

Exploring the Determinants of Sustainable Entrepreneurship among French Female Students

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Abstract

Sustainable entrepreneurship has undoubtedly become a burgeoning field of research nowadays. There are limited amount of research on the domain of females entrepreneurship, therefore objective of this study is to investigate the factors affecting female's intention for sustainable entrepreneurship. Building on Shapero and Sokol's entrepreneurial events theory, this study investigates how contextual motivating factors including perceived social support, and perceived barriers impact women's intention towards sustainable entrepreneurship through perceived desirability, and perceived feasibility. This study further determines the role of entrepreneurial attitude as a driver. In addition, the proposed model examines the relationship between sustainable orientation and sustainable entrepreneurship intention. To analyze data collected from 128 female university students in France, this study employs a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. We found no significant relationship between perceived barriers and perceived desirability. Results illustrate that perceived social support is critical for university students' overall entrepreneurial initiative.

Index Terms—Entrepreneurship, France, Female Entrepreneurship, Sustainability, Sustainable entrepreneurship

Introduction

The economic and non-economic development of a country is mainly due to entrepreneurship because it enables innovation, creates new companies, heightens employment and incomes, improves products and services, and processes, and fosters equality and justice in society (Koe et al., 2014). Nevertheless, entrepreneurial activities have not led to a positive impact on the environment because of some market failures (Cohen and Winn, 2007). Fossil fuel resource overuse, plastic oceans, and global warming of the planet are just a few of the examples of the environmental problems companies contribute to. Therefore, developed, and emerging countries alike expand the problems in the relentless pursuit of profit. These problems still rank among today's major concerns and need a rapid resolution. Even with

decades of good intentions and attempts from companies, environmental issues unfortunately remain unsolved. Since environmental degradation has been partially attributed to entrepreneurial activities, entrepreneurs need to take play an active role in the resolution of sustainable problems (Tilley and Young, 2009; Hockerts and Wüstenhagen, 2010; Parrish, 2010; O'Neil and Ucbasaran, 2011). Sustainable entrepreneurship, that pursues economic and non-economic values, comes from the endeavor of linking entrepreneurial activities and sustainability management (Dean and McMullen, 2007).

The fundamental premise of this research is based on two separate but interconnected disciplines, sustainability and female entrepreneurship. With the degradation of the environment, governments are encouraging sustainable businesses (Koe and Majid, 2014). At the same time, governments have acknowledged that female entrepreneurship is central to a country's economic development but has been largely ignored to date. Women play a critical role in running entrepreneurial activities just as men (Sahban et al., 2016). Previous research suggests that various motivations such as independence, self-achievement, and flexible working hours drive entrepreneurship in women (Orhan and Scott, 2001). Interestingly, in some cases, women see entrepreneurship as an opportunity for earning while simultaneously taking care of their children (Cromie, 1987). The number of female entrepreneurs worldwide, to date, is rapidly growing (Langowitz and Minniti, 2007). According to a study by Virginie and Katia (2017), only 30% of French entrepreneurs are females, which is relatively low.

Previous research on female entrepreneurship reveals that female entrepreneurs face three main barriers such as economic (e.g., financial credibility), contextual (e.g., traditional views and stereotypes), and soft issues (e.g., lack of skill, know-how and role models). Female entrepreneurs often need strong ties, i.e., support from family, friends and relations compared to males to overcome those barriers (Lockyer and George, 2012). Research has also found that female entrepreneurs experience conflicts between work and family life (Kim and Ling, 2001). Understanding of level of social support as well as perceived barriers is critical because these factors serve as decisional factors of any entrepreneur. Also, previous research pertinent to entrepreneurship reveals that contextual factors such as self-perceived social support (Abebe et al., 2014; Anggadwita and Dhewanto, 2016) and perceived barriers (Sandhu et al., 2011; Shahverdi et al., 2018) affect entrepreneurial intentions. While governments of different countries are actively developing policies to encourage female entrepreneurship, it is interesting to examine the impacts of contextual factors such as self-perceived social support and perceived barriers on their sustainable entrepreneurial intention.

