feel more secure while making critical decisions that define the success or failure of a firm and have an impact on the entire process of entrepreneurial intention. In addition, when entrepreneurs received high entrepreneurial knowledge, they will have the ability to escape social biases from friends, family, and relatives. The majority of these preconceptions are unfavorable, and they impede their personal development as they face the challenges of beginning a firm. The findings underline the important role of knowledge, demonstrating that a highly knowledgeable individual is more likely to

reject extraneous influences and concentrate on improving cognitive thinking skills which leads to a greater likelihood of entrepreneurship success.

Third, the study shows a significant relationship between entrepreneurial mindset, cognitive antecedents, and entrepreneurial intention. The findings found that an entrepreneurship mindset is critical in building and even reinforcing attitudes toward entrepreneurship and entrepreneurial self-efficacy. An entrepreneurial mindset not only promotes attitudes and self-confidence but also generates a desire to grow an individual to focus on the right career route for entrepreneurial intention formation. These findings are similar to recent studies which discovered that students with a higher entrepreneurial mindset are more likely to have knowledge, talents, and experience in beginning and maintaining a new business (Burnette et al., 2020; Jiatong et al., 2021). An entrepreneurial mindset is characterized by an individual's proclivity for risk-taking, a desire for success, and a desire to start a new firm as well as conceive, plan, and coordinate initiatives to attain entrepreneurial goals (Bosman and Fernhaber, 2019).

Fourth, this research has presented the role of three cognitive dimensions (attitude towards entrepreneurship, social norms, and entrepreneurial self-efficacy). This study confirmed the role of cognitive factors in explaining psychological variables (risk-taking) and external factors (entrepreneurial knowledge and entrepreneurial mindset) for determining intention. The three cognitive factors clearly explained the stronger role among personality, external factors, and entrepreneurial intention; however, the role of social norms was weaker when compared with attitude and self-efficacy. The most influential factor for predicting entrepreneurial intention for the current study was attitude towards entrepreneurship, this finding was in the line with the previous scholar (Ahmed et al., 2019). Moreover, the author confirms with previous studies that individuals'

self-efficacy is recognized as a critical antecedent of entrepreneurial intent (Schmutzler, Andonova, and Diaz-Serrano, 2018). Entrepreneurial self-efficacy gives aspiring entrepreneurs the confidence they need to complete various and often unexpected tasks fraught with uncertainty. Self-confidence would also boost one's perseverance and effort (Nowiński et al., 2020). Fifth, entrepreneurial competencies play a critical role to enhance entrepreneurial intention. Ponce et al. (2020) proposed that in entrepreneurship learning, emotional competencies are compared to other forms of technological or professional competencies, which is a unique finding that may give guidance for the design of future business-related teaching approaches. It has illustrated a shred of empirical evidence by Liao et al. (2022) for the link between entrepreneurial competencies and entrepreneurial intention. In this research, this study suggested that entrepreneurial competencies have a positive effect on entrepreneurial intention, it is expressed through the lexicon of emotional competencies. Indeed, just because a new university student has a specific degree of emotional competency does not mean that he or she will launch a company. Therefore, it may be claimed that the higher these students' emotional competencies are, the more likely they are to consider entrepreneurship as a career option; as their cognitive backgrounds improve, they become much more likely to pursue an entrepreneurial intention (Ponce et al., 2020). Chi et al. (2020) explored the role of emotional competencies in determining entrepreneurial intention, they found that emotional competence enhanced entrepreneurial intention by increasing entrepreneurial self-efficacy. Thus, it is critical to develop college students' emotional competencies, especially personal and social-emotional management, and to give ongoing advice for future entrepreneurial ventures.

Sixth, the results presented that entrepreneurial competencies are strongly predictive of a company's success. Entrepreneurial competencies (such as skills, market orientation, sales orientation, and networking) are valuable and one-of-a-kind resources that give capabilities to assist firms in operating efficiently. Therefore, the establishment of a platform for early entrepreneurial practice will guarantee that students connect more directly with local communities, actively participate in practical activities, and put their innovative ideas into action. This allows them to investigate and find their own capabilities. One can contribute practical expertise, managerial experience, business knowledge, resources, and guidance to create thought patterns for acquisition entrepreneurship through collaborative effort. Educational management should provide curricula that train students in business-oriented market analysis skills not only in theory, but also by sending students to business organizations where they can cultivate practical skills such as negotiation, financial risk management, and market research to improve their business capabilities from the outset, thereby shaping their future self-employment.

To emphasize the impact of entrepreneurial passion, we discovered that entrepreneurial passion can act as a moderator for the influence of attitude toward entrepreneurship and entrepreneurial self-efficacy on entrepreneurial intention. According to the findings, students with a higher entrepreneurial passion degree have more favourable entrepreneurial attitudes and regard themselves as having more potential of becoming entrepreneurs, confirming their capacity to start a business in the future. Few studies have examined the moderating role of entrepreneurial passion in entrepreneurial intention. On the other hand, Karimi (2019) indicated that entrepreneurial passion is studied in the context of entrepreneurship by bringing attitude toward entrepreneurship and perceived

behavior control as mediators of the entrepreneurial passion- entrepreneurial intention link and putting entrepreneurial passion into a legitimate framework. They highlighted the significance of passion in understanding people's entrepreneurial intention for future activities, and the findings support the notion that entrepreneurial passion is an important factor in developing entrepreneurial behavior.

