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Gendered Entrepreneurship Education and the Fear of Failure[1]

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Studies on the impact of innovation for entrepreneurship indicate that innovation is important to foster businesses through new or improved services, products or processes. However, from a gender perspective, lack of competitiveness and innovativeness has proven to destructively affect entrepreneurs, which in many cases led to failure. There is a gap in literature on the necessity for entrepreneurship educators for a gendered educational approach, targeting the perceived fear of failure and its impact on entrepreneurial innovation. Using Global Entrepreneurship Monitor data from 1,668 entrepreneurs in Thailand, this study explores if entrepreneurs innovate in new or improved services, products or processes despite fearing to fail in their businesses: Does this differ by gender, change over time from a start-up to an established business and to which extent can this be influenced by knowing other entrepreneurs? The findings indicate that the moderating effect of knowing an entrepreneur considerably increases innovativeness by impacting fear of failure for both genders in early-stage ventures and for women in established businesses, thus reducing the fear's negative relationship to uncertainty, risk-taking and in series constraining entrepreneurial activity. Entrepreneurship education can help overcome fear of failure and in series lead to more innovative products, services and processes.

Keywords: entrepreneurship education, fear of failure, innovation, networks, women entrepreneurs

INTRODUCTION

Previous research often relates to entrepreneurship as opportunity pursuit, business creation, risk avoidance, profit-seeking, value creation, and more (e.g. McMullen & Warnick, 2016). Prince et al (2021) argue that these attributes demonstrate the applicability of the idea and define the development and validation of ideas as definition of entrepreneurship. As this study utilizes data from the Global Entrepreneurship

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Monitor (GEM) research project, GEM's definition of entrepreneurship as "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (Global Entrepreneurship Research Association, 2021) is applied. The entrepreneurship phases in GEM are viewed as a process starting with potential entrepreneurs, mainly led by their beliefs and attitudes and intending to start a business within the next three years, over just starting up (nascent) to running a new and later an established enterprise. GEM assesses this process at the different points in the enterprise's life. This paper refers to innovativeness of total early-stage entrepreneurial activity (TEA[2]) business owners -either nascent or new- and established entrepreneurs. The two phases-approach to firm development is useful to frame the different stages a firm passes through, since each entrepreneurial phase represents a specific strategic context in which the entrepreneur operates; influencing the needs for innovation, for resources and the nature and extent of his/her contacts (Van Hemert et al, 2013).

There is a gap in literature on the necessity for entrepreneurship educators for a gendered educational approach on the perceived fear of failure and its impact on entrepreneurial innovation. This study aims to add to the body of knowledge in women entrepreneurship education by exploring if the perceived fear of entrepreneurs and the relationship between the fear and knowing another entrepreneur predict innovativeness. In series, entrepreneurship training programs and their effectiveness might want to -on the one hand- take into account both their own elements and – on the other hand- additional individual, human, and contextual factors (Bullough et al, 2015).This study investigates the impact of fear of failure on entrepreneurs, as specifically women entrepreneurs tend to be hindered in their innovativeness by their fear of failure: Do they innovate in new or improved services, products or processes despite fearing to fail in their businesses? Does this change over time from a start-up to an established business and to which extent can this be influenced by knowing other entrepreneurs?

Entrepreneurship Education

Entrepreneurial attributes like problem-solving skills, change management and creativity are essential skills needed for the economic development of a society, which highlights the relevance of entrepreneurship and of entrepreneurship education (Arasti, Falavarjani & Imanipour, 2012). Using hands-on experience, being attentive to basic skills and attitudes, applying awareness to entrepreneurship and entrepreneurs, and a conductive environment were found significant drivers of students' interest in entrepreneurship (Suacamram, 2019). The educational field of entrepreneurship is growing with the ongoing discussion, if entrepreneurship can be taught and how entrepreneurship courses should differ from traditional management courses (Karlsson & Moberg, 2013; Neck & Greene, 2011). Unger et al. (2011) propose that a human capital & entrepreneurial

[2] Total early stage businesses are businesses in the phase of just starting up until the age of 42 months

success relationship was higher for knowledge and skills as an outcome of education and specifically higher for human capital which was directly related to entrepreneurial tasks. Zotov, Frolova, Prasolov & Kintonova (2021) point to the importance of supplementary case studies in entrepreneurship education, thus increasing training efficiencies for future entrepreneurial success.

