



SCHOOL OF
ECONOMICS AND
MANAGEMENT

The effect of education on entrepreneurship

Examining the influence of new venture creation programs on
entrepreneurial intention and behaviour

by

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Abstract

Although venture creation programs (VCPs) are becoming increasingly popular within entrepreneurship education, still little is known about how effective these programs actually are and if they foster more and better entrepreneurs compared to entrepreneurship master that do not oblige VCPs in their curriculum. Therefore, this thesis aims to analyse the differences in entrepreneurial intention and behaviour between entrepreneurship masters that teach according to the extreme form of experience-based pedagogy with a mandatory VCP and entrepreneurship masters that do not apply the VCP in their curriculum. To do so, a survey approach was applied in which 63 alumni from four Swedish entrepreneurship masters participated. Half of the alumni followed a mandatory VCP in their entrepreneurship masters, whereas the other half did not follow a VCP in their entrepreneurship master. By comparing both groups, we found no significant differences between intrapreneurship levels, yet, entrepreneurship students who followed a VCP, exhibited significant higher levels of intention, nascent entrepreneurship activities, and firm creation (rates). As such, this study contributes to the limited knowledge on VCPs and hence provides practical contributions to entrepreneurship education stakeholders to use VCPs as a learning vessel.

Keywords: entrepreneurship education, experience-based pedagogy, venture creation program, entrepreneurial intention, entrepreneurial behaviour

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Table of Contents

1	Introduction.....	1
2	Theoretical Framework.....	4
2.1	Entrepreneurial intention	4
2.2	Entrepreneurial behaviour.....	6
2.2.1	Nascent entrepreneurship.....	6
2.2.2	Firm creation.....	7
2.2.3	Intrapreneurship	8
2.3	Entrepreneurship education	9
2.4	Pedagogy in entrepreneurship education	10
2.4.1	Experience-based pedagogy and Venture Creation Program (VCP).....	11
2.4.2	Influence of VCPs on entrepreneurial intention	12
2.4.3	Influence of VCPs on nascent entrepreneurship	12
2.4.4	Influence of VCPs on firm creation	14
2.4.5	Influence of VCPs on intrapreneurship.....	15
2.4.6	Summary of hypotheses.....	17
3	Methodology	18
3.1	Research Approach and design.....	18
3.2	Data Collection Method.....	19
3.3	Data collection and sampling process.....	19
3.4	Validity and reliability of the methods	25
3.5	Ethical considerations	26
3.6	Operational measures.....	26
3.7	Data Analysis	30
4	Analysis	32
4.1	Testing the hypotheses.....	32
4.2	Chapter Summary	40
5	Discussion.....	42
5.1	Discussion of the findings.....	43
5.2	Theoretical contributions	48
5.3	Practical contributions	49
5.4	Limitations	50
5.5	Future research.....	52
6	Conclusion	53

References.....	54
Appendices Appendix I: Survey	64
Appendix II: SPSS Output.....	76
Appendix II – A Intention.....	76
Reliability Analysis.....	77
Test for Normality.....	78
Appendix II – B Nascent entrepreneurship.....	78
Reliability.....	78
Check for normality	79
Appendix II – C Frequency of firm creation	79
Test for normality	79
Appendix II – D Level of Intrapreneurship	79
Reliability check	79
Check for normality	80
Appendix II – E Regression Analyses	80
Intention	80
Nascent entrepreneurship.....	80
Firm creation.....	81
.....	81
Frequency of firm creation.....	82
Intrapreneurship	82

List of Tables

Table 1 Syllabuses analysis per Entrepreneurship master..... 20
Table 2 Ability to get in contact per Entrepreneurship master 21
Table 3 Demographics of Sample Group 24
Table 4 Chi-square test social role models, prior start-up experience, and gender 25
Table 5 Independent samples t-test intention 33
Table 6 Mann-Whitney U test nascent entrepreneurship activities..... 35
Table 7 Chi-Square Test with Phi firm creation..... 36
Table 8 Mann-Whitney U test frequency of firm creation 37
Table 9 Mann-Whitney U Test level of intrapreneurship 39
Table 10 Summary of hypotheses testing..... 40

List of Figures

<i>Figure 1 Theory of planned behaviour (Ajzen, 1991)</i>	4
<i>Figure 2: Entrepreneurial Intention Model (Liñán & Chen, 2009)</i>	6

1 Introduction

Entrepreneurship is often recognized for its contribution to economic growth, innovation, and creating jobs (Braunerhjelm, 2010; van Praag & Versloot, 2007). Therefore, governments from all over the world are interested in grasping these benefits (Davey, Hannon & Penaluna, 2016). The increase in the highlighted importance of entrepreneurs has put the emphasis on trying to define what makes an entrepreneur (Van Der Sluis, Van Praag & Vijverberg, 2008). Therefore, a research question in literature remains whether entrepreneurship is about people having definitive traits (nature) or whether it is about skills and knowledge that can be fostered through education (nurture) (Bechard & Toulouse, 1998). Although “to some entrepreneurs are born and not bred” (David & Kirby, 2002, p.2), literature also finds that entrepreneurship is not dependent on someone’s genes (e.g. Nicolaou et al., 2008) and that entrepreneurship in fact can be taught (David & Kirby, 2002; Matlay, 2008; Erns & Young, 2021).

Hence, there is a general assumption that more and better education on entrepreneurship leads to an increase in both the number as well as the quality of entrepreneurs (Matlay, 2008). It is with this positive belief no surprise that education on entrepreneurship has grown significantly in the last two decades (Matlay, 2008). Although most universities have been incorporating entrepreneurship courses in their programs, only some research has investigated what the impact of these courses is on entrepreneurship outcomes (Von Graevenitz, Harhoff & Weber, 2010). Moreover, many contradicting findings are present with regards to the influence of entrepreneurship education on entrepreneurship outcomes. Whereas some studies find a positive relationship between entrepreneurship education and entrepreneurship intention (Dickson, Solomon & Weaver, 2008) and entrepreneurship behaviour (Breznitz & Zhang, 2021; Kolvereid & Moen, 1997), others do not (Eesley & Lee, 2020; Fayolle & Gailly, 2015).

Furthermore, despite the fact that there are comparative studies that investigate different entrepreneurship outcomes between entrepreneurship majors and regular business majors (Kolvereid & Moen, 1997) there is no clear comparison found between university entrepreneurship courses that differ among themselves that possibly explain differences in these outcomes. This gap is indicated within multiple articles where Eesley and Lee (2020)

for example state that universities all boast different entrepreneurship courses with different objectives and structures. They therefore emphasize considering all the variation that entrepreneurship programs offer. Variation in entrepreneurship education has also been witnessed by Kirby (2004), who stated that entrepreneurship programs often educate “about” entrepreneurship, whereas the “through” approach of teaching entrepreneurship focuses more on the hands-on experience. This indicates that it is also important to look at different pedagogy approaches in entrepreneurship education as the pedagogy approaches and the effects on entrepreneurship education varies greatly (Gibb, 1996).

Considering the complex and uncertain situations that entrepreneurship brings along, pedagogy approaches in entrepreneurship education call for methods that empower students to become autonomous that help them to develop skills to thrive in these complex and uncertain situations (O’Brien & Hamburg, 2019). Therefore, Sánchez (2011) states that experience-based learning is at the heart of entrepreneurial education due to the knowledge, skills, and attitudes that are taught. Similarly, for an individual to really learn and understand entrepreneurship, they must fully engage in the entrepreneurial process to obtain the experiential knowledge taught by “learning by doing”, or the so-called experience-based learning pedagogy. Hence, more and more entrepreneurship programs embrace experience-based learning in their curriculum (Middleton et al., 2014). Yet, within experience-based learning there can still be different levels of experience involved (Haneberg & Aadland, 2020). One extreme form of experience-based pedagogy is through the use of venture creation programs (VCPs) (Ollila & Middleton, 2011). VCPs are an education method that is designed with the main goal to support students in developing their ventures by using the competencies that are required to transform ideas and opportunities taught by the experiences of developing a real-life venture (Lackéus & Middleton, 2015). Hence, students learn through an integrated environment that both consist of incubation and education that fosters both new ventures as well as entrepreneurs (Lackéus & Middleton, 2015).

This prior research points out that VCPs foster entrepreneurs, but research on learning through VCPs is scarce (Lackéus & Middleton, 2015) and hence the question arises if VCPs indeed foster more and better entrepreneurs compared to entrepreneurship master that do not use VCPs in their curriculum. Consequently, this thesis aims to analyse the differences in entrepreneurship outcomes between entrepreneurship masters that teach according to the experience-based pedagogy with a mandatory VCP and entrepreneurship masters that do not

apply the VCP in their curriculum. The outcomes are defined by intention and behaviour, where the latter is divided in nascent entrepreneurship, firm creation, and intrapreneurship. Considering the above, the study intends to answer the following main research question:

Does experience-based pedagogy in terms of venture creation matter for entrepreneurial outcomes in terms of intention and behaviour?

This research question will be answered by means of a quantitative research method where the division lies between entrepreneurship masters that apply the extreme form of experience-based pedagogy through VCPs and entrepreneurship masters that do not include VCPs in their curriculum. Consequently, students of four Swedish entrepreneurship masters that graduated in 2017, 2018, and 2019 will be surveyed. Two of these university masters incorporated an extreme experience-based approach where VCPs were mandatory, in line with the “through entrepreneurship” approach (Kirby, 2004). The other two entrepreneurship masters led by a less extreme form of experience-based without the application of a VCP.

The study will add empirical evidence on the “mechanisms through which the great variation across courses and programs may have their effects” (Eesley & Lee, 2020, p.3). Additionally, by covering both intention as well as behaviour, that also moves beyond firm creation by examining the influence on nascent entrepreneurship and intrapreneurship as well, a widened view is provided on entrepreneurship and the impact of VCPs, generating original theoretical contributions. With regards to practical contributions, this study provides a deeper understanding about how entrepreneurship masters can be organized and structured most optimally in order to meet their objectives. Therefore, it might help policy makers and entrepreneurship education stakeholders, such as universities, to validate the most efficacy of their entrepreneurship programs (Fayolle & Gailly, 2015).

This paper is structured as follows. First a theoretical framework is presented. Within the theoretical framework key concepts and variables are defined and explained based on academic literature. Within this chapter the reasoning of the hypotheses is also further elaborated. This is followed by a description of the methodology where the research design is described as well as the sample and the variables. After that, the findings are analysed and presented, followed by a discussion with implications and limitations. Finally, the overall conclusion of this study is given by answering the main research question.

2 Theoretical Framework

This chapter provides a theoretical framework which is tailored to the research approach of this thesis. This study follows a deductive approach where hypotheses are deduced from theory. As per Bryman, Bell and Harley (2019), concepts within hypotheses need to be translated into entities that can be researched. Therefore, the concepts that are used for this research are defined on the basis of literature. First of all, the entrepreneurship outcomes – intention and behaviour – are defined for the scope of this research. After that, literature is provided on the impact of entrepreneurship education followed by a review and definition of experience-based pedagogy and its implications on the entrepreneurship outcomes.