In order to understand the growing importance of both sustainable businesses and research on female entrepreneurship, this study attempts to explore the determinants of sustainable entrepreneurial intentions among female students in France. The overall objective of this study is to explore factors that influence women's intention for sustainable entrepreneurship. This study particularly examines the impacts of social support and perceived barriers on sustainable entrepreneurship intention among French female students. Drawing on Shapero and Sokol's (1982) entrepreneurial events theory, this study attempts to explore how contextual motivating factors- perceived social support, and perceived barriers impact French female students' intention for sustainable entrepreneurship through perceived desirability, perceived feasibility, and entrepreneurial attitude. In addition, the proposed model examines the relationship between sustainable orientation and sustainable entrepreneurship intention. This study not only extends the boundary of extant literature by exploring one of the emerging forms of entrepreneurship, sustainable entrepreneurship but also sheds light on female entrepreneurship. We believe that our findings are useful for several entities including society, businesses, universities, and policymakers.

Theoretical background

Sustainability

Brundtland's report (1987) defined sustainability as "economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs". Elkington (1994) developed the Triple Bottom Line approach of measuring corporate performance. For him, a venture needs to pay attention to three aspects to extend its prosperity, called as the 3P's, i.e., people, planet, and profit (Klöpffer, 2003). To achieve the goal of sustainability, these dimensions need to be perfectly balanced (Elkington, 1994).

The term sustainability used to only address an environmental aspect. However, over time the notion of sustainability has evolved towards the economy, society, and the environment (Giddings et al., 2002; Spangenberg, 2005; Cocklin, 1995). The social dimension of sustainability is concentrated on lifestyle and well-being improvements (Martens and Carvalho, 2017). Sustainable activities lead by governments and their population, amelioration of relationships between members of an organization and democratic activities are considered as social enhancements (Elkington, 1998). Supporting individuals in their projects while thinking about their own needs and societal needs is the balance required to improve social aspects (Choi and Ng, 2011).

Environmental and social dimensions are not the only two important dimensions in the Triple Bottom Line, sustainability also includes economic development (Fiksel et al., 1999). The economic aspect of sustainability has gained importance and gained increasing awareness among researchers after the Subprime economic crisis in 2008. Unemployment issues and financial risks became a key critical concern for the governments (Sheth et al., 2011). In order to manage these crises, two main perspectives of sustainability were highlighted, financial achievements and stakeholders' economic interests (Cruz and Wakolbinger, 2008). Therefore, having a good balance between social, environmental, and economic aspects has become one of the key requirements necessary to deem a company as a sustainable company (Nasiri et al., 2018).

Female entrepreneurship in France

Mainstream entrepreneurship research used to be focused on male entrepreneurs until the late 1970s. But thereafter an explicit subdomain of female entrepreneurship started to emerge (Jennings and Brush, 2013). During the late 1990s and early 2000s, discussion through dedicated conferences and research highlighted the differences between male and female entrepreneurship in terms of societal, psychological, and economic dimensions and addressed a need for continual research about female entrepreneurship (Yadav and Unni, 2016; Max and Ballereau, 2013; Khan, 2016).

Entrepreneurship is central to a country's development including a developed nation like France where entrepreneurship is stimulated to counter growing unemployment rates (Henriquez et al., 2002). In 1998, 30 percent of the businesses in France were owned and managed by females (Orhan, 2001) which is one-third of the rate of businesses run by females in the European Union (Henriquez, et al., 2002). Theoretical research among female entrepreneurship has been undertaken in diverse academic disciplines such as economics, social discrimination (Orhan, 2001), innovation (Khan, 2016) and social psychology (Max and Ballereau, 2013). However, extant research offers a very limited understanding of sustainable entrepreneurship among women.

Sustainable Entrepreneurship

Entrepreneurship is defined as all the activities aiming for the creation and the growth of a business while obtaining value in return. According to Schumpeter (1935), entrepreneurship is the main factor for developing a nation. Various streams of thought and literature have explored the relationship between entrepreneurship and sustainability as social entrepreneurship (Do Paço et al., 2011; Valéau and Boncler, 2013; Koe and Majid, 2014), ecopreneurship, institutional entrepreneurship and sustainable entrepreneurship (Hockerts and Wüstenhagen, 2010).

Schumpeter (1934) and Kirzner (2015) have raised the attention on sustainable entrepreneurship. Sustainable entrepreneurship includes social entrepreneurship and ecopreneurship (eco-friendly entrepreneurship) in the business model. In fact, the sustainable entrepreneur will voluntarily rely on strategies contributing to sustainable development to make sense of these practices. With increasing progressivity and awareness among consumers, businesses are forced to find effective solutions not only to differentiate themselves from the competition but also to maximize profits (Hockerts and Wüstenhagen, 2010). Sustainable entrepreneurship is therefore an interesting avenue for entrepreneurs who want to stand out from their competitors. The core motivation is to contribute to solving social and environmental issues along with a running a successful business (Cohen and Winn, 2007).