Previous research indicates the importance of action-based and experiential approaches to developing entrepreneurial capabilities (e.g. Heinonen & Hytti, 2010). Objectives of entrepreneurship education intend to equip students with broader perspectives, entrepreneurial knowledge base and skillset, and entrepreneurial behavior for future entrepreneurial activities (Moberg, 2011; Rauch & Hulsink, 2015). Key success factors for effective academic and non-academic programs tend to successfully transform course objectives into entrepreneurship studies (Gedeon, 2017). Because the effectiveness of entrepreneurship education or entrepreneurship training programs not only depends on its curriculum, but also on individual, human, and contextual factors (Bullough et al, 2015), entrepreneurship education might help overcome constraints stemming from individual factors.

Innovation Capability

Gender differences in entrepreneurship are well documented in previous research (Kelley et al, 2013; Popescu, 2012). However, no gender-related differences in venture innovation / risk situations and strategies for new and established enterprises exist, with innovation being defined as creating a new, unique, and different product or service (Kahn, 2018). Entrepreneurship and innovation are closely linked and are positively related and the innovation process is one important factor for firm performance and economic growth *(*Yu & Si, 2012*)*. The capability to innovate relates to several fields of research in strategy and organization which link classic managerial theories of the firm and growth (Schumpeter, 1934). These theories introduce the importance of seeking innovative uses for existing corporate resources to enable new ideas, processes and products. Authors have mentioned innovations as "technology-push" and "market-pull" innovations. Former originate from scientists or knowledgeable persons in the field vis-à-vis their technical and business implications while latter are either extensions or modifications of existing products, processes or ideas that have implications from the market and the industry (Horbach et al, 2012).

Innovation capability appears in the discussion as an important 21st century skill. Multiple skills and competencies that are needed for running a successful business venture, such as social skills, personal skills, creativity and communication, are based on the underlying need for innovation and need to be taught, starting with primary education students (Chalkiadaki, 2018). Levie defines innovation confidence as "the degree to which individuals are willing to engage with and perceive benefit from new products or services, or products or services that embody new technology" *(*Levie, 2008, p.4*)*. A higher innovation confidence is generally found in entrepreneurs than in non-entrepreneurs - both in start-ups and in established businesses. Levie's measures are composed of three survey items: (1) willingness to buy new products or services; (2)

willingness to try new products and services that involve new technology; and (3) beliefs about how/whether innovations will improve their lives.

Fear of Failure

Previous research advocates that studies on fear of failure should look beyond the fear as a trait with a negative impact on entrepreneurial intent, but rather as a situational threat which entrepreneurs experience while engaging in entrepreneurship (Cacciotti et al., 2016; Cacciotti & Hayton, 2015). Arenius & Minniti (2005) call fear of failure a perceptual variable with influence on an individual's start-up decision. It is closely related to uncertainty and risk-taking and therefore an important factor constraining entrepreneurial activity, especially firm entry (Cacciotti & Hayton, 2015). In addition, fear of failure directly influences an individual's motivation on his achievements and aspirations and his decisions on if to exploit a business opportunity or not (Welpe et al, 2012).

Fear of failure may be seen as a form of loss aversion)Morgan & Sisak, 2016(. For those holding such fears, losses or failures weigh more heavily than gains or successes. Both are measured relative to individual reference points. Potential entrepreneurs decide first whether to enter into 'risky' entrepreneurship or go for a 'safe' employment status. In a second step, they choose the investment intensity into their enterprise. These investments, e.g. in innovation, together with random factors such as luck determine chances of success of each venture)Morgan & Sisak, 2016(. The fear to fail is a subjective perception or personal judgement which does not necessarily take objective circumstances into account. According to Deniz et al)2011(, fear is a strong emotion that can hinder making progress toward goals and thus impacting innovativeness in products, services and processes. Positive and negative emotions significantly decrease time and resource allocation of entrepreneurs to exploit new opportunities and to innovate)Welpe et al, 2012(. Moreover, feeling threatened by potential failure leads to a behavior of avoidance and inaction and to a negative affective reaction with the potential for failure in tasks, responsibilities and the venture itself (Cacciotti et al, 2020). Fear of failure is experienced not only in the start-up phase, preventing some individuals from acting on their entrepreneurial intent, but also in later business phases when challenges occur that might threaten the whole venture (Cacciotti et al., 2016; Morgan and Sisak, 2016). However, fear of failure can also be a motivating factor, provided entrepreneurs believe they have the skills and capabilities to counteract fear appraisals (Hunter et al, 2020).