Last, to address the role of gender, this research discovered that gender significantly moderates the association between attitude towards entrepreneurship and entrepreneurial intents, implying that males desire to engage in more entrepreneurial activities than females. This study indicated that males are more concerned with the instrumental consequences of entrepreneurship, but females are more sensitive to social variables and are burdened by stereotypes and entrenched beliefs of familial responsibility to become entrepreneurs. Furthermore, females were less likely than males to get three categories of assistance: emotional support (connectedness), instrumental assistance (money assets), and positive support (business advice) (Fielden and Hunt, 2011). The results indicate that women are less likely than males to put their intentions into action. One possible reason for this disparity is that their perceived control overestimates their real control. That is, women may be driven by perceived facilitators and small hindrances, but they may face a greater number of hindrances than males. As a result, individuals may find it difficult to build formal business networks.

6.4 Limitations and future directions

This study has several limitations as well. First, the current drawback is that it was done with a sample of students from only one institution in Vietnam, and all business field students. This constraint has paved the way for more research by increasing the sample size and incorporating a wide range of universities and other

major field students (e.g. finance, human resources, hospitality tourism, etc). Second, this study is conducted on a cross-section survey, which implies it essentially assumed that students enrolled in entrepreneurship courses were picked at random, or that they received entrepreneurial education from their surroundings and university. Insufficient emphasis has been placed on educator quality, which may hinder students' creative thinking, practical abilities, and capacity to apply learned information to self-employment. As a result, future research should involve a longitudinal study to change the text in entrepreneurial attitudes and intents through time, along with the formation of entrepreneurial behavior from intent. Third, only one personality trait, namely, risk-taking is used to draw inferences about antecedents of entrepreneurial intention. This study suggests that future studies should investigate fully personality traits for shaping entrepreneurial intention, e.g. innovativeness, locus of control, need for autonomy, and stress tolerance, in shaping graduate entrepreneurship. Fourth, since meta-analysis is often confined by factors that give relevant studies, it should be regarded as a synopsis of the most thoroughly researched impact factors, and entrepreneurial knowledge is a new challenge in meta-analysis. Last, since meta-analysis is combined with cross-sectional data, the author cannot rule out reverse causality or reciprocal causation. In addition, this study used meta-analytical to explore only gender and it is part of demographic variables. Future research might possibly find new sorts of moderators that have not before been identified and adopt longitudinal designs. For instance, future research might use cognitive antecedents to investigate if an instructor's characteristics, such as teaching techniques have any effect on performance, alter the link between entrepreneurial knowledge and entrepreneurial intention, or potential moderators (e.g, gender, age, employment experience, family history, and ethnicity) through the lens of cognitive antecedents on entrepreneurial intention.

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APPENDIX

Appendix I: Questionnaire

Dear repondents,

This academic questionnaire is to investigate "Unraveling the effects of entrepreneurial knowledge, mindset, and cognition as antecedents on entrepreneurial intention"

If you are an undergraduate or a postgraduate student or an employee in the organization with an entrepreneurial intention or intend to run your own business in the near future. The author sincerely invites you to spend a maximum of 10 minutes answering the questionnaire below.

Please be advised that no personal information will be made public. Your answers will be kept strictly confidential, and only the aggregate results will be reported. Your help is crucial for this research and future understanding of these issues. The author profoundly appreciates your kind cooperation.

Sincerely,

Vu Huu Anh Nguyen

E-mail: anhvuk36@gmail.com

Do you intend to run your own business in the future?

☐ Yes ☐ No

If you answer "yes" please proceed to the following sections.

If your answer "No" then you are not required to participate in this survey. Thank you very much for your attention.

Section 1. Personality characteristics

		Levels of Agreement						
Please take a brief look at the following **Risk-taking** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Risk-taking								
If the potential reward was really high, I would not be hesitant to invest my money in a new firm that may fail	RT1	1	2	3	4	5	6	7
People have told me that I seem to relish taking risks	RT2	1	2	3	4	5	6	7
The prospect of making a business investment intrigues me	RT3	1	2	3	4	5	6	7
I adore taking risks	RT4	1	2	3	4	5	6	7
Taking risks does not concern me if the rewards are substantial	RT5	1	2	3	4	5	6	7
I would relish the challenge of a project that may result in a promotion or joblessness	RT6	1	2	3	4	5	6	7