2.1 Entrepreneurial intention

Intention in general has been proved to be the best predictor of someone’s behaviour as per the Theory of Planned (Ajzen, 1991), and thus this theory can be applied to a variety of contexts. The level of intention is affected by three variables, being the attitude towards behaviour, the subjective norm, and the perceived behavioural control. Attitude towards behaviour identifies the perception of self-desirability to perform a behaviour and the personal effect resulted from the behaviour (Lortie & Castogiovanni, 2015). The subjective norm represents the social pressure to either perform or not perform an action (Lortie & Castogiovanni, 2015). Lastly, the perceived behavioural control concerns the perceived self-efficacy, which means the individuals’ evaluation towards their ability and feasibility to perform an action which will only occur once the person believes that they have perceived behaviour control (Ajzen, 1991; Alhaj, Yusof & Edama, 2011).

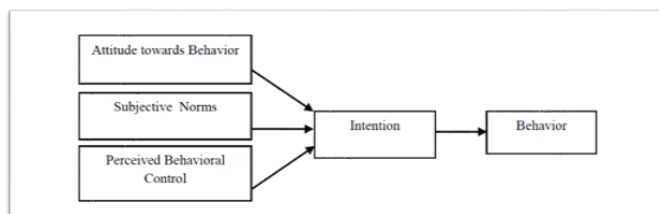


Figure 1 Theory of planned behaviour (Ajzen, 1991).

The Theory of Planned Behaviour can also be applied to the entrepreneurial context, where the attitude towards behaviour means the desirably and personal valuation about being an entrepreneur (Un et al., 2018), the subjective norm refers to how the environment of the

individual thinks of the decision to become an entrepreneur (Liñán & Chen, 2009), and finally, the perceived behavioural control relates to the perception that the individual holds about their capacity to become an entrepreneur (Liñán & Chen, 2009).

The reason why there is so much scholar interest in entrepreneurial intention is because it predicts the behaviour of starting a business (Kautonen, van Gelderen & Tornikoski, 2013). Similarly, entrepreneurial intention is defined “as the commitment to start a new business” (Krueger, 1993, p.7).

However, entrepreneurial intention is quite complex as the intention of individuals is influenced by a variety of other factors as well (Alhaj, Yusof & Edama, 2011). First, Ajzen (1991) states that intention is a suitable predictor for behaviour when the individual in question has a lot of volitional control over a certain situation, meaning that the action to participate in a behaviour is not only dependent on intention but also on nonmotivational factors, for instance availability of resources. Entrepreneurial behaviour is often not completely under this volitional control (e.g. obtaining finance, strict regulations), implying that the process of starting a new business is sometimes beyond the entrepreneurs power (Kautonen, van Gelderen & Tornikoski, 2013).

Moreover, it also important to consider multiple other variables that enable prediction of entrepreneurship apart from the antecedents. According to Bird (1988), entrepreneurial intention derives from two dimensions, namely the individual domains (e.g. prior experience, motivation and personality) and contextual variables (e.g. social context, environmental support and economics). Moreover, other variables influence the level of intention indirectly as well such as age, education, and gender (Delmar & Davidsson, 2000; Grilo & Thurik, 2005; Hatak, Harms & Fink, 2015; Reynolds, Storey & Westhead, 1994; Storey, 2016). Hence, these variables are also important to take along for the scope of this research and consequently, the model of the theory of planned behaviour of Ajzen (1991) can be extended to the entrepreneurial intention model per the following:

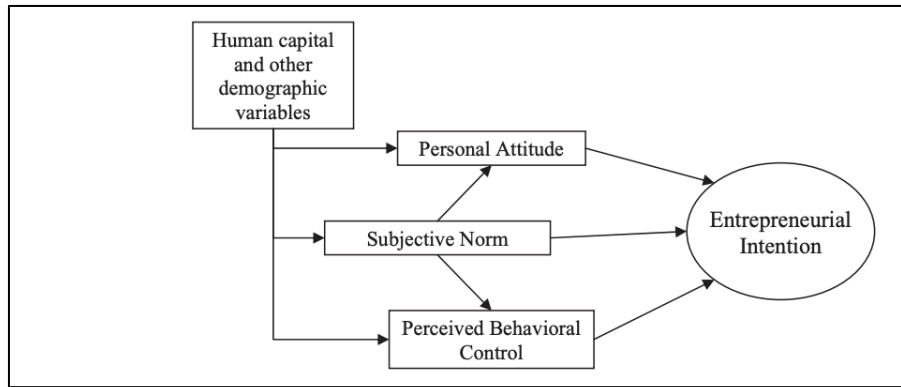


Figure 2: *Entrepreneurial Intention Model* (Liñán & Chen, 2009)

2.2 Entrepreneurial behaviour

2.2.1 Nascent entrepreneurship

Although entrepreneurial intention is the key antecedent to entrepreneurial behaviour, there is still incongruence between the desire to start a business and actually doing so. This as entrepreneurial intention does not automatically lead to entrepreneurial action (Shirokova, Osiyevskyy & Bogatyreva, 2016). This gap between beliefs and actual behaviour is called the intention-behaviour gap (Gollwitzer & Sheeran, 2006). Within this entrepreneurial intention-behaviour gap, nascent entrepreneurs are present as they fulfil the central position before the actual start-up phase (Aldrich & Martinez, 2001). Hence, rather than just giving serious thought to it (Aldrich & Martinez, 2001), nascent entrepreneurs are the individuals who are engaged in specific activities to bring this desire to realization (Carter, Gartner & Reynolds, 1996). To distinguish between seriously thinking about it and being engaged in specific activities, Aldrich and Martinez (2001) state that nascent entrepreneurs are the ones involved in at least two entrepreneurial activities, being acquiring a start-up team, investing money, looking for equipment and facilities, and writing a business plan. Further, the more nascent entrepreneurial activities the individual is involved in, the more likely that the individual will actually start the business (Bergmann & Stephan, 2013).

2.2.2 Firm creation

Using firm creation for the definition of entrepreneurship is an approach that is often used in research. As mentioned by Landström (2020), entrepreneurship can be viewed from a process perspective, where a focus point is on the creation of new organizations. Under this focus, Gartner (1988) argued that entrepreneurship is about the emergence of organizations and he has found similar views over the years. Barot (2015) for example, viewed entrepreneurship as the action and creation of new organizations and mentioned that entrepreneurs are the individuals who are either in the process of establishing a company or individuals who have created one already. This approach is in line with the first social reality of Davidsson (2005) which states that entrepreneurship is about the phenomenon of self-employment. This reality is considered entrepreneurial because of several reasons, however, emphasizes on the risk component since the self-employed bear a greater risk when striking out on their own (Vesković, 2014).

Moreover, whereas some other views state that entrepreneurship is about innovation (e.g. Schumpeter, 1912, cited in Landström, 2020), drawing the distinction at innovation is rather difficult as there is always innovation involved with newly created firms since no new entrant is a perfect imitation of an existing one (Davidsson, 2005). Additionally, newly created firms still drive the market process by offering a wider choice for customers and can therefore be considered as entrepreneurial (Davidsson, 2005). Lastly, self-employment and firm creation are easier to measure as it is also a commonly popular measure within existing data already (Katz, 1990). Consequently, it will be easier for this research to assess this criterion.

Nevertheless, Kuratko et al. (2005) states that exclusively looking at firm creation is not the most accurate measure of entrepreneurship, especially as the number of corporations that demand within-firm entrepreneurship, or the commonly known intrapreneurship, keeps growing. Hence, intrapreneurship will also be considered under entrepreneurial behaviour.

2.2.3 Intrapreneurship

Despite many similarities, such as taking initiative and the search for innovation and opportunities, there is a major distinction in the entrepreneurship field between ‘independent entrepreneurship’ and ‘entrepreneurship within existing organizations’ (Bosma, Wennekers & Amorós, 2012). And even within the demarcation of ‘entrepreneurship within existing organizations’ there are many different terminologies that cannot be defined by one single measure. Often, intrapreneurship is considered as corporate entrepreneurship, however, it cannot be measured by the same standard that easily (Bosma, Wennekers & Amorós, 2012). Corporate entrepreneurship is often concerned with strategic management and involves top-down approaches in order “to foster workforce initiatives and efforts to innovate and develop new business” (Bosma, Wennekers & Stam, 2011, p.6). Intrapreneurship on the other hand, is more concerned with individual employees that deploy a bottom-up approach with a focus on proactive initiatives (Bosma, Wennekers & Amorós, 2012). Considering the latter, intrapreneurs generally share the same characteristics as entrepreneurs (Skovvang Christensen, 2005) and intrapreneurship is usually based on the concept of using entrepreneurial skills within the context of a company that fosters innovation and development (Camelo-Ordaz et al., 2012).

Due to this focus on innovation and development, intrapreneurship can generally be divided in different dimensions. First there is the business venturing that focusses on creating new businesses within the existing organization (Antoncic & Hisrich, 2001). Secondly, there is a focus on innovativeness, that aims on innovation of product and services within the company context (Antoncic & Hisrich, 2001). Also, a third dimension can be added which is the proactive approach that drives the search for new opportunities and generates the development of new products (Camelo-Ordaz et al., 2012) services, technologies, strategies and competitive postures (Ward, 2004). In the same line, Bosma, Wennekers and Amorós (2012) view intrapreneurship as something broader than solely firm creation within an existing organization, however, they exclude initiatives of employees that are only aimed at optimizing work processes. Consequently, they define intrapreneurs as the “employees developing new activities for their main employer, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary” (Bosma, Wennekers & Amorós, 2012, p. 53). Hence, this definition will also be used for the scope of this research.

2.3 Entrepreneurship education

Entrepreneurs play a vital role in the global economic development and are seen as the engine of economic progress due to the innovation that they bring alone (Zvavahera, Chigora & Tandi, 2018). Therefore, governments from all over the world are interested in grasping these benefits (Davey, Hannon & Penaluna, 2016). Consequently, a research question in literature remains whether entrepreneurship is about people having definitive traits (nature) or whether it is about skills and knowledge that can be fostered through education (nurture) (Bechard & Toulouse, 1998). Although “to some entrepreneurs are born and not bred” (David & Kirby, 2002, p.2) literature finds that even though some genetic factors result in individuals being more likely to become entrepreneurs, entrepreneurship is not genetically determined (Nicolaou et al., 2008).

More importantly, research of Ernst and Young (2021) indicate that nurture precedes nature in shaping the entrepreneurial mindset. A similar view was also seen back in 1988 at study of the Small Business Research Trust (cited in David & Kirby, 2002) where 87% of the respondents believed that entrepreneurial skills can be acquired through a process of learning. Additionally, research of Matlay (2008) showed that the majority of students improved their entrepreneurship skills and knowledge between the first and third year of their study, indicating that both skills and knowledge can be transferred through education. Therefore, Matlay (2008) indicated that there is a general assumption that more and better education on entrepreneurship leads to an increase in both the number as well as the quality of entrepreneurs. It is with this positive belief no surprise that education on entrepreneurship has grown significantly in the last two decades (Matlay, 2008).