Hypothesis development

Perceived social support

Mair and Noboa (2006) defined social support as “the support an individual expects to receive from her or his surroundings”. Support can be given by different social entities. Universities for example can support an entrepreneurial project. Also, governments, non-governmental organizations, families, and friends, etc. can provide moral and financial support. In the past, Central and Eastern Europe experienced a lower exposure to entrepreneurship due to insufficient government support, and weaker competencies as well as a lack of confidence to start a business among people (Vodă and Florea, 2019). Entrepreneurs expect to receive support for different reasons: it can be emotional/moral support, business information/knowledge support, financial support in the shape of initial capital or also support in the form of additional business contacts. According to a number of studies (Chen et al., 2015; Shiri et al., 2012; Farooq et al., 2016), during the first stage of the company creation, the social network can be important and can have a real impact on the success of a company. Farooq (2018) explains that a social network can contain only a few people, but when one of the individuals is influential, the social network becomes more supportive. Social support has been proven to be a motivational factor towards sustainable entrepreneurial intentions (Vermeir and Verbeke, 2008), towards environmental entrepreneurial behaviours (Meek et al., 2010) and ecological entrepreneurial actions (Birgelen et al., 2009). According to Kristiansen and Indarti (2004), social support not only stimulates entrepreneurial intentions, but it also drives entrepreneurial behaviors. Therefore, perceived social support would seem to have a great impact on sustainable entrepreneurial intention among France female students.

Perceived barriers

Previous research on university students has found that gender, family, business experience and education level significantly influence the intention to become entrepreneurs (Wang and Wong 2004). It was also found that females were less interested in entrepreneurship than males which was attributable to the education, experience and risk-taking ability of individuals (Sandhu et al., 2011). The national values and standards, the perception of

difficulties to create a company, the influence of our relatives, the environment we live in are all factors that are influential in individual intentions of sustainable entrepreneurship (Pittaway and Cope, 2007; Carayannis et al., 2003). According to Lüthje and Franke (2003), people's reluctance to start a business can be due to fear of bank funding refusals, the fear of failure and the stigma attached to it, relatives look and judgments, unfavorable laws to start a business, and more are the influencing factors to entrepreneurial intentions.

Previous studies have shown (Lee et al., 2009; Pruett et al., 2009) that different countries varying propensities to create a business may be due to national values. Boissin et al., (2009) analyzed the entrepreneurial intentions of French students and compared them to American students. They found that French people preferred to be hired by a company rather than start their own business. Therefore, it is a fact that societal, educational, and environmental barriers may influence individuals to feel a lack of self-confidence and skill to start a new business. That further can impact the intention to become sustainable entrepreneurs.

Perceived feasibility

The notion of perceived feasibility has been studied and used in different theories. The Theory of Reasoned Action (Fishbein and Ajzen, 1975), the Entrepreneurial Event Model (Shapero and Sokol, 1982) and the Theory of Planned Behavior (Ajzen, 1991) are all models that have been used to help us understand the intentions of entrepreneurs. Perceived feasibility is defined by the degree of feeling that a person has about their own capability to start a new business (Krueger et al., 2000). Bandura (1997) and Chen et al. (1998) referred to perceived feasibility as perceived self-efficacy i.e. leadership skills, communication skills, and negotiation skills. Shapero and Sokol (1982) named perception of ability as perceived feasibility in their Entrepreneurial Event Model. In line with Koe et al. (2014), feasibility perceived was examined as the degree to which a person feels capable to succeed in entrepreneurial actions. Extant research (Koe et al., 2014) shows that perceived feasibility positively influences entrepreneurial intention.

Entrepreneurial attitude

According to Hussain et al. (2018), entrepreneurial attitude “is the choice of students to become self-employed rather than be employed by an organization” and a high inclination toward entrepreneurship shows their tendency to become a boss rather than an employee. The inclination is a good measure of the genuineness of entrepreneurship (Rona-Tas and Lengyel, 1997). In the presence of social support, individuals may feel positive entrepreneurial inclination (Sahban et al., 2016), and the presence of a perceived barrier can lead to negative entrepreneurial inclination (Sandhu et al., 2011). Previous research indicates that entrepreneurial attitude positively affects sustainable entrepreneurship intention among university students (Tahseen and Haider, 2021).