Section 2 External Variables

		Levels of Agreement						
Please take a brief look at the following **Entrepreneurial Knowledge** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Entrepreneurial Knowledge								
I know how to create a viable business because of my experience.	EK1	1	2	3	4	5	6	7
Because of my work expertise, I am familiar with the issues that my clients face	EK2	1	2	3	4	5	6	7
It is simple for me to locate business possibilities in my field of expertise	EK3	1	2	3	4	5	6	7
I am at ease at work since I understand how the firm operates	EK4	1	2	3	4	5	6	7

Section 3 Entrepreneurial Mindset

		Levels of Agreement						
Please take a brief look at the following **Entrepreneurial Mindset** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Entrepreneurial Mindset								
I considered interactions combining with entrepreneurial operations from both sides (opportunities or problems)	EM1	1	2	3	4	5	6	7
I have seen time set aside for business matters	EM2	1	2	3	4	5	6	7
I have considered the financial benefits of engaging in entrepreneurial pursuits	EM3	1	2	3	4	5	6	7
I investigated for both possibilities and obstacles associated with entrepreneurial endeavors	EM4	1	2	3	4	5	6	7
I have decided to explore entrepreneurial ideas for business opportunities	EM5	1	2	3	4	5	6	7
I discussed if it is advantageous for me to engage in entrepreneurial activities	EM6	1	2	3	4	5	6	7

Section 4 Cognitive Antecedents

		Levels of Agreement						
Please take a brief look at the following **Cognitive Antecedents** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Attitude Towards Entrepreneurship								
Being an entrepreneur appeals to me	ATT1	1	2	3	4	5	6	7
Given the opportunity and resources, I would like to launch a spin-off company	ATT2	1	2	3	4	5	6	7
Being an entrepreneur will provide me with a lot of fulfillment	ATT3	1	2	3	4	5	6	7
I think that if I decide to launch a spin-off firm, it will be successful	ATT4	1	2	3	4	5	6	7
Social Norms								
Would my closest family members support my desire to start a business?	SNs1	1	2	3	4	5	6	7
Would my closest friends support my desire to start a business?	SNs2	1	2	3	4	5	6	7
Would my Colleagues and Mates support me if I wanted to start my own business?	SNs3	1	2	3	4	5	6	7
Entrepreneurial Self-Efficacy								

I am capable of working efficiently in the face of constant stress, pressure, and disagreement	ESE1	1	2	3	4	5	6	7
I have the ability to generate fresh ideas and products	ESE2	1	2	3	4	5	6	7
I am capable at establishing and maintaining positive relationships with possible investors	ESE3	1	2	3	4	5	6	7
I have the ability to envision new markets for new products and services	ESE4	1	2	3	4	5	6	7
I can hire and train essential personnel	ESE5	1	2	3	4	5	6	7
I can create a work atmosphere that inspires individuals to attempt new things	ESE6	1	2	3	4	5	6	7

Section 5 Entrepreneurial Competencies

		Levels of Agreement						
Please take a brief look at the following **Entrepreneurial Competencies** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Entrepreneurial Competencies								
I identify products or services that clients desire	EC1	1	2	3	4	5	6	7
I cultivate long-term, trustworthy relationships with people	EC2	1	2	3	4	5	6	7
I can deal with others	EC3	1	2	3	4	5	6	7
I am aware of and working to improve my own flaws	EC4	1	2	3	4	5	6	7

Section 6 Entrepreneurial Intention

		Levels of Agreement						
Please take a brief look at the following **Entrepreneurial Intention** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Entrepreneurial Intention								
I am willing to go to any length to become a business owner	EI1	1	2	3	4	5	6	7
My professional ambition is to establish myself as an entrepreneur	EI2	1	2	3	4	5	6	7
I will make every attempt to establish and operate my own business	EI3	1	2	3	4	5	6	7
I am resolved to start a business in the future	EI4	1	2	3	4	5	6	7
I have seriously considered launching a business	EI5	1	2	3	4	5	6	7
I have a tremendous desire to open my own business eventually	EI6	1	2	3	4	5	6	7

Section 7 Moderator Variable

		Levels of Agreement						
Please take a brief look at the following **Entrepreneurial Passion** related issues and then **CIRCLE** the level of agreement based on your view on each of the items below.	**Abbreviation for items**	**Strongly disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Stongly agree**
Entrepreneurial Passion								
It is exhilarating to start a new business	EP1	1	2	3	4	5	6	7
It will be exciting to watch a new company grow and succeed	EP2	1	2	3	4	5	6	7
I am inspired to find out ways to improve existing products/services	EP3	1	2	3	4	5	6	7
Scanning the surroundings for fresh prospects stimulates me much	EP4	1	2	3	4	5	6	7
Being a company owner might become a significant part of who I am	EP5	1	2	3	4	5	6	7

Section 8 Descriptive Information

Gender	☐ Male ☐ Female
Age	☐ 18-22 years old ☐ 23-25 years old ☐ 26-30 years old ☐ More than 30 years old
Education Level	☐ Bachelor Degree ☐ Master Degree ☐ Doctoral Degree
Work Experience	☐ Short-term (Less than 1 year) ☐ Long-term (More than 1 years)
Family Background	☐ Business ☐ Non-Business