Previous research confirms that female entrepreneurs in general experience higher levels of fear of failure when doing business (Kelley et al., 2013). This is also true for Thai entrepreneurs, where 54.8 percent of the TEA and 55 percent of the established women entrepreneurs fear to fail compared to 47 percent of male established entrepreneurs and 38.9 percent of TEA entrepreneurs (Guelich, 2018). Fear of failure as a perceptions' variable limits women entrepreneurs more than men to reach their full potential.

Therefore it is hypothesized that:

H1: There are gender differences in the impact of fear of failure on innovativeness, regardless of business phase.

H2: An individual's fear of failure will be negatively related to innovativeness for women entrepreneurs, regardless of business phase.

Entrepreneurial Network

Gender affects an entrepreneur's access to a network, its composition and effectiveness. Similarly, this applies for the mostly different educational levels of men and women, as networking is more extensive for educated than for less educated entrepreneurs (Cheraghi & Schøtt, 2016). For both male and female entrepreneurs, entrepreneurial challenges change through the phases of their business life cycle, from start-ups to running a new and later an established enterprise. Previous research also highlights gender-related network differences for the different business phases (Dilli & Westerhuis, 2018) in the way that being male has less impact in the start-up phase than in a later phase (Cheraghi & Schøtt, 2016). First-hand information from other recent start-ups helps to deliver a clearer picture of the until date uncertain future for the potential entrepreneur. Compliance exists that knowing an entrepreneur is an important source of information for potential entrepreneurs in the early phase of venture creation where they are searching for opportunities (e.g. Wyrwich et al, 2016) and is positively and significantly related to being a nascent entrepreneur (Arenius & Minniti, 2005). The ability to identify and to access opportunities is regarded as an important entrepreneurial capability for innovativeness and an entrepreneurial network in the public sphere is an important driver of business innovation (Jensen & Schøtt, 2015). Other entrepreneurs might act as role models and have positive impact by reducing ambiguity and providing information, inspiration, advice and connections to others (Kelley et al, 2013). However, knowing other entrepreneurs does not necessarily imply that they are positive role models. In either case, as a positive or negative role model, the direct observation of other entrepreneurs reduces ambiguity and uncertainty associated with entrepreneurial activity (Minniti, 2005).

Kelley et al (2013) found, that women entrepreneurs around the globe were less likely to know entrepreneurs compared to their male counterparts. This is also true for Thai entrepreneurs where only 40.8 percent of the female TEA entrepreneurs (55.6 percent male) and 34.1 percent of the female established entrepreneurs (46.4 percent male) have another entrepreneur in their network (Guelich, 2018).

Therefore it is hypothesized that:

H3: The impact of knowing an entrepreneur on fear of failure and its resulting influence on innovativeness is higher for female than for male TEA businesses.

H4: Knowing an entrepreneur positively reduces the influence of fear of failure on innovativeness for TEA businesses.

METHOD

This study utilizes Global Entrepreneurship Monitor (GEM) data from 2017, collected in Thailand, a country with an equal proportion of female and male entrepreneurs. Since 1999, GEM has become a major database for internationally comparative entrepreneurship research because it is unique and allows investigating research questions that could not have been addressed before (Bergmann et al, 2014). The annual Adult Population Survey (APS) enquires about the attitudes and activities of a random sample of at least 2,000 adults per country, aged 18–64 years. The APS is conducted "via a mix, appropriate to each economy, of face-to-face or telephone interviews, increasingly supplemented by online participation, and uses the same questions in each economy to find out whether that adult is involved in starting or running a new or established business, and about individual attitudes and perceptions of entrepreneurship, alongside demographics such as age, gender and education" (Bosma et al, 2021, p.20).