Perceived desirability

The Entrepreneurial Event Theory (Fishbein and Ajzen, 1975; Shapero and Sokol, 1982) shows how important perceived desirability is in the propensity of being an entrepreneur. Shapero and Sokol (1982) and Liñán et al. (2005) defined perceived desirability as “a factor related to a person’s perception of the attractiveness of a behavior”. This variable has proven to influence the desire for new venture creations (Diochon et al., 2002) and self-employment (Segal et al., 2005). Being enthusiastic about developing a sustainable company, having the willingness of answering the problems that people are facing, enjoying receiving feedback, are attitudes that have been proven to be a key factors for the longevity of a business (Korunka et al., 2003). Therefore, it is likely that individuals with high desirability towards entrepreneurship are likely to become sustainable entrepreneurs.

Sustainable Entrepreneurial intentions

Theory of Planned Behavior (Ajzen, 1991), determined that behavioral intentions are predicted by attitudes, subjective norms, and perceived behavioral control. But the Entrepreneurial Event Theory (Shapero & Sokol, 1982) stipulates that intentions are predicted by the desirability, the feasibility and the propensity to act.

Sustainable entrepreneurship links sustainable management with entrepreneurship. Thus, it is different from commercial entrepreneurship in terms of value creation (Koe and Majid, 2014). Sustainable entrepreneurship can be defined as “a process in which entrepreneurs exploit the opportunities in an innovative manner for economic gains, social equity, environmental quality and cultural preservation on an equal footing” (Vuorio et al., 2018). Since intention is a great predictor of human behavior (Aizen, 1991; Koe and Majid, 2014), this research intends to examine intention towards sustainable entrepreneurship.

Sustainable orientation

Sustainable orientation means having business ideas inclined toward sustainable development. Strong sustainable orientation can influence business owners to become involved in sustainable practices (Spencem et al., 2008; Koe and Majid, 2014). Kuckertz and Wagner (2010) have found that individuals with sustainable orientation intend to become self-employed. Previous studies also found that sustainable orientation has a significant influence on sustainable entrepreneurship (Koe and Majid, 2014; Kuckertz and Wagner, 2010; Criado-Gomis et al., 2017; Vuorio et al., 2018). Therefore, it is considered that individuals with sustainable orientation will have an intention towards sustainable entrepreneurship. Fig 1. shows the framework of our research. In the light of the above arguments, the following hypotheses were proposed:

- H1a:** Perceived social support positively influences perceived feasibility.
- H1b:** Perceived social support positively influences perceived desirability.
- H2a:** Perceived barriers negatively influence perceived feasibility.
- H2b:** Perceived barriers negatively influence perceived desirability.
- H3a:** Perceived social support positively influences entrepreneurial attitude.
- H3b:** Perceived barriers negatively influence entrepreneurial attitude.
- H5:** Perceived feasibility positively influences intention towards sustainable entrepreneurship
- H4:** Entrepreneurial attitude positively influences intention towards sustainable entrepreneurship
- H6:** Perceived desirability positively influences intention towards sustainable entrepreneurship
- H7:** Sustainable orientation positively influences intention towards sustainable entrepreneurship

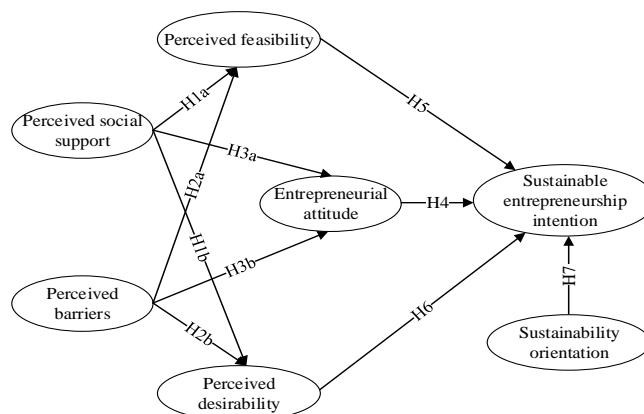


Fig. 1 Research framework

Methodology

Questionnaire design and sampling

In this research a questionnaire-based convenient sampling method was used. To develop the survey, we used a 5-point Likert scale ranging from 1: “strongly disagree” to 5: “strongly agree”. With the help of research experts, the questionnaire was improved. As suggested by the Bouletreau et al. (1999), the translation of the questionnaire involves two essential steps i.e. a literal translation and adaptation to the cultural context, life habits and idioms of the target population. At the first step after several refinements in the questionnaire, the questionnaire was translated into French. Later in the second step for the cross-cultural validation of the translated questionnaire, a pilot test was performed with the help of a few French female students. The questionnaire was revised based on the comments received during the pilot test. The main test was performed with the help of university students studying in various disciplines such as engineering, business, finance, law, medical, sciences, art, and IT. About 150 questionnaires were retrieved of which about 128 were found useful.