Although most universities have been incorporating entrepreneurship courses in their programs, only few research has investigated what the impact of these courses is on entrepreneurship outcomes (Von Graevenitz, Harhoff & Weber, 2010), and when investigated, contradicting findings emerge. With regards to intention, the hypothesis of Fayolle and Gailly (2015) that state that entrepreneurship education programs have a positive impact on entrepreneurship intention was rejected, both for the short, - as well as the long term. On other hand however, a literature review performed by Dickson, Solomon and Weaver (2008) found that multiple studies reported a positive relationship between entrepreneurship education and expressed intent to start a business.

With regards to behaviour, Eesley and Lee (2020) expected that entrepreneurship training would increase the level of entrepreneurship skills and consequently entrepreneurship rates, however, this was not found to be true in their research due to better self-assessment of the individual. Nevertheless, in research of Breznitz and Zhang (2021), entrepreneurship education did lead to higher firm creation rates. Therefore, they highlight to take in account differences in entrepreneurship courses that create different outcomes.

Hence, the above implies that entrepreneurial outcomes differ between the various entrepreneurship courses. Consequently, Kolvereid Moen (1997) suggest comparing the effects of different entrepreneurship courses that vary with regards to aspects such as duration, size, and content. In line is the research of Eesley and Lee (2020) who emphasize to consider all the variation that entrepreneurship programs offer. As pedagogy revolves around learning (Hägg & Peltonen, 2012), it is also important to look at different pedagogy approaches in entrepreneurship education as well because the pedagogy and the effects on entrepreneurship education varies greatly (Gibb, 1996).

2.4 Pedagogy in entrepreneurship education

The increasing demand for entrepreneurship education has risen the number of entrepreneurship programs to more than 1500 worldwide (Middleton et al., 2014). This increase also diversified the number of pedagogy approaches caused by the different forms of education practices (Hägg & Peltonen, 2012). The different pedagogy approaches generally fit to one of the four entrepreneurship education forms, namely: “about”, “for”, “through” and “embedded” (Pittaway & Edwards, 2012). Considering the complex and uncertain situations that entrepreneurship brings along, pedagogy approaches in entrepreneurship education call for methods that empower students to become autonomous that help them to develop skills to thrive in these complex and uncertain situations (O’Brien & Hamburg, 2019). To do so, the “through” and “for” forms of entrepreneurship education are the most effective as they focus on actual practices of entrepreneurship (Middleton et al., 2014; Gibb, 2002). Hence, students obtain knowledge taught by “learning by doing” or through the so-called experience-based learning pedagogy (Lackeus & Middleton, 2015; Read, Song & Smit, 2009; Sarasvathy, 2008). The experience-based pedagogy is focussed on a more active approach that requires

direct participation of students as they are the centre of attention and allows rich experiences and knowledge during the curriculum (Foley, 2000).

2.4.1 Experience-based pedagogy and Venture Creation Program (VCP)

An extreme form of experience-based pedagogy are VCPs as it combines action-orientation with experienced based learnings (Haneberg & Aadland, 2020; Ollila & Middleton, 2011). VCPs allow students to go through the real-life experience by starting their own venture whereby mistakes are encouraged (Lackéus & Middleton, 2015). Therefore, participants learn through experience, action and reflection, and focusses next to knowledge on the development of entrepreneurial skills, abilities, and attitudes that are necessary during the intended venture creation (Killingberg, Kubberød & Blenker, 2021).

Otherwise said, the VCP allows the participant to gain much more experience, skills, and knowledge compared to a participant that only follows a preestablished curriculum that aims on teaching certain predetermined objectives (Blundel, Lockett & Wang, 2018; Matricano & Formica, 2017). Hence, this may lead to different learning experiences between students following a VCP and students following entrepreneurial education programs without a VCP (Haneberg & Aadland, 2020). The difference in learning outcomes can be explained through the degree of action-orientation in the VCP that is less present at entrepreneurial education without the VCP (Hagg, 2017; Haneberg & Aadland, 2020). Therefore, the outcome of VCPs enables the transformation of students into entrepreneurs as students learn through an integrated environment that both consist of incubation and education, fostering both new ventures as well as entrepreneurs (Lackéus & Middleton, 2015).

Although all of the above mirrors a lot of positive implications, research on experience-based education and VCPs is still limited (Lackéus & Middleton, 2015). Moreover, there is, to the best of the authors' knowledge, no comparative research executed on entrepreneurial outcomes between entrepreneurship students following an experienced based entrepreneurial education program including a VCP and students following entrepreneurial education programs who do not follow a VCP. Hence, forms the basis of this research and the subsequent hypotheses.

2.4.2 Influence of VCPs on entrepreneurial intention

Generally looking at the influence of experience-based pedagogy on entrepreneurial intention, Middleton et al. (2014) argue that entrepreneurial intentions by university students are motivated by an experience-based pedagogy as it increases the propensity of undergraduates to engage in entrepreneurship after obtaining their degree. In the same vein, other studies use the design of learning activities through experience-based learning that fosters the development of creative problem-solving abilities in order to enhance the students' entrepreneurial intentions (Aja-Okorie and Onele, 2013; Middleton, 2010; Nasiru, Keat & Bhatti, 2015). Therefore, teaching entrepreneurship education that aims on generating entrepreneurial intention may require an experience-based pedagogy, yet, as indicated earlier there are different levels of experience-based pedagogy.

So more specifically, Olokundun (2018) states that entrepreneurial intention increases when learners are engaged in practical activities. Similarly, research suggests that entrepreneurial courses should encourage direct participation in entrepreneurial activities to foster entrepreneurial intention (Lv et al., 2021; Arranz et al., 2017). One approach that includes direct participation in entrepreneurial activities is through VCPs (Lackéus & Williams Middleton, 2015) and therefore Boubker et al. (2022) argues that the higher degree of action-orientation, is likely to increase levels of entrepreneurial intention.

Therefore, the first hypothesis of this research is:

H1: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master have higher levels of entrepreneurial intention after graduation than students without a VCP in their entrepreneurship master.*

2.4.3 Influence of VCPs on nascent entrepreneurship

Nascent entrepreneurs are the individuals who are engaged in specific activities to bring the desire of starting a business to realization (Carter, Gartner & Reynolds, 1996) by being involved in at least two entrepreneurial activities such as building a start-up team, investing money, looking for equipment and facilities, and writing a business plan (Aldrich & Martinez, 2001).

According to Onjewu, Haddoud and Nowiński (2021), nascent entrepreneurial activities are important as they are the bridge to new venture creation. Hence, looking at the nature of VCPs, the objective is to allow students to participate in the real-world environment and experience how it is to start a new venture (Hagg, 2017). This indicates that students who have participated in a VCP have more experience generated by the new venture experience and are likely to be more engaged in nascent entrepreneurial activities (Haneberg & Aadland, 2020).

Moreover, another aspect that influences the level of nascent entrepreneurship is the liability of newness that is experienced by entrepreneurs starting new ventures (Dahl, 2012). When the entrepreneur decides to start a new venture, they face multiple challenges as the venture is young and trying to compete with already established corporations in the market (Guercini & Milanese, 2014). This may result in a higher change of failure as the new ventures lack legitimacy, capabilities (Zhang & White, 2016), knowledge and experience (Dahl, 2012). According to Middleton (2011), VCPs develop the behaviours that enhance legitimacy and reduces uncertainty among nascent entrepreneurs which helps to decrease the effects of the liability of newness. Therefore, one can assume that entrepreneurship students that followed a VCP participate in more nascent entrepreneurial activities.

Lastly, research from Lackéus and Middleton (2015) highlight that VCPs encourage mistakes in order to provide students with the right set of skills, knowledge, and attitudes for future venturing. This is, according to Moreira, Dantas and Valente (2018), important for nascent entrepreneurship as the fear of failure highly influences the level of nascent entrepreneurship, since the number of nascent entrepreneurs is twice as high among those who did not fear failure compared to those who did. Consequently, by encouraging mistakes in the VCP, students might be less afraid to fail and thus have a higher chance to participate in nascent entrepreneurial activities.

All combined, the following hypotheses is proposed:

H2a: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master participate in more nascent entrepreneurial activities after graduation than students without a VCP in their entrepreneurship master.*

2.4.4 Influence of VCPs on firm creation

First, it is important to look into the relation between entrepreneurial intention and behaviour again. Intention and behaviour are two separate phases (Zapkau, Schwens & Kabst, 2017), however, several articles do stress the importance of both phases as entrepreneurial intention is considered as the key antecedent towards entrepreneurial behaviour (Shirokova, Osiyevskyy & Bogatyreva, 2016). Additionally, as intention is presumed to be the key antecedent for entrepreneurial behaviour, and intention was assumed to increase when one is exposed to a higher degree of the experienced based pedagogy, it can be expected that students that followed an entrepreneurship master with a VCP result in higher levels of firm creation compared to entrepreneurship students who did not. Moreover, research of Bergmann and Stephan (2013) found that individuals who are involved in more nascent entrepreneurship activities are more likely to start a business. As it is also presumed that entrepreneurship students who followed a VCP engage in more nascent entrepreneurial activities after graduation, it is assumed that they are therefore also more likely to start a new firm as well.

Besides these relationships, Breznitz and Zhang (2021) found that courses from incubators and accelerators have the strongest effect on firm creation rates. Although incubators and accelerators are not the same as the VCP master programs, they are known for being practical and experience orientated. Therefore, the practical application that also accounts for VCPs, might result in relevant information for graduates when starting their own business after graduation. Hence, the “learning from doing” allows for better entrepreneurial capacity as students experience what it means to start a venture (Lackeus & Middleton, 2015). Similarly, research of Haneberg and Aadland (2020) pointed that going through the real-life experiences by VCPs provide participants with the mindset, skillset and practice that will enable future venturing.