Data of 3,000 random samples of the adult population in Thailand were collected according to the latest population statistics between May 1 to June 30, 2017. The resulting samples of 1,668 entrepreneurs consist of start-ups and young businesses (N=548, thereof 239 male and 309 female) and established businesses (N=865, thereof 416 male and 449 female). Two main phases in the entrepreneurial process are distinguished: start-ups and young businesses or total early-stage entrepreneurial activity (TEA) and established businesses (EST). Regression analysis is used to answer the question, if the fear to fail has impact on the innovativeness in men and women when doing business and if this differs with an entrepreneurial network.

Using Levie's survey items (Levie, 2008), one dependent variable was computed as the means of the three innovation variables that were part of the APS to investigate innovative behaviour in the entrepreneurial process:

1. INNVBUY: In the next 6 months, you are likely to buy products or services that are new to the market.
2. INNVTRY: In the next 6 months, you are likely to try products or services that use new technologies for the first time.
3. INNVLIFE: In the next 6 months, new products and services will improve your life.

Independent variables were fear of failure (FRFAIL: Would fear of failure prevent you from starting a business?) and the entrepreneurial network of knowing an entrepreneur (KNOWENT: Do you know someone personally who started a business in the past 2 years?). The scatterplot suggests that linearity conditions are met with a strong positive linear relationship between independent variables and the dependent variable. To investigate the moderating effect of fear of failure on innovativeness in a certain business phase, two moderators were created: TEA*FRFAIL and EST*FRFAIL. Further to test the effect of knowing an entrepreneur on the influence of the fear to fail on innovativeness, two additional moderators were created: TEA*FRFAIL*KNOWENT and EST*FRFAIL*KNOWENT.

FINDIGS

Using a Likert scale from 1 to 5 to evaluate the degree of innovativeness, where 1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree and 5=strongly disagree, a lower resulting number reflects more innovativeness than a higher number. The means of 2.96 for male and 2.92 for female entrepreneurs reflect a slightly higher than average innovativeness for Thai entrepreneurs (average=3) with women entrepreneurs being more innovative than their male counterparts. Negative Beta coefficients indicate an increase in innovativeness as the dependent variable has decreased in response to the increase of the independent variable.

No significance was found for fear of failure on innovativeness for both business phases, whereas knowing an entrepreneur positively influenced innovativeness for both gender and both business phases, slightly higher for men than for women entrepreneurs (Table 1). Thus, both Hypothesis 1 (*H1: There are gender differences in the impact of fear of failure on innovativeness, regardless of business phase.)* and Hypothesis 2 (*H2: An individual's fear of failure will be negatively related to innovativeness for women entrepreneurs, regardless of business phase.)* are not confirmed.

Table 1
Regression coefficients to study the effect of fear of failure and entrepreneurial networks on innovativeness

	male		female	
Independent Variables	Regression coefficient	p-value	Regression coefficient	p-value
TEA **(**involved in early**-**stage entrepreneurial activity	-.649	.006	-.584	.005
fear of failure	.327	.133	-.302	.128
knowing an entrepreneur	-1.039	.000	-.982	.000
EST **(**manages and owns a business that is older than 42 months**)**	.869	.000	.905	.000
fear of failure	.417	.053	-.225	.253
knowing an entrepreneur	-1.137	.000	-1.053	.000

Without moderating effects, the R Square values in Table 2 exhibit that less variance is accounted for by women entrepreneurs with 3.9% for female TEA (5.0% male) and 5.4% female EST (6.2% male), thus Hypothesis 3 *(H3: The impact of knowing an entrepreneur on fear of failure and its resulting influence on innovativeness is higher for male than for female entrepreneurs.)* is not supported.