Data analysis and results

Confirmatory factor analysis and structural modeling testing were carried out while analyzing the data collected from the 128 questionnaire surveys. The current research employs the Partial Least Squares technique using SmartPLS software (v. 2.0.M3) for the assessment of the proposed hypotheses. The psychometric properties such as factor loading, average variance extracted (AVE), composite reliability (CR), etc. were computed while conducting CFA. We confirmed validity and reliability by ensuring factor loading of each item, AVE and CR values for all constructs exceeded 0.5, 0.5, and 0.7, respectively. Also, we found that the square root of AVE is higher than the inter-construct co-relations to ensure discriminant validity (Hair, et al, 2010; Fornell and Larcker, 1981). Thereafter, hypothesized relationships were calculated using the PLS approach with a bootstrap frequency of 600 samples. Appendix A shows the reliability and validity of the constructs. Appendix B shows the correlation of the constructs and Appendix C shows loadings of the items. It can be clearly seen from Fig 2, the structural model, that all hypotheses except H2b are supported.

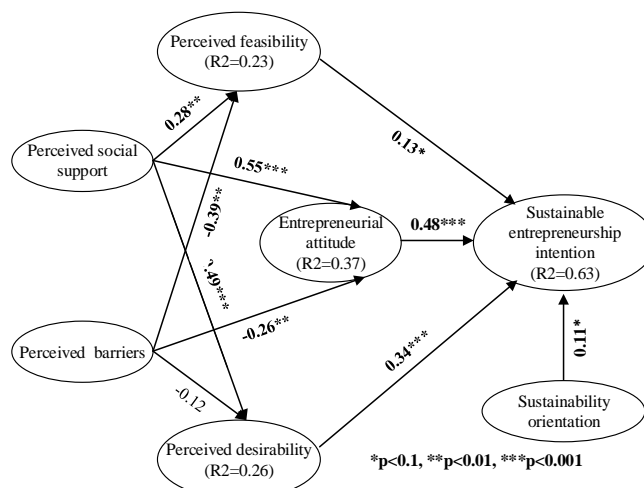


Fig 2. Structural model

Results and Conclusion

Results and discussion

The main objective of this study is to investigate factors affecting French female

students' intention for sustainable entrepreneurship. This study builds a framework based on Shapero and Sokol's (1982) entrepreneurial events theory to determine how contextual motivating factors- perceived social support, and perceived barriers, impact intention towards sustainable entrepreneurship through perceived desirability and perceived feasibility. A PLS-SEM approach was employed to analyze the hypothesized relationships.

The result indicates that perceived social support positively affects perceived feasibility, which is in line with Hockerts, (2015). This is perhaps because the students rely on family support, moral support and institutional support to feel feasible to open their own business (Kim and Ling, 2001). Also, social support enhances the probability to build the desired network required for business success (Hockerts, 2015). The results of this research show that perceived social support positively influences the perceived desirability and entrepreneurial attitude. Social support can be considered as close family support and peer group support. A peer group consisting of experienced business entrepreneurs can provide technical advice and help in starting a new business. In addition, it can positively influence individuals who want to start their own business. Also, government support, rules and regulations in favor of sustainable entrepreneurship can be catalytic (Sabhan, et al., 2016) for French female students.

Perceived feasibility and perceived desirability were found to have a positive impact on sustainable entrepreneurship intention. This finding is synchronous with previous research (Giacomin et al., 2011). The results further indicate that perceived barriers negatively impact entrepreneurial attitude. This finding is somewhat parallel with that of Sandhu et al. (2010). Students typically lack business exposure and supporting infrastructure while starting a business. High start-up costs and lower levels of required knowledge and a lack of confidence are additional barriers. To minimize these kinds of barriers, governments and institutions including universities should focus on facilitating specialized training programs on entrepreneurship that focused on female students. Also, government policies focusing on financial support for female entrepreneurs can motivate female students to start their own businesses. Further, we found that perceived desirability, entrepreneurial attitude, and perceived feasibility has a positive influence on sustainable entrepreneurship intention in line with Tahseen and Haider (2021) and Koe et al. (2014). The results indicate that desirability and attitude have a stronger positive influence than feasibility on sustainable entrepreneurship intentions. Results also show that there is a weak but significant direct effect of sustainable orientation on intention towards sustainable entrepreneurship. This finding supports the argument that "sustainability-oriented individuals will also have a higher propensity to perceive entrepreneurial opportunities resulting from unsustainable economic behavior" (Kuckertz and Wagner, 2010). Therefore, governments and policymakers should encourage sustainability behaviors of entrepreneurs in order to build up the sustainability orientation.