Combining all of the above result in the following hypothesis:

H2b: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master are more likely to start a firm after graduation than students without a VCP in their entrepreneurship master.*

The entrepreneurs that have started at least one venture prior to the current venture are defined as a “habitual or serial” entrepreneur (Lafontaine & Shaw, 2014). Most often the entrepreneur is seen as successful when they sell their business, whereafter there is a high probability that the entrepreneur will start a new venture and become a serial entrepreneur (Lafontaine & Shaw, 2014). The reason why entrepreneurs are likely to start a new business is because Gompers et al. (2010) points that entrepreneurs with a track record of success are more likely to succeed in the future venturing and start multiple ventures. The likeliness of the serial entrepreneurs to succeed in the future is due to the experience, knowledge, and skills they have gained due to their prior venture experience, and prior venture failures (Dabić et al., 2021). The skillset and altered perspectives that the serial entrepreneur gained through the experiences of past venture creation is what enables them to be more successful in the next venture creation (Shaw & Sørensen, 2017). The experiences and skillsets that entrepreneurs gain through prior venture creation process might be similar to the skills and attitudes that students gain during the VCP and therefore, the following hypothesis is proposed:

H2c: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master create more firms after graduation than students without a VCP in their entrepreneurship master.*

2.4.5 Influence of VCPs on intrapreneurship

Antoncic and Hisrich (2001) explain that the tasks of intrapreneurs generally fall into business venturing, focussing on creating new businesses and innovativeness in the company context. These tasks are similar to those of entrepreneurs and although there is a major distinction in the entrepreneurship field between ‘independent entrepreneurship’ and ‘entrepreneurship within existing organizations’, both types of entrepreneurships are found to have the same behavioural characteristics (Skovvang Christensen, 2005). These characteristics include the pursuit of innovation, taking initiative (Bosma, Wennekers & Amorós, 2012), and creating and developing innovative ideas (Elert, Andersson & Wennberg, 2015). Therefore, intrapreneurship is based on the concept of using entrepreneurship skills within the context of a company (Camelo-Ordaz et al., 2012). Consequently, the tasks and skills of intrapreneurs are similar to those of entrepreneurs and hence any entrepreneurial education program that uses the right learning activities can contribute towards the development of both

entrepreneurial and intrapreneurial skills (Baruah & Ward, 2014). Thus, as VCPs are effective in creating entrepreneurial competencies, knowledge, and skills (Lackéus, 2020) this should also account for intrapreneurship as the skills and behaviors of entrepreneurs are similar to intrapreneurs. Consequently, VCPs should not only lead to higher firm creation, but could also lead to more intrapreneurial behaviour. Consequently, guides the following hypothesis:

H2d: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master engage in higher levels of intrapreneurship behaviour after graduation than students without a VCP in their entrepreneurship master.*

2.4.6 Summary of hypotheses

Intention

H1: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master have higher levels of entrepreneurial intention after graduation than students without a VCP in their entrepreneurship master.*

Behaviour

H2a: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master participate in more nascent entrepreneurial activities after graduation than students without a VCP in their entrepreneurship master.*

H2b: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master are more likely to start a firm after graduation than students without a VCP in their entrepreneurship master.*

H2c: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master create more firms after graduation than students without a VCP in their entrepreneurship master.*

H2d: *Students who follow an experience-based pedagogy including a VCP in their entrepreneurship master engage in higher levels of intrapreneurship behaviour after graduation than students without a VCP in their entrepreneurship master.*

3 Methodology

This methodology chapter is about how this research is designed to answer the research question and the subsequent hypotheses. A description is given on the research approach, research design, data collection method as well as the sampling process. Moreover, the hypotheses will be expressed in operational terms meaning that the variables have been made measurable as per the second stage of deductive research (Robson, 2002). Lastly, validity and reliability of the methods is discussed as well as ethical considerations and the outline of the data analysis.

3.1 Research Approach and design

Considering the aim of this research of analysing entrepreneurial outcomes between entrepreneurship students who followed a VCP and entrepreneurship students who did not, this research follows a comparative research design since it investigates “two or more contrasting cases” (Bryman, Bell & Harley, 2019, p.68). Quantitative research is performed since quantifiable data allows to establish variation (Bryman, Bell & Harley, 2019) which helps in living up to the research aim. Often, a comparative research design is in the form of a cross-sectional study (Bryman, Bell & Harley, 2019). This is also the case for this research since it touches upon criteria that apply to the cross-sectional design.

First of all, cross-sectional research considers more than one case which is in line as two contrasting cases are subject in this research. Moreover, the research is performed at a single point in time (Bryman, Bell & Harley, 2019). This, as all the data is collected simultaneously due to geographical, - and time constraints of this research. Moreover, the research is not aimed at how certain phenomena developed over time, but rather in their statuses at a given point (Saunders, Lewis & Thornhill, 2009). Additionally, in cross-sectional research design, a deductive approach is often used (Bryman, Bell & Harley, 2019) which is also the case for this research considering that hypotheses were deduced from theory. Lastly, a common way to establish variation among the entrepreneurial outcomes is through a standardized method, another criteria of a cross-sectional design (Bryman, Bell & Harley, 2019). This will be lived up to with the survey design as discussed in the subsequent paragraph.

3.2 Data Collection Method

Many research methods are suitable for a cross-sectional design, however, cross-sectional research is often conducted through surveys (Bryman, Bell & Harley, 2019). This was also found most suitable for this research due to several reasons. To start with, a survey strategy is often applied in deductive approaches (Saunders, Lewis & Thornhill, 2009). Moreover, the standardized format that the survey strategy brings along allows easy comparison (Saunders, Lewis & Thornhill, 2009). Moreover, a survey is suitable since it allows obtainment of data in a way that follows the criteria of a cross-sectional design as they enable gathering of data on a single point in time which is due to the time and geographic constraints of this research convenient. Moreover, the survey format is a useful tool to gather quantifiable data (Bryman, Bell & Harley, 2019).

3.3 Data collection and sampling process

Two or more contrasting cases should be studied in order to identify variation (Bryman, Bell & Harley, 2019). The contrast in this research lies in the division between the most extreme form of experience-based pedagogy including VCPs and the less extreme form of experience-based pedagogy without a VCP. Therefore, graduates of each group were considered for this research.

To arrive at suitable graduates, research on Swedish entrepreneurship masters is conducted. The research only considers Swedish universities in order to keep the educational system equal to make comparison as fair as possible. There are 12 universities that offer entrepreneurship masters in Sweden. To create an appropriate sample specific to this research, a selection is based on a variety of criteria and circumstances. First of all, of all 12 masters an investigation is performed on the syllabuses of 2017, 2018, and 2019. The reasons for surveying graduates of 2017, 2018, and 2019 is because it normally takes time to establish a company and hence some years should be incorporated between graduation and the time of the research in order to properly assess the entrepreneurial behaviour.

A selection of the most suitable syllabuses of these 12 master programs was made on the basis that VCPs should be the main difference, but other influences should be as comparable as possible, such as similarities in other offered courses, duration, and focus of the program.

Considering the fact that we divide the entire population of Entrepreneurship Masters in Sweden by a criterion, in this case VCPs and non-VCPs, means that a stratified random sampling method was used to come up with an appropriate sample (Bryman, Bell & Harley, 2019). The analysis yielded the following results:

Table 1
Syllabuses analysis per Entrepreneurship master

Master program	University	Suitable syllabus
1. Entrepreneurship and Innovation	Lund University	Suitable for VCP.
2. Entrepreneurship and Innovation	KTH Royal Institute of Technology, Stockholm	Suitable for non-VCP.
3. Knowledge-based Entrepreneurship	University of Gothenburg	Suitable for non-VCP.
4. Entrepreneurship	Uppsala University	Suitable for VCP.
5. Strategic Entrepreneurship	Halmstad University	Suitable for non-VCP.
6. Entrepreneurship and Business Design	Chalmers University of Gothenburg	Suitable for VCP.
7. Entrepreneurship & Innovation	Linnaeus University Vaxjo	Suitable for non-VCP.
8. Strategic Entrepreneurship	Jonkoping University	Suitable for VCP.
9. ICT Innovation	KTH Royal Institute of Technology, Stockholm	Not suitable. Focused too much on innovation and ICT instead of entrepreneurship. This could have made comparison difficult. Hence, not approached for sampling.
10. Entrepreneurship for Destination Development	Uppsala University	Not suitable. Although it is focused on entrepreneurship, the main focus lies on sustainability and destination development. Hence, in line of making as fair comparisons as

		possible, this master program is not approached.
11. Bioentrepreneurship	Uppsala University	Not suitable. Too much focus on the bio aspect, hence, could make comparison complicated
12. Innovation and Service Development	University of Karlstad	Not suitable. Although it focusses on Innovation, it lacks the entrepreneurial aspect where this research mainly revolves around

Consequently, the 8 Entrepreneurship Masters in Sweden that were found suitable for the sample were approached. Either program coordinators or professors of each of the 8 entrepreneurship masters have been contacted first through email since contact details of all were provided on their university websites. In case no reply was received, the program coordinators or professors were contacted through LinkedIn or phone in case these were published. From these 8 entrepreneurship masters, a final selection of four was retrieved, based on the possibility of sending out the survey or helping us to get in contact with alumni of 2017, 2018, and 2019. This resulted in the following:

Table 2

Ability to get in contact per Entrepreneurship master

Master program	University	Ability to get in contact and willing to participate
1. Entrepreneurship and Innovation	Lund University	Yes, due to the fact that we are current students in the program, we could get easily in contact with the program coordinator and alumni.
2. Strategic Entrepreneurship	Halmstad University	Yes, the program coordinator gave us the email contact of the service desk who remained in contact.
3. Entrepreneurship and Business Design	Chalmers University of Gothenburg	Yes. The university of Lund and Chalmers work together closely in the field of Entrepreneurship education.

		Hence, there was easy communication and possibility of data collection.
4. Entrepreneurship & Innovation	Linnaeus University Vaxjo	Yes, the program coordinator gave us the email contact of the service desk who were willing to help.
5. Strategic Entrepreneurship	Jonkoping University	Difficulties making contact on the short-term, in the end we received an email address for the alumni department, however, in the meantime we had already a lot of contact with Chalmers and Lund and decided to continue with them due to easier obtainment of data. However, kept in mind as back-up VCP.
6. Knowledge-based Entrepreneurship	University of Gothenburg	No.
7. Entrepreneurship	Uppsala University	No.
8. Entrepreneurship and Innovation	KTH Royal Institute of Technology, Stockholm	No.

Hence, the above four entrepreneurship master programs are used for this research of which two offer a mandatory VCP (Lund and Chalmers), whereas the other two do not provide a VCP in their entrepreneurship master program (Halmstad and Linnaeus). By including four master programs instead of just two contrasting cases, influences of other variables are limited and thus validity is increased.

A minimum of 60 responses in total was aimed for due to the fact that we have two groups to compare and sample sizes equal or greater than 30 are often adhered to due to the central limit theorem (Isiaqm, 2018). Moreover, a small sample for this research is acceptable since the sample is relatively homogeneous as it only exists out of entrepreneurship master students (Bryman, Bell & Harley, 2019).

The total sample of the four master programs consisted of 336 graduates in 2017, 2018, and 2019 together. To reach them, an online survey, considering the time and geographical

constraints, was created through Google Docs and the link was distributed accordingly to the wishes of each university. With regards to Lund and Halmstad, email addresses were provided to us by the program coordinators and consequently the survey link was distributed through mail. Moreover, the survey link was distributed in the Whatsapp groups of all years, by reaching out to alumni through LinkedIn.

Due to GDPR-considerations, email addresses could not be obtained from Chalmers and Linnaeus. Hence, program coordinators have distributed the survey for us through email and placed them on alumni platforms. For graduates of these two universities, contact was also established through LinkedIn in order to distribute the survey within their class. Considering the above tactics, a convenience, - and snowball sampling method was used to select respondents from the sample (Bryman, Bell & Harley, 2019). Consequently, 63 responses were retrieved, yielding a response rate of 18,8%.

The respondents started the survey with questions to make sure that they belong to the intended sample (entrepreneurship master students from either Lund, Chalmers, Linnaeus, or Halmstad graduated in either 2017, 2018, or 2019). Moreover, a question was asked whether they created a new venture during their master program in order to check if they belonged to the VCP or non-VCP entrepreneurship master program. After that, demographic data of the participants was collected consisting of age, gender, and current occupational status. Lastly, two questions were asked whether the respondents had prior start-up experience and/or social role models before the start of their master program since this could potentially influence the results and will be discussed later. The survey ended with questions related to the entrepreneurial intention and behaviour which will also be discussed in the subsequent chapter.