Table 2
Regression model summary to study the effect of knowing an entrepreneur and its influence on fear of failure on innovativeness

	TEA businesses	established businesses
Gender	R Square	R Square
male	0.050	0.062
female	0.039	0.054

Interestingly, a moderating effect of fear of failure on innovativeness of TEA and EST entrepreneurs without the effect of knowing an entrepreneur (EST*FRFAIL) is only prevalent for male established entrepreneurs (Table 3). Thus, hypothesis *H3: The impact of knowing an entrepreneur on fear of failure and its resulting influence on innovativeness is higher for female than for male TEA businesses* is not confirmed.

Table 3
Regression coefficients to study the moderating effect of fear of failure on innovativeness in entrepreneurs

	male		female	
Independent Variables	Regression coefficient	p-value	Regression coefficient	p-value
TEA (involved in early-stage entrepreneurial activity)	-.795	.005	-.552	.052
moderator TEA*fear of failure	-.102	.800	-.261	.449
EST (manages and owns a business that is older than 42 months)	.379	.142	.981	.000
moderator TEA*fear of failure	.991	.001	-.171	.544

However, the moderating effect of knowing an entrepreneur (TEA*FRFAIL*KNOWENT and EST*FRFAIL*KNOWENT) considerably increases innovativeness by impacting fear of failure for both genders in TEA entrepreneurs (Table 4). While the effect is similar for men and women TEA entrepreneurs, there is a difference for established business owners: established women entrepreneurs significantly increase their innovativeness as a result of the moderating effect of knowing an entrepreneur on fear of failure, whereas no significance was found for male established entrepreneurs. The effect on innovativeness for established women entrepreneurs is even higher (-.926) than for start-up women entrepreneurs (-.875). Thus, Hypothesis 4 (*H4: Knowing an entrepreneur positively reduces the influence of fear of failure on innovativeness for TEA businesses.)* is confirmed.

Table 4
Regression coefficients to study the moderating effect of entrepreneurial networks on fear of failure and innovativeness in entrepreneurs

	male		female	
Independent Variables	Regression coefficient	p-value	Regression coefficient	p-value
TEA (manages and owns a business that is older than 42 months)	-.620	.016	-.494	.030
moderator TEA*fear of failure*entrepreneurial network	-.933	.044	-.875	.031
EST (manages and owns a business that is older than 42 months)	.890	.000	1.072	.000
moderator EST*fear of failure*entrepreneurial network	.-294	.414	-.926	.011

DISCUSSION AND CONCLUSIONS

Contradicting previous research which highlighted gender-related network differences for the different business phases (Cheraghi & Schøtt, 2016; Dilli & Westerhuis. 2018), the findings of this study indicate that there are no significant gender differences in the impact of fear of failure on innovativeness, regardless of business phase. This might stem from the high female to male TEA ratio of 0.96 (Bosma & Kelley, 2019), which is an outstanding feature in Thai entrepreneurship, especially in a global comparison. The existing gender equality in entrepreneurship in Thailand might lead to a more similar type of behavior of both genders in starting und running a venture, resulting in fewer gender differences than in other countries. However, the impact of knowing an entrepreneur significantly enables entrepreneurs –both young businesses and established entrepreneurs- to mitigate their fear of failure, as a result leading to higher innovativeness for both genders, slightly stronger for male than for female entrepreneurs. This showcases the importance of using networking resources to enable new ideas, processes and products. However, and contradicting previous studies (e.g. Jensen & Schøtt, 2015), our findings show that the effect is stronger for established entrepreneurs compared to TEA entrepreneurs. Knowing other entrepreneurs is found to be important not only in the early phase of venture creation and the search for opportunities, but also in the established business phase where entrepreneurs likewise draw on innovation to sustain and further develop their enterprises.

The moderating effect of knowing an entrepreneur increases innovativeness significantly for both genders in TEA entrepreneurs, thus confirming previous findings (e.g. Jensen & Schøtt, 2015). However, an interesting novel finding evolves that specifically established women entrepreneurs tend to benefit greatly from entrepreneurial networks and seem to be able to leverage their high fear of failure rates toward innovativeness. Thai established women entrepreneurs, who on average have a lower educational level and a higher fear of failure rate than their TEA counterparts (Guelich, 2018) can increase innovativeness if they have access to entrepreneurial networks. This finding

shows the importance of entrepreneurial networks for innovativeness, especially for women entrepreneurs with a lower educational level.