Limitations and directions for the future research

This research offers key implications for society, policy makers, universities, and government. However, there are a few limitations that may contribute to future research directions. Firstly, this study only includes social support and perceived barriers as contextual factors. Nevertheless, it would be interesting to study other influential factors or contextual factors in future research. Secondly, this study uses a small sample of French female students. Future research can focus on a larger number of samples from other countries. Thirdly, other studies have concentrated their efforts on various factors such as sustainability passion (Tehseen and Haider, 2021), emotional competencies (Fernández-Pérez et al., 2017), emotional

intelligence, creativity, and moral obligation (Tiwari et al., 2017). Various other factors such as subjective norms, structural support, and exposure to business environment (Ramli, et al., 2019), autonomy, self-employment, job dissatisfaction, career dissatisfaction and individual personality traits such as the need for achievement, locus of control, risk-taking behavior, etc. (Cromie, 2000) were investigated by previous researchers. Future studies may analyze these factors in the context of sustainable entrepreneurship.

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Appendix A: Composite Reliability and validity

Construct	Composite reliability	AVE	\sqrt{AVE}
Perceived Social Support (PSS)	0.82	0.62	0.78
Perceived Barriers (PB)	0.86	0.67	0.82
Perceived Feasibility (PF)	0.82	0.53	0.73
Perceived Desirability (PD)	0.88	0.65	0.81
Sustainable Entrepreneurship Intention (SEI)	0.95	0.86	0.93
Entrepreneurial attitude (EA)	0.90	0.74	0.86
Sustainable orientation (SO)	0.87	0.70	0.84

Appendix B: Correlations

	EA	SEI	SO	PD	PSS	PF	PB
EA	1	0	0	0	0	0	0
SEI	0.65	1	0	0	0	0	0
SO	-0.02	0.26	1	0	0	0	0
PD	0.40	0.64	0.40	1	0	0	0
PSS	0.55	0.52	0.12	0.48	1	0	0
PF	0.32	0.49	0.18	0.56	0.27	1	0
PB	-0.25	-0.14	0.16	-0.12	0.01	-0.39	1

Appendix C: Questionnaire items

Constructs	Item	Factor Loading
PSS Farookh et al, 2018	Business information/ knowledge support	0.88
	Financial support (initial capital)	0.83
	Support in shape of additional business contact	0.63

PB Giacomin et al, 2011	Lack of self-confidence	0.78
	Miss entrepreneurial skills/competences	0.83
	Lack of key knowledge and experience	0.84
	Ability to define an idea and strategy for a new sustainable business (NSB)	0.79
PF Koe et al, 2014; Fernández-Pérez et al, 2017	Ability to negotiate and maintain supportive relationships with potential investors and banks	0.67
	Ability to recognize opportunities for the development of sustainable products/services	0.76
	Have leadership and communication skills to start and run a NSB	0.69
PD Koe et al, 2014	Enjoy operating sustainable business	0.87
	Enthusiastic about operating sustainable business	0.90
	Can face various/new sustainability challenges	0.72
	Like to create new sustainable products/services	0.72
EA Koe et al, 2014; Fernández-Pérez et al, 2017	Becoming an entrepreneur within 5 years of completing my studies would be very advantageous for me.	0.87
	Becoming an entrepreneur within 5 years of completing my studies would be good for my career.	0.88
	I would enjoy becoming an entrepreneur within 5 years of completing my studies.	0.82
SEI Sung and Park, 2018	My professional goal is to become a sustainable entrepreneur	0.94
	Ready to do anything to be a sustainable entrepreneur	0.92
	Feel enthusiastic to be sustainable entrepreneur	0.91
SO Kuckertz and Wagner, 2010; Sung and Park, 2018	Firms should take an internationally leading role in the field of environmental protection.	0.88
	The environmental performance of a company will in future be considered more and more by financial institutions.	0.70
	I think that environmental problems are one of the biggest challenges for our society	0.91

Note: EA: Entrepreneurial attitude; SEI: Sustainable Entrepreneurship Intention; SO: Sustainable orientation; PD: Perceived Desirability; PSS: Perceived Social Support; PF: Perceived Feasibility; PB: Perceived Barriers