Please refer to appendix I for the outline of the survey

The responses yielded the following results with regards to the demographics of the sample.

Table 3
Demographics of Sample Group

		VCP					
		No			Yes		
<i>Sample demographics</i>		Count	Column N %	Mean	Count	Column N %	Mean
VCP	Yes	0			27		
	No	36			0		
Gender	Female	18	50.0%		13	48.1%	
	Male	18	50.0%		14	51.9%	
Age				30			30
Prior start-up experience	No	30	83.3%		16	59.3%	
	Yes	6	16.7%		11	40.7%	
Social role model	No	15	41.7%		9	33.3%	
	Yes	21	58.3%		18	66.7%	
Occupational status	Employed (for another company)	34			22		
	Other	1			1		
	Self-employed	0			4		
	Studying	1			0		

First, it is important to notice that there are 36 respondents who did not follow a VCP (57,1%) and 27 respondents who did follow a VCP (42,9%). This is slightly different than expected considering that a total of 30 graduates of Lund and Chalmers (VCP) filled in the survey and 33 of Linnaeus and Halmstad (non-VCP). This means that some graduates of the VCP master programs filled in that they did not create a venture during their master program whereas some of the non-VCP filled in that they did create a venture during their program. A decision has been made to still include those in the sample, because there could have been circumstances to why some did or did not create a venture, although expected differently. In the end, comparison should not be made between the universities, but between students who created a venture during their master and students who did not and thus their answers are still valuable.

When looking at table 3, social role models and gender are slightly uneven represented between the two groups, however, as table 4 indicates a Chi-square test pointed out that this is not statistically significant ($p=.500$) and ($p=.884$) respectively. However, an over representation of prior start-up experience is witnessed within the VCP group and was found significant ($p=.033$). This should therefore be kept in mind with the interpretation of the results. With regards to age, one can see an equal representation between both groups in table 3.

Table 4*Chi-square test social role models, prior start-up experience, and gender*

Chi-Square Tests				
Variables	df	χ^2	Asymptotic significance (one-sided)	Phi
Social role models	1	.45	.500	.085
Prior start-up experience	1	4.54	.033*	.268
Gender	1	.02	.884	-.02

Notes: Significance levels: * $p < 0.05$

3.4 Validity and reliability of the methods

The self-selection process of the survey results in the fact that the respondents decide themselves whether they want to fill in the survey which can lead to different answers when another type of method was used. This, as we can expect that people who created their own firm and who are performing well could be more likely to fill in the survey compared to people who for example had struggles with creating firms, possibly leading to a non-response bias. Hence, it could have influenced the external validity and therefore limits the generalizability of the results to the population.

Due to the fact that we use a data gathering instrument in the form of a survey, the respondents are aware that they are subject to research. Therefore, this could disrupt the natural habitat, resulting in the fact that ecological validity may be threatened (Bryman, Bell & Harley, 2019). However, we do feel that this is limited since we mainly want to grasp facts and not necessarily behaviours that respondents could alter.

The cross-sectional design highlights several criteria of one being data collection at a single point in time and one being pattern of association. Due to the fact that the research is performed at a single point of time, we rather speak about association rather than causal inferences (Bryman, Bell & Harley, 2019). Therefore, we cannot simply assume that one

variable causes the other, however, this is not the foundation of our research as we focus on comparison, rather than associations.

In order to reach respondents, convenience, - and snowball sampling has been used. These sampling methods are non-random and thus, it could be possible that the sample is not representative of the population (Bryman, Bell & Harley, 2019), especially considering the low response rate. As such, limits the generalizability of the results as well.

3.5 Ethical considerations

Due to the fact that we obtained contact details by some universities, the ethical considerations mainly revolved around the issue of invasion of privacy and informed consent (Bryman, Bell & Harley, 2019). With regards to informed consent, participants could decide for themselves whether they wanted to participate in the study after providing as much information about our study as possible. Moreover, our email addresses were stated in case participants still had any questions.

Regarding invasion of privacy, email addresses were only obtained in case it was in line with the GDPR-guidelines, and for Halmstad this also acquired accordance of the Data Protection Ordinance (Chapter 21, Section 7 of the Public Access to Information and Secrecy Act), of which we acquired approval after stating how we lived up to this. To do so, respondents did not have to fill in personal details that could be traced back to an individual. Hence, respondents were treated anonymously and results could be reported in such a way that it did not lead to identification of the participants (Bryman, Bell & Harley, 2019).

3.6 Operational measures

Considering the quantitative data needed for this research, measures of variable are given below.

Experience based pedagogy including VCP. As mentioned in the theoretical framework, the extreme form of experience-based pedagogy is defined as the entrepreneurship master program that include mandatory VCP in their curricula. The less extreme experience-based pedagogy are the ones who do not have VCP in their curricula. Therefore, graduates received

a question whether they have created a firm during their entrepreneurship master and consequently had the option of choosing the value of yes or no. Since there is no rank order in the answers, this variable is treated as a categorical variable. In order to make this variable measurable, a dummy variable is created where a value of 1 is given to graduates who created a venture during their entrepreneurship master, whereas the ones who did not obtained the value 0.

Entrepreneurial intention. Potential differences between students who followed the VCP and the ones who did not were tested by using six items that assessed the graduates' intention to start their own firm or become self-employed just after graduation (i.e. "I have very seriously thought of starting a firm"). The graduates were asked to rank the extent to which they agreed with the six items on a Likert scale, ranging from 1-7, of 1 being total disapproval and 7 total approval. Hence, this variable is treated as a continuous variable. The 7-point Likert scale and the six measures of intention were based on the survey and research of Liñán and Chen (2009). The mean of these six items were used to build one construct which is called entrepreneurial intention.

Nascent entrepreneurship. Potential differences between students who followed the VCP and the ones who did not were tested by using 6 items that assessed nascent entrepreneurial activities. For each of the six activities (i.e. "Writing a business plan or participating in seminars that focus on writing a business plan"), the graduates had to answer whether they participated in the specific activity by choosing the value yes or no and is therefore a categorical variable. The value of 1 is given to graduates who answered yes, whereas the ones who did not obtained the value 0. The sum of these six behaviours was used to build one construct which is called nascent entrepreneurship. Consequently, the number of activities could be measured for the VCP students and the group of students who did not follow a VCP. The six measures of nascent entrepreneurship activities were based on research of Aldrich and Martinez (2001) and was also used in the survey of McGee et al. (2009).

Firm creation. To indicate whether graduates have been engaged in firm creation after their graduation, graduates received a question if they started/owned a firm, and/or became self-employed, the same as in the research of Kolvereid and Moen (1997). Graduates only had the option of choosing the value of yes or no and is therefore treated as a categorical variable. In order to make this variable measurable, a dummy variable is used where a value of 1 is given

to graduates who either owned/created a firm, and/or became self-employed, whereas the ones who did not received the value 0.

Frequency of firm creation. Besides indicating whether graduates have created firms, a question is incorporated that measures the frequency of firm creation as well. Therefore, graduates who indicated that they have created a firm were also asked how many firms they have established in absolute numbers, making this a continuous variable. Consequently, the number of established firms could be measured for students who followed a VCP and the student group who did not follow a VCP.

Intrapreneurship. Potential differences between the students who followed a VCP and the ones who did not were tested by using two items that are linked with intrapreneurial behaviour. For the two items (i.e. “I have had a leading role or were/are actively involved in idea development for a new business activity”), the graduates had to answer whether they participated in the specific activity/job by choosing the value of yes or no, and such is treated as a categorical variable. The value of 1 is given to graduates who answered yes, whereas the ones who did not obtained the value 0.

The sum of these two behaviours was used to build one construct which is called intrapreneurship. Consequently, the number of activity/roles could be measured for the VCP group and the group of students who did not follow a VCP. The two item question was based on research of Bosma, Wennekers and Amorós’ (2012) and was also used in a research of Alsos et al. (forthcoming).

Besides variables that have been used in the hypotheses, there are also certain other variables that should be considered.

Prior start-up experience. Research of Bignotti and le Roux (2020) pointed out that prior start-up experience was significantly related to entrepreneurial intention. Hence, prior start-up experience is questioned due to the fact that it could influence the entrepreneurial outcomes. Therefore, graduates had to answer a question if they had prior start-up experience before the entrepreneurship master with the value of yes or no and is thus treated as a categorical variable. In order to make this variable measurable, a dummy variable is created where a value of 1 is given to graduates who had prior start-up experience before their master, whereas the ones who did not obtained the value 0.

Social model. Research has found that influences from family and friends are crucial for the development of career intention (Jodl et al., 2001) and children who have self-employed parents are way more likely to become self-employed as well (Laspita et al., 2012).

Therefore, respondents were asked whether they had social role models before their master program as it could influence the entrepreneurial outcomes as well. This was done by means of one question (“Did anyone in your immediate family and/or close friends start a business before the start of your master?”). Graduates had the option of choosing yes or no, making this a categorical variable. In order to make this variable measurable, a dummy variable is created where a value of 1 is given to graduates who had social role models before their master, whereas the ones who did not obtained the value 0. The criteria of being labelled as having a social model is based on the measure of Corbett and Hmieleski (2007).

Occupational status. To indicate the career decisions of the graduates and how they apply their entrepreneurial skills, a question was asked for their current occupational status. Graduates had the option of choosing between four categorical variables being employment for an existing company, self-employment, studying, and other, indicating how many graduates are currently self-employed and what the occupational status is of the rest of the group.

Gender. Gender has been questioned as it could potentially explain certain outcomes of this study as research show that males have significantly higher levels of entrepreneurial intention than females (Kolvereid, 1996; Mazzarol et al., 1999; Reynolds, 2000). Moreover, women are less attracted to an entrepreneurial career as they see themselves less suitable (Maes, Leroy & Sels, 2014), whereas men see themselves as more competent and captivated with entrepreneurial behaviour (Ward, Hernández-Sánchez & Sánchez-García, 2019). Graduates had the option of choosing between the values of male or female. Since there is no rank order in the answers, this variable is treated as a categorical variable. In order to make this variable measurable, a dummy variable is created where a value of 1 is given to female graduates, whereas males obtained the value 0.

Age. Age could potentially influence the entrepreneurial outcomes as research from Boyd (1990), shows that there is a strong relation between age and firm creation, because the opportunity to start a business increases with age as many entrepreneurial resources

accumulate with the increase in age (Azoulay et al., 2018). Considering this, graduates were asked for their age in absolute numbers and is therefore a continuous variable.