In addition, the findings of this study indicate, that a perceived fear of failure can be moderated by having an entrepreneurial network, thus reducing the fear's negative relationship to uncertainty, risk-taking and in series constraining entrepreneurial activity (Arenius & Minniti, 2005). Moreover, established women entrepreneurs, despite experiencing an overall higher fear of failure rate and having less access to other entrepreneurs, are significantly positively impacted in their innovativeness in products, services and processes through knowing other entrepreneurs. Fear, which initially hinders entrepreneurs in making progress toward goals (Deniz et al., 2011), and which decreases their time and resource allocation to exploit new opportunities and to innovate, typically leads to a behavior of avoidance and inaction (Cacciotti et al, 2020). This fear can be turned around in a positive way, be minimized and become motivating. Where fear to fail initially was a drawback to innovativeness for female entrepreneurs, knowing another entrepreneur helped them overcome this obstacle**.** In the case of established women entrepreneurs, fear of failure could be identified as a motivating factor with entrepreneurial network resources supplementing their existing skills and capabilities, thus confirming findings of Hunter et al (2020).

Adding to Morgan & Sirsak (2016), we confer that an individual woman entrepreneurs' fear of failure is an important predictor on business investment, be it in form of financial or behavioral form. Innovation in products, services or processes are constrained, as potential losses and the perceived fear to fail outweigh potential gains or successes. The effect of fear of failure on business decisions is unambiguously negative and a higher fear of failure discourages entry into entrepreneurship and entry into new innovative fields, (Bullough et al, 2015). As a result, a women's entrepreneurship training or education program must specifically address the educators who can come from a diverse background, be it academically trained university professors (Katz, 2002) to practicing entrepreneurs (Sexton, Upton, Wacholtz & McDougal, 1997) or a combination of the two. In addition, human factors, human capital, entrepreneurial capabilities, and personality and cognitive traits play a role to foster women's entrepreneurship innovation despite a high fear of failure rate. As the educational level has an impact on network access, and an entrepreneurial network results in more innovative businesses, education on all levels –from primary to higher education- need to include access to entrepreneurs for students.

CONTRIBUTION AND LIMITATIONS

Fear of failure is an emerging concept in the entrepreneurship field (Hunter et al, 2020) and the understanding of the relationships between the threat-perceived fear, access to entrepreneurial networks and their influence on innovativeness is crucial for quality entrepreneurship. The results of the study are valuable for both academia and practitioners. Insights of this study might be relevant not only for individuals who are planning to start a new business in the future and entrepreneurs already engaged in the process, but also for established entrepreneurs, advisors and investors dealing with entrepreneurs. Traditionally, advisors and investors attend to business opportunities that

start-ups are pursuing or to business operations in the case of established entrepreneurs. Our findings suggest that psychological reactions, such as the perceived fear of failure, influence entrepreneurs' behavior toward innovativeness. Therefore, support by advisors and investors in access to entrepreneurial network resources could help women entrepreneurs to adopt innovative entrepreneurial strategies, provided that by adopting such strategies the threat of failure is turned into motivation.

The exploratory findings that knowing entrepreneurs can influence the impact of the fear to fail on innovativeness for male and female TEA entrepreneurs and female established business owners have a positive connotation**.** Contrary to what is generally assumed, women in the right business environment tend to be able to counteract their fear of failure with an entrepreneurial network and further increase their innovativeness in their business approach to new products, services and processes**.** In addition, a gendered approach towards entrepreneurship education can help improve networking capabilities, reduce fear of failure and increase innovative behavior**.** The findings highlight the importance of entrepreneurial networks for women entrepreneurs for an innovative business approach**.** Entrepreneurs should become more aware of and willing to seek advice from others, especially from other entrepreneurs, in order to cope with their fears about business failure.