3.7 Data Analysis

The questionnaire was hosted by Google Docs and after receiving the responses an Excel file was downloaded and imported to SPSS. Hence, all tests are performed using this software. Firstly, all variables that entailed non-quantitative answers were recoded into dummy variables to make measurement possible. Moreover, some items in the survey were used to form one construct, which was the case for entrepreneurial intention, nascent entrepreneurship, and intrapreneurship. To form one construct of each of the above, multiple steps have been taken. To start with, all items were checked whether they were coded in the same direction, which was the case so recoding of variables was not necessary. Subsequently, in case of numerical variables, factor analysis was performed to check if the items could be reduced to form one construct. Moreover, reliability checks have been executed using Cronbach's alpha where the rule of thumb of .7 (Nunnally, 1978) was adhered to for all constructs.

After checking for validity and reliability, there was also examined whether assumptions were met per test. This included, among others, checking for normality which has been done using a Kolmogorov-Smirnov Normality Test. In case there was no normal distribution, either a log10 or square root transformation was applied to construct the data to normal distribution. In case the data remained not normally distributed, which is likely with the small sample size, other tests have been used.

After checking the assumptions, the data could be analysed. Considering the comparative design that this research holds and the independence between the VCP and non-VCP group, specific tests could be used to establish comparison. In case of two categorical variables, a Chi-square test with Phi was performed, considering the 2x2 table. In case continuous values were involved, means were compared with each other through either an independent samples t-test or Mann-Whitney U test, depending on the fact whether normal distribution was adhered to. In case of the latter, it should be taken into account that a Mann-Whitney U test is a non-parametric test and thus results are not as powerful as parametric tests (Fricker, 2013).

Considering the 36 respondents for the non-VCP and the 27 respondents for the VCPs, the sample size of both groups is $n > 20$ and hence the Z-score is indicated (Billiet, 2003). Effect sizes are provided to indicate the strength of the differences between the groups.

Lastly, in order to make a bit more thorough implications of the findings, a regression analysis is performed with the VCP as independent variable, the entrepreneurial outcomes – intention, nascent, firm creation, frequency of firm creation, and intrapreneurship as dependent variable – and age, gender, social role models, and prior start-up experience as control variables. These results will be discussed after testing the hypotheses and analysing the differences between the two groups.

4 Analysis

Within this chapter the analysis of the data and thus the findings of the hypotheses are given. First, the hypotheses are stated again, whereafter an elaboration is given how the data is made valid, reliable, and checked for its assumptions. After that, the data is analysed by means of tests that align with the hypotheses and the variables. In the end, a summary of the hypotheses is given as well as a regression analysis that also include variables that were not part of the hypotheses yet important for this research.

4.1 Testing the hypotheses

Hypothesis 1: VCP and level of intention

H1 proposed that students who follow an experience-based pedagogy including a VCP in their entrepreneurship master have higher levels of entrepreneurial intention after graduation than students without a VCP in their entrepreneurship master.

Preparation of the data and assumption testing

Considering the continuous variable of intention and the independence of both sample groups, an independent samples t-test is preferred, yet, some additional steps had to be taken in consideration first. The level of intention was tested through six items. In order to check whether these six items are valid, a factor analysis is performed followed by a reliability analysis using Cronbach's alpha. One factor has an Eigenvalue greater than one that is responsible for almost 80% of the variance, hence this factor explains the construct well. Moreover, all six items have a value above .5, indicating that all the 6 items are representing the score for intention (Chetty, 2015). Considering this, the six items are found to be valid to form one construct.

To check whether the variables are also reliable to form one construct, a reliability analysis has been executed using Cronbach's alpha. This resulted in a $\alpha=.947$, which indicates a higher score of the threshold of .7 that is adhered to (Nunnally, 1978). Hence, the constructs may be considered as reliable and thus one intention variable has been constructed by these six items using the average. After that, a test for normality was performed on the intention variable using a Kolmogorov-Smirnov Normality Test which yielded a significance of ($p=.200$) (lower

bound of true significance) indicating that intention may be assumed to be normally distributed. Moreover, homogeneity of variance is also assumed as The Levene’s Test for equality of variances resulted in a value of ($p=.986$). Considering the above, an independent samples t-test could be used.

Please refer to appendix II – A for the SPSS output of the factor analysis, reliability analysis, and the normality test for intention

Analysis of the hypothesis

As per table 5, the independent-samples t-test was conducted to compare the level of intention between students who followed a VCP during their entrepreneurship masters and the ones who did not. The comparison of the two groups demonstrates a significant difference in the level of intention ($p=.008$), where students who followed a VCP have higher intention levels than the ones who did not. Based on this, H1 can be supported as entrepreneurship master students who followed a VCP display higher intention levels compared to entrepreneurship master students who did not follow a VCP.

Table 5
Independent samples t-test intention

Independent samples t- test							
Variables	No VCP		VCP		t	df	Significance level (One-Sided p)
	Mean	Std Dev.	Mean	Std Dev.			
Intention	3.74	1.55	4.71	1.55	-2.47	61	.008*

Notes: Significance levels: * $p < 0.05$

Hypothesis 2a: VCP and number of nascent entrepreneurship activities

H2a proposes that students who follow an experience-based pedagogy including a VCP in their entrepreneurship master participate in more nascent entrepreneurial activities after graduation than students without a VCP in their entrepreneurship master.

Validity and reliability of the data

There are six gestation behaviours that link with nascent entrepreneurship activity, where graduates answered per behaviour whether they participated in the specific activity by means of yes and no of which dummy variables have been constructed. In order to check if all six behaviours could be computed into one variable, a reliability analysis has been executed using Cronbach's alpha. This resulted in a $\alpha=.746$, which indicates a higher score of the threshold of .7 that is adhered to (Nunnally, 1978). Hence, the constructs may be considered as reliable and thus one nascent entrepreneurial variable has been constructed using these six behaviours.

Considering the continuous variable of nascent entrepreneurial activities and the independence of the sample groups, an independent samples t-test is preferred, however, the test for normality yielded a significance of ($p<.001$) when using a Kolmogorov-Smirnov Normality Test. This indicates that normality was not supported, and such this hypothesis could not be tested with the intended independent samples t-test. Therefore, a Mann-Whitney U nonparametric test is performed instead.

Please refer to appendix II – B for the SPSS output of the reliability analysis and the normality test for nascent entrepreneurship

Analysis of the hypothesis

As table 6 indicates, there are differences in the number of nascent activities for entrepreneurship students who did follow a VCP compared to the ones who do not. These differences indicated that VCP students participated in more nascent entrepreneurial activities than the ones who did not and was also found to be statistically significant ($p=.034$).

According to Datatab (2022), an effect size for the Mann Whitney U test can be calculated by $r = Z/\sqrt{N}$ ($1.83/\sqrt{63}$), hence the effect size was found $r=0.23$, indicating that there is a small effect (Datatab, 2022). Still, H2a can be supported and thus students who followed a VCP in their master exhibit more nascent entrepreneurial activities than the ones who did not follow a VCP in their entrepreneurship master.

Table 6*Mann-Whitney U test nascent entrepreneurship activities*

Mann-Whitney U test						
Variables	No VCP		VCP		Z-score	Significance level (One-Sided p)
	Mean	Std Dev.	Mean	Std Dev.		
Nr of nascent activities	1.78	1.76	2.67	1.9	-1.83	.034*

Notes: Significance levels: * $p < 0.05$

Hypothesis 2b: VCP and firm creation

H2b proposes that students who follow an experience-based pedagogy including a VCP in their entrepreneurship master are more likely to start a firm after graduation than students without a VCP in their entrepreneurship master.

Preparation of the data and assumption testing

Both firm creation as well as the VCP variable were measured through the values of either yes or no and are therefore categorical variables. Hence, a Chi-square test of Independence was conducted since the answer options are mutually exclusive of each other and the sample groups independent. Lastly, 0 cells (0.0%) have an expected count less than 5. Consequently, it met the assumptions and a Chi-square test of Independence with Phi was performed.

Analysis of the hypothesis

As table 7 indicates, there are significant differences in the groups with regards to firm creation ($p < .001$), where VCP students were more likely to participate in firm creation than non-VCP students. Additionally, when consulting the results from the Phi correlation, the figures provide proof that, according to Allen (2017), there is a positive moderate relation between the two variables based on the intercorrelation $\phi = .45$. All together, H2b can be supported and thus students who followed a VCP in their master were more likely to create firms after graduation than the ones who did not follow a VCP in their entrepreneurship master.

Table 7

Chi-Square Test with Phi firm creation

Chi-Square Tests						
Variables	No VCP	VCP			Asymptotic significance (one-sided)	Phi
	<i>N</i>	<i>N</i>	df	χ^2		
Firm creation			1	12.91	<.001*	.45
Yes	3	13				
No	33	14				

Notes: Significance levels: * $p < 0.05$

Hypothesis 2c: VCP and frequency of firm creation

H2c proposes that students who follow an experience-based pedagogy including a VCP in their entrepreneurship master create more firms after graduation than students without a VCP in their entrepreneurship master.

Preparation of the data and assumption testing

Considering the continuous variable of the frequency of firm creation and the independence of both sample groups, an independent samples t-test is preferred, however, a test for normality was performed on the frequency of firm creation variable using a Kolmogorov-Smirnov Normality Test. This resulted in a significance of ($p < .001$), indicating that normality was not supported. Therefore, a Mann-Whitney nonparametric test is performed instead.

Please refer to appendix II – C for the normality test for frequency of firm creation

Analysis of the hypothesis

As table 8 indicates, there are differences in the frequency of firm created for entrepreneurship students who followed a VCP compared to the ones who did not. These differences indicate that students who did follow a VCP created more firms than the ones who did not and were also found to be statistically significant ($p < .001$). When calculating the effect size by $r = Z/\sqrt{N}$ ($3.83/\sqrt{63}$), the effect size was found to be $r = 0.48$, indicating that there is a medium, almost strong, effect according to Datatab (2022). Combining the above, H2c can be supported as students who followed a VCP in their master created more firms than the ones who did not follow a VCP in their entrepreneurship master.

Table 8

Mann-Whitney U test frequency of firm creation

Mann-Whitney U test						
Variables	No VCP		VCP		Z-score	Significance level (One-Sided p)
	Mean	Std Dev.	Mean	Std Dev.		
Nr of firms created	.11	.40	.90	1.19	-3.83	<.001*

Notes: Significance levels: * $p < 0.05$

Hypothesis 2d: VCP and level of intrapreneurship

H2d proposes that students who follow an experience-based pedagogy including a VCP in their entrepreneurship master engage in higher levels of intrapreneurship behaviour after graduation than students without a VCP in their entrepreneurship master.

Validity and reliability of the data

There are two behaviours that link with intrapreneurship where graduates answered per question whether they participated in the specific role by means of the value yes or no. The reliability analysis using Cronbach's alpha resulted in an $\alpha=.877$, which indicates a higher score of the threshold of .7 that is adhered to (Nunnally, 1978). Hence, the constructs may be considered as reliable and thus one intrapreneurship variable has been constructed.

Considering the continuous variable of intrapreneurship activities and the independence of the sample groups, an independent samples t-test is preferred, however, the test for normality for the nascent entrepreneur variable yielded a significance of ($p<.001$), using a Kolmogorov-Smirnov Normality Test. This indicates that normality was not supported, and such this hypothesis could not be tested with the intended independent samples t-test. Therefore, a Mann-Whitney nonparametric test is conducted.