As this study utilizes data of Thai entrepreneurs with an even proportion of female and male entrepreneurs, generalization might be difficult, especially to countries with a lower female to male ratio. Also, cultural differences and different levels of fear of failure might lead to different results. For an approach in practice, further studies are necessary to explore what specifically needs to be done in entrepreneurship education to innovate women entrepreneurs**.** Besides providing access to action-based and experiential approaches, a deeper understanding is needed how entrepreneurship curricula can address constraints from individual factors. Further, a gap still exists in how fear of failure and knowing an entrepreneur interact and what specifically leads to the increase in innovativeness**.**

REFERENCES

Arasti, Z., Falavarjani, M. K., & Imanipour, N. (2012). A Study of Teaching Methods in Entrepreneurship Education for Graduate Students. *Higher education studies*, *2*(1), 2-10.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics, 24*(3), 233-247.

Bergmann, H., Mueller, S., & Schrettle, T. (2014). The use of global entrepreneurship monitor data in academic research: A critical inventory and future potentials. *International Journal of Entrepreneurial Venturing, 6*(3), 242-276.

Bosma,N. & Kelley, D.)2019(. *Global Entrepreneurship Monitor 2018/2019 Global Report*. Retrieved 24 June 2021 from https://gemconsortium.org/report/50213.

Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Guerrero, M. & Schott, T. (2021). *Global Entrepreneurship Monitor 2020/2021 Global Report.* Retrieved 24 November 2021 from https://gemconsortium.org/report/50691.

Bullough, A., De Luque, M. S., Abdelzaher, D., & Heim, W. (2015). Developing women leaders through entrepreneurship education and training. *Academy of Management Perspectives*, *29*(2), 250-270.

Cacciotti, G., & Hayton, J. C. (2015). Fear and entrepreneurship: A review and research agenda. *International Journal of Management Reviews*, *17*(2), 165-190.

Cacciotti, G., Hayton, J. C., Mitchell, J. R., & Giazitzoglu, A. (2016). A reconceptualization of fear of failure in entrepreneurship. *Journal of Business Venturing*, *31*(3), 302-325.

Cacciotti, G., Hayton, J. C., Mitchell, J. R., & Allen, D. G. (2020). Entrepreneurial fear of failure: Scale development and validation. *Journal of Business Venturing*, *35*(5), 106041.

Chalkiadaki, A. (2018). A systematic literature review of 21st century skills and competencies in primary education. *International Journal of Instruction*, *11*(3), 1-16.

Cheraghi, M., & Schøtt, T. (2016). Conceived globals: entrepreneurs' transnational networking, across phases, and embedded in culture. *International Journal of Business and Globalisation*, *16*(3), 209-227.

Deniz, N., Boz, İ. T., & Ertosun, Ö. G. (2011). The Relationship between Entrepreneur's Level of Perceived Business-Related Fear and Business Performance. *Procedia-Social and Behavioral Sciences*, *24*, 579-600.

Dilli, S., & Westerhuis, G. (2018). How institutions and gender differences in education shape entrepreneurial activity: a cross-national perspective. *Small Business Economics*, *51*(2), 371-392.

Gedeon, S. A. (2017). Measuring student transformation in entrepreneurship education programs. *Education Research International*, *2017*.

Global Entrepreneurship Research Association (2021): *How GEM defines entrepreneurship*. London: Global Entrepreneurship Research Association. Retrieved 18 October 2021 from https://www.gemconsortium.org/wiki/1149

Guelich, U. (2018) *Global Entrepreneurship Monitor GEM Thailand Report 2017/18.* Bangkok: Bangkok University. Retrieved 18 May 2021 from https://gemconsortium.org/report/50189

Heinonen, Jarna and Ulla Hytti)2010(. Back to basics: the role of teaching in developing the entrepreneurial university. *The International Journal of Entrepreneurship and Innovation, 11*)4(, 283-292.

Horbach, J., Rammer, C., & Rennings, K. (2012). Determinants of eco-innovations by type of environmental impact—The role of regulatory push/pull, technology push and market pull. *Ecological economics*, *78*, 112-122.

Hunter, E., Jenkins, A., & Mark-Herbert, C. (2020). When fear of failure leads to intentions to act entrepreneurially: Insights from threat appraisals and coping efficacy. *International Small Business Journal*, 0266242620967006.

Jensen, K. W., & Schøtt, T. (2015). Start-up firms' networks for innovation and export: facilitated and constrained by entrepreneurs' networking in private and public spheres. *Social Network Analysis and Mining*, *5*(1), 1-17.

Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, *61*(3), 453-460.

Karlsson, Tomas and Kåre Moberg)2013(. Improving perceived entrepreneurial abilities through education: Exploratory testing of an entrepreneurial self efficacy scale in a pre-post setting. *The International Journal of Management Education, 11*)1(, 1-11.

Katz, J. A. (2002). The chronology and intellectual trajectory of American entrepreneurship education. *Journal of Business Venturing, 18,* 283–300.

Kelley, D., Brush, C., Greene, P., & Litovsky, Y. (2013). GEM 2012 Women's Report: *(GERA / GEM)*. Retrieved 15 MAy 2021 from https://gemconsortium.org/report/48583

Levie, J. (2008). The IIIP Innovation Confidence Index 2007 Report. *Hunter Centre for Entrepreneurship University of Strathclyde, Glasgow, United Kingdom, 29*.

McMullen, J. S., & Warnick, B. J. (2016). Should we require every new venture to be a hybrid organization?. *Journal of Management Studies*, *53*(4), 630-662.

Minniti, M. (2005). Entrepreneurship and network externalities. *Journal of Economic Behavior & Organization*, *57*(1), 1-27.

Moberg, Kåre Sven.)2011(. Evaluating content dimensions in entrepreneurship education. *Available at SSRN 1969852*.

Morgan, J., & Sisak, D. (2016). Aspiring to succeed: A model of entrepreneurship and fear of failure. *Journal of Business Venturing*, *31*(1), 1-21.

Neck, Heidi M., & Patricia G. Greene)2011(. Entrepreneurship education: known worlds and new frontiers. *Journal of Small Business Management, 49*)1(, 55-70.

Popescu, S. (2012). Women And Men In Entrepreneurship. *Journal of Knowledge Management, Economics and Information Technology*, *2*(4).

Prince, S., Chapman, S., & Cassey, P. (2021). The definition of entrepreneurship: is it less complex than we think?. *International Journal of Entrepreneurial Behavior & Research*, *27*(9).

Rauch, A., & Hulsink, W. (2015). Putting entrepreneurship education where the intention to act lies: An investigation into the impact of entrepreneurship education on

entrepreneurial behavior. *Academy of management learning & education*, *14*(2), 187-204.

Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (Vol. 55): Transaction publishers.

Sexton, D. L., Upton, N. B., Wacholtz, L. E., & McDougal, P. P. (1997). Learning needs of growth-oriented entrepreneurs. *Journal of Business Venturing, 12*, 1–8.

Suacamram, M. (2019). Developing Creativity and Entrepreneurship of Undergraduate Students through a Field Trip Overseas. *International Journal of Instruction*, *12*(1), 591-606.

Unger, Jens M., Andreas Rauch, Michael Frese and Nina Rosenbusch (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing, 26*(3), 341-358.

Van Hemert, P., Nijkamp, P., & Masurel, E. (2013). From innovation to commercialization through networks and agglomerations: analysis of sources of innovation, innovation capabilities and performance of Dutch SMEs. *The Annals of Regional Science*, *50*(2), 425-452.

Welpe, I. M., Spörrle, M., Grichnik, D., Michl, T., & Audretsch, D. B. (2012). Emotions and opportunities: The interplay of opportunity evaluation, fear, joy, and anger as antecedent of entrepreneurial exploitation. *Entrepreneurship Theory and Practice, 36*(1), 69-96.

Wyrwich, M., Stuetzer, M., & Sternberg, R. (2016). Entrepreneurial role models, fear of failure, and institutional approval of entrepreneurship: A tale of two regions. *Small Business Economics*, *46*(3), 467-492.

Yu, X., & Si, S. (2012). Innovation, internationalization and entrepreneurship: A new venture research perspective. *Innovation: Management, policy & practice, 14*(4), 524-539.

Zotov, V., Frolova, N., Prasolov, V., & Kintonova, A. (2021). The Effectiveness of Case Studies in Entrepreneurship Education. *International Journal of Instruction*, *14*(4).