Please refer to appendix II – D for the SPSS output of the reliability analysis and the normality test for level of intrapreneurship

Analysis of the hypothesis

As table 9 indicates, there are differences in the level of intrapreneurship between entrepreneurship students who followed a VCP compared to the ones who did not. However, these differences indicated that the mean and standard deviation for students who did follow a VCP were almost the same and such there were no significant differences between the group ($p=.466$). With that, H2d cannot be supported and hence students who followed a VCP in their master do not create higher levels of intrapreneurship rates than the ones who did not follow a VCP in their entrepreneurship master.

Table 9*Mann-Whitney U Test level of intrapreneurship*

Mann-Whitney U test

Variables	No VCP		VCP		Z-value	Significance level (One-Sided p)
	Mean	Std Dev.	Mean	Std Dev.		
Level of intrapreneurship	1.19	.95	1.19	.92	-.09	.466

Notes: Significance levels: * $p < 0.05$

4.2 Chapter Summary

Table 10

Summary of hypotheses testing

Hypothesis	Support	Outcome
H1 intention	Yes	The level of intention for VCP students after graduation was significantly higher than for the ones who did not follow a VCP.
H2a nascent entrepreneurship	Yes	VCP students engaged in significantly more nascent entrepreneurial activities after graduation compared to students who did not follow a VCP.
H2b firm creation	Yes	VCP students were significantly more likely to start their own firm after graduation compared to non-VCP students.
H2c frequency of firm creation	Yes	VCP students created significantly more firms after graduation compared to non-VCP students.
H2d intrapreneurship	No	There were no significant differences between the VCP students and non-VCP students with regards to level of intrapreneurship, the levels were almost the same.

Although the above hypotheses have either been supported or falsified by use of the statistical tests, it is also important to take along variables that have not been part in the hypotheses but could explain some of the results as indicated prior under measures. Therefore, in order to measure the impact from the VCP on the level of intention and behaviour (nascent entrepreneurship, firm creation, and intrapreneurship), a multiple linear regression is performed, with the control variables of age, gender, prior start-up experience, and social role models.

The results indicate that the VCP was not significant ($p=.205$) for the level of intention after including the control variables, where prior start-up experience was found to be the only

significant variable ($p=.014$). With regards to nascent entrepreneurial behaviour, the VCP was also not significant ($p=.117$) whereas prior start-up experience was once again the only significant variable ($p=.049$). This means that prior start-up experience explained the higher level of intention and nascent entrepreneurial behaviour rather than the VCP itself.

However, with regards to firm creation, the VCP was found to be significant, indicating that the VCP increased the possibility of firm creation with .36 ($p=.001$). The VCP was also found significant with the frequency of firm creation, as well as age, indicating that the frequency of firm creation increased with .67 for VCP students ($p=.002$) and .06 when respondents grow older ($p=.013$).

When looking at the level of intrapreneurship, there were no significant variables.

Please refer to appendix II – E for the SPSS output of the regression analyses

The findings of the multiple linear regression have been taken into account with the discussion in the following chapter.

5 Discussion

The skills, attitude and knowledge of entrepreneurs is crucial as these capabilities form the foundation and shape the individual to be better prepared regarding the development of new ventures (Lackéus & Middleton, 2011). Reason for this is that the venture creation process is combined with a lot of uncertainty as the firm is operating in newly emerging markets, while it operates in a dynamic environment, needs to cope with newness, the chance of failure while at the same time needs to maintain venture performance in order to guarantee survivability (Zhang & White, 2016).

Therefore, the likeliness of entrepreneurs to succeed in their venture creation and the various demands they face while doing so is depended on how well-prepared entrepreneurs are regarding these circumstances. Therefore, Ollila and Middleton (2011) explain that the emphasis has been placed upon VCPs as the approach aims on the development of new ventures within the university context which fosters the development of both entrepreneurs and new ventures. The process of creating ventures trough VCPs allow students to gain much more experience due to the real-life environment and teaches students the necessary capabilities for future venturing (Lackéus & Middleton, 2011).

However, little is still known about experience-based pedagogy in terms of VCPs (Lackéus & Middleton, 2015) and therefore also on entrepreneurial outcomes in terms of intention and behaviour. Therefore, the aim of this study is to explore the differences in entrepreneurial outcomes regarding entrepreneurial intention and behaviour between students following an entrepreneurship master including a VCP and students following an entrepreneurship master without a VCP. To validate these findings, different test has been conducted and will now be discussed by means of literature.

5.1 Discussion of the findings

Intention

Our first finding provides evidence that graduates who followed an entrepreneurship master including a VCP displayed higher intention levels after graduation compared to entrepreneurship students who did not follow a VCP. Although VCP graduates scored significantly higher on the level of intention than the non-VCP graduates, we cannot simply state that the higher level of intention is generated only due to the VCP. Reason for this is that there are, according to Alhaj, Yusof and Edama (2011), multiple variables that can affect the individuals level of intention. Krueger (1993) indicates a strong relationship between prior entrepreneurial experience and the positive impact on the individuals level of entrepreneurial intention. Fayolle and Gailly (2015) agree and state that prior entrepreneurial experience supersedes the impact of training and education, and fosters the intention of the individuals. A finding that has also been confirmed with our regression analysis. Combining that with the fact that there were significantly more VCP students with prior start-up experience can explain the above finding. Hence, it is not surprisingly that the level of intention for VCP students was significantly higher.

Another aspect to consider which might have impacted the significant difference for intention, is that students who apply for a VCP might have higher intention in the first place and hence are likely self-selected into the VCP as they probably want to peruse an entrepreneurial career after (Elert, Andersson & Wennberg, 2015). Therefore, one can assume that the students entering VCPs are already different from the students entering the non-VCPs.

Nevertheless, apart from these relations, the finding that VCP students exhibit higher levels of intention aligns with the research from Lackéus and Middleton (2015), who provide evidence that many participants following a VCP report strong personal development in regards to entrepreneurial intention and point that VCPs actually initiate entrepreneurial intention due to the real-life experience. Moreover, Harima et al. (2021) showed that VCPs increased, at least temporarily, the entrepreneurial intentions of the VCP students due to the secure and positive attitudes about their concepts that enabled a structural approach to the development of their ventures, which could also explain the higher level of intention among the VCP students.

Nascent entrepreneurship

Usually after their entrepreneurship program, students decide whether to convert their intention into concrete actions, because entrepreneurial intention does not automatically translates to nascent entrepreneurial activities (Harima et al., 2021). Yet, our second finding provides evidence that students following an experienced-based entrepreneurship master including a VCP display significantly more nascent entrepreneurial activities after graduation compared to entrepreneurship students who did not follow a VCP. These findings align with Lackéus and Middleton (2015) who explain that VCPs allow students to experience a variety of nascent entrepreneurial stages.

In the same line, Haneberg and Aadland (2020) state that the objectives of VCPs are to create new ventures, therefore it can be expected that students who participated in VCPs have higher skills and knowledge about the nascent entrepreneurial activities due to prior experience, and are therefore likely to be better prepared and engaged in more nascent activities. This is of course not surprisingly considering the fact that the graduates most likely have been through a variety of nascent entrepreneurial behaviours during their VCP, consequently making the step smaller to do so again after graduation.

Another reason why it can be explained that VCP graduates display more nascent entrepreneurial activities is due to the higher level of intention that VCP students showed after graduation. Considering that nascent entrepreneurs are the individuals who are engaged in specific activities to bring the desire of starting a business to realization (Carter, Gartner & Reynolds, 1996), higher levels of intention therefore generate more nascent entrepreneurial activities as students peruse their desire of starting a business (Morris, Shirokova & Tsukanova, 2017).

Furthermore, another reason that could explain why entrepreneurship master graduates of VCPs participate in more nascent entrepreneurial activities, is due to the liability of newness. When graduates decide to continue or start a new venture, they will face the liability of having no track record and legitimacy (Zhang & White, 2016). Therefore, Middleton (2011), highlights the importance for nascent entrepreneurs to develop behaviour that enhances the legitimacy and reduces uncertainty which helps to decrease the effects of the liability of newness during nascent entrepreneurship activities. These behaviours are according to Middleton (2011) developed through learning via new venture creation.

Additionally, research from Moreira, Dantas and Valente (2018) found that fear of failure highly influences the level of nascent entrepreneurship, as the number of nascent entrepreneurs is twice as high among those who did not fear failure compared to those who did fear failure. Considering the research from Lackéus and Middleton (2015), that highlights that VCPs encourage mistakes, could result in students being less afraid to fail and thus have a higher chance to participate in nascent entrepreneurial activities.

Firm creation and frequency of firm creation

Our third finding provides evidence that students who followed an entrepreneurship master including a VCP were more likely to start a firm after graduation than students who followed an entrepreneurship master without a VCP. A reason for this could be that VCP-students were found to be statistically more involved in nascent entrepreneurial activities than the non-VCP students, and, the more nascent activities the individual is involved in, the higher the likelihood will be that the individual will actually start the business (Bergmann & Stephan, 2013) as nascent entrepreneurial activities are the bridge between new venture creation (Onjewu, Haddoud & Nowiński, 2021).

Additionally, one of the most obvious reasons why students following a VCP are more likely to start a firm compared to students who do not follow a VCP, is that the main objective of the VCP is to have students involved in entrepreneurial behaviour through the establishment of their own firm as part of the curriculum and to make them act entrepreneurially through the real-life entrepreneurial experience of the venture creation (Hagg, 2017). Due to the fact that VCP students start a venture as part of their curriculum, they can obtain the required knowledge, skills and attitudes required for new venture creation and the possible continuation of the venture that was founded during the master program. Therefore, it is also not surprising that our own regression analysis pointed out that VCPs increase firm creation and frequency of firm creation.

Additionally, when the venture turns out to be a success, it is likely that the founders will have a higher frequency of firm creation as well, as research from Gompers et al. (2010) points that entrepreneurs with a track record (serial) of success are more likely to succeed in the future endeavours than first time entrepreneurs. The main reason why serial entrepreneurs may be more successful according to Lafontaine and Shaw (2014), is because of the

experience, skills and knowledge gained during the past venture creation. This suggests that the prior experience and potential success gained through the VCP might explain the higher numbers regarding the frequency of firm creation among VCP graduates compared to non VCP students.

As mentioned above, it is found that there are significantly more VCP students exhibiting firm creation behaviour yet, although not integrated or tested in the hypotheses, it is also interesting to reflect on the fact that from all entrepreneurship students only so few are currently self-employed (6.3%) and the majority did not create firms at all (74,6%), while intention for both groups was quite high. This confirms the statement that the Theory of Planned Behaviour of Azjen (1991) is quite complex for entrepreneurial contexts as a lot of other variables have to be taken into account (Alhaj, Yusof & Edama, 2011) as well as that the process of starting a new business is sometimes beyond the entrepreneurs control due to factors as funding and regulations (Kautonen, van Gelderen & Tornikoski, 2013).

With regards to the VCP students, research of Harima et al. (2021) found that it is important to be aware of the fact that although the VCP students act as quasi-entrepreneurs, the environment of the students significantly differ from those of independent entrepreneurs. First of all, some VCP students developed their entrepreneurial intention primarily based on positive feedback that they acquired during their program from lectures, coaches and so forth, and thus were disappointed by the level of positive feedback after the course. Hence, students experienced a major disruption after the program compared to the protected environment that the VCP offered both in terms of positive feelings and entrepreneurship support (Harima et al., 2021).

Besides, the factors of time and age have also found to play a major part within this entrepreneurial intention-behaviour gap. Often, there is a necessary gap of several months or years before the entrepreneurial intention is translated into entrepreneurial behaviours (Kautonen, van Gelderen & Tornikoski, 2013). This was seen back in our regression analysis as well, where the frequency of firm creation increases when respondents rise in age. This can be explained by the fact that more than half of the entrepreneurs transition from working for a company to becoming self-employed, as entrepreneurs highlight the importance of gaining experience and knowledge at a company before persuading a career as entrepreneur (Ernst & Young, 2021). Considering this, the time and age aspect can also explain the results for our last hypothesis.

Intrapreneurship

The statement that VCP students exhibit more intrapreneurship levels after graduation could not be confirmed by our research. In fact, the level of intrapreneurship between VCP students and non-VCP students was almost the same. The hypothesis was based on the premise that intrapreneurship is the same as entrepreneurship, as intrapreneurship is seen as entrepreneurship performed in the company context (Camelo-Ordaz et al., 2012) and because the core intrapreneurial activities are identical to that of entrepreneurship, namely creating and developing innovative ideas (Frank & Mitterer, 2009). Therefore, we assumed that the knowledge and skills obtained through the real-life events of the VCPs would therefore contribute to higher levels of intrapreneurship as well. However, this was not the case and both groups had almost identical numbers of mean and standard deviation within the level intrapreneurship.

A possible explanation for this outcome is that, although intrapreneurs generally share the same characteristics as entrepreneurs (Skovvang Christensen, 2005), there are differences between them and reasons why one desires the establishment of a company and the other one does not (Frank et al., 2016). Studies have shown that the majority of entrepreneurship master graduates perceive the risks of starting a business on their own as high due to the opportunity costs of a good salary and bonuses that graduates could receive while working at a company (Duca, 2011). Therefore, intrapreneurs are mostly young postgraduates who do not have enough starting capital or face limitations to acquire funding that allows them to start a new venture, thus requires them to gather capital via working for an established organization (Patrick et al., 2019). Additionally, in case of being employed, most postgraduates of experienced-based entrepreneurial education are employed as an intrapreneur as they still want to pursue the entrepreneurial career, yet are not ready to make the step to become self-employed (Åstebro, Bazzazian & Braguinsky, 2012; Berggren & Lindholm Dahlstrand, 2009). Therefore, age plays an important role for people when choosing between an entrepreneurial career and a career in an established company (Azoulay et al., 2018). This is because the opportunity to start a business increases with age since many entrepreneurial resources accumulate with the increase in age, which was also reflected in our regression analysis. Considering the fact that the average age of both sample groups is the same (30), and below the average age of founding a new venture (45) (Azoulay et al., 2020), indicates that the sample is relatively young and equally distributed which could be a reason that both groups have the same level of intrapreneurial behaviour.

5.2 Theoretical contributions

Entrepreneurship education has been one of the fastest growing research areas due to the practical implications it brings along. Yet, to transform society through entrepreneurship education, still more research is needed (Ratten & Usmanij, 2021). This research contributes to this emerging stream of literature by challenging and extending existing knowledge about the influence of entrepreneurial education on entrepreneurial outcomes.

First of all, VCPs in entrepreneurial education has found a lot of positive views as it is key in achieving important learning outcomes and higher skill development (Lackéus, 2013; Morris et al., 2012; Ollila & Middleton, 2011). However, research on learning through VCPs is still limited (Lackéus & Middleton, 2015) and thus understanding on how effective these programs actually are is scarce. The support that VCP students scored significantly higher on almost all entrepreneurial outcomes further supports this limited link and extends the positive view on VCPs.

Secondly, research on various entrepreneurship programs is meagre and thus little is known about the differences in their outcomes (Eesley & Lee, 2020). And in case research is focused on entrepreneurial outcomes, it is often either on intention or behaviour, whereas entrepreneurship behaviour is usually only focused on the aspect of firm creation (Kuratko et al., 2005). This research examined entrepreneurial outcomes in the form of both intention and behaviour, whereas behaviour also moved beyond firm creation by covering nascent entrepreneurship and intrapreneurship as well. Therefore, this study provides a widened view on entrepreneurial behaviour and contributes to the discussion regarding the definition of entrepreneurship and how and where students can apply their entrepreneurial skills.

Thirdly, the majority of entrepreneurial education studies do not distinguish what kind of pedagogy was used while examining the effects of the education on the entrepreneurial outcomes (Hägg & Peltonen, 2012; Ratten & Usmanij, 2021). Therefore, research on the outcomes of entrepreneurial education mainly focus on explaining the effects on a more general, macro level. This could explain the contradicting outcomes among various entrepreneurial education research. Ratten and Usmanij (2021) emphasize that more research is needed regarding the teaching practices, new pedagogies emerging, and its ability and

implications on the participants. This study contributes a narrower view of entrepreneurship education by focusing on the specific experience-based pedagogy and thus providing more specific entrepreneurial outcomes as well.

5.3 Practical contributions

With regards to practical contributions, this study was aimed to help policy makers and entrepreneurship education stakeholders, such as universities, to validate the most efficacy of their entrepreneurship programs (Fayolle & Gailly, 2015). Hence, our findings and their link with literature can be applied in educational settings.

For instance, universities that apply VCPs should question themselves what the main objective of their VCP is and cater the VCPs accordingly. This, as VCPs can be a tool to teach students useful skills, abilities, and attitudes (Killingberg, Kubberød & Blenker, 2021), however, the research also found that it can be a tool to increase firm creation rates. Because, although the VCP students showed significantly higher firm creation rates, students still need a helping hand as only 14,8% are currently self-employed. Literature showed that potential reasons for this could be money constraints right after graduation and disruptions of the safe university environment. As such, if the objective of a VCP is firm creation, there should be catered for these constraints. As an example, creation of ventures could also move towards collaborations with existing ideas and/or companies to make the environment less disruptive and less dependent on funding.

By optimizing curricula to their objectives, entrepreneurship programs might consequently be better in attracting the right type of students, another important education stakeholder. With that, students can enrol for master programs that are suited best to their wants and needs as well.

Moreover, the study showed that VCP students have higher levels of intention and partly behaviour where both the VCP as well as prior start-up experience play an important and significant role. Considering this, the real-life experience that both the VCP and prior start-up experience give, are crucial in fostering entrepreneurship. Although the scope of this research was limited to master programs and universities, the findings should also be beneficial for bachelor students, higher education programs, and even high schools to include VCPs and (nascent) entrepreneurial activities in their curriculum to nurture entrepreneurs at all levels and for all ages, ultimately benefitting society as a whole.

5.4 Limitations

Besides the limitations with regards to viability and reliability that have been mentioned in the methodology chapter, there are also other several limitations. First and foremost, entrepreneurial intention might be higher for students who followed a VCP since they might had higher entrepreneurial intention before starting their master in the first place. Consequently, they opted for this extreme form of pedagogy which results in a self-selection bias. One can assume that the people entering VCPs are different from the ones entering the non-VCPs and hence we cannot state that the VCP itself increases the intention and behaviour. Therefore, this self-selection bias is a limitation to generalize the findings. Moreover, the regression analysis indicated that prior start-up experience has a strong effect on intention and nascent entrepreneurship, although not completely surprisingly, it does limits us in stating that the differences are only due to the VCP once again. Moreover, the small sample size also makes generalization difficult and results less powerful due to the application of non-parametric tests.

Secondly, we did not do a pre-, - and post-test with regards to intention, and thus, we are limited to indicating that VCP students had higher levels of intention after graduation, rather than stating that the VCP and/or non-VCP in-, - or decreased the level of intention during their masters. It could be for example that the level of intention for VCP students was higher before the start of the master, and decreased during the VCP, while still being higher compared to non-VCP students. Hence, this also makes indication difficult how entrepreneurship master with or without VCPs influence the level of intention. Moreover, respondents were asked for their level of intention right after graduation, however, as we included time between graduation and the survey (2017, 2018, and 2019) it could have been difficult for the respondents to mirror their level of intention precisely with how it was right after their graduation.

Moreover, although the authors aimed to keep the education program backgrounds as equal as possible, it was not feasible to maintain everything the same with the sole difference of new venture creation and no new venture creation. Therefore, some masters programs endure two years (Chalmers, Halmstad, Linnaeus), whereas others just one (Lund). Consequently, this might have an influence on the entrepreneurial intention, - and behaviour, as a two-year

master with VCP could for example result in higher entrepreneurial behaviour due to the fact that students have more time and guidance to set up their venture.

Furthermore, the universities of Linnaeus, Halmstad, and Lund are predominately business schools, whereas Chalmers is a Technology university, meaning that the graduates mainly consist of engineering students. Therefore, these differences could have also influenced the entrepreneurial outcomes. However, this limitation is to a certain extent regulated by the fact that two universities are subject for each pedagogy.

Lastly, the authors want to mention that in the survey, respondents were asked for performance indicators as well, however, a decision has been made to not use these outcomes for this study. This has to do with several limitations that the research brought. First of all, the survey resulted in a very little group of respondents that actually created their own firm, therefore, there was too little data to make statistical comparison. Moreover, another reason not to include the performance indicators in our thesis is due to the COVID-pandemic as it could be possible that some graduates' companies went bankrupt due to restrictions, whereas other might have flourished due to extra demand. Therefore, the authors believe that this could have troubled the comparison even further. Moreover, COVID should also be considered for the entrepreneurial behaviour in general, as the pandemic could have adjusted the entrepreneurial behaviour as participants might have been forced to become self-employed or the other way around.

5.5 Future research

Some of the above limitations resulted in reasons for future research. To start with, it would be interesting to measure the level of intention of students before and after the entrepreneurship master and whether this level is influenced through the VCP and how. This, as it could be that the VCP positively or negatively influenced the level of intention among students during the program. Hence, research with a longitudinal design is recommended with pre,- and post-tests.

Additionally, Sweden is known as leading European innovation ecosystem (Dealroom.co, 2022), it would therefore be interesting to conduct similar research between countries or in other countries where, for example, the entrepreneurial ecosystem is not so well developed. With that, it can be investigated how important and what influence the entrepreneurial ecosystems have on VCPs and allows better generalization of the findings. Moreover, to make better generalization as well, future research should include a larger sample so that normal distribution is easier to live up by and thus, parametric tests can be conducted.

Furthermore, although we have kept several years between graduation of the students and the research in order to give students some time to establish a company, literature indicated that the average age of firm creation is around 45 years old. Considering the average age of our sample of 30, it would be interesting to conduct similar research in the future when the students passed the age of 45. With that, students had time to collect necessary resources and knowledge, and thus could lead to even bigger or smaller differences between the two groups. Hence, the long-term aspect of the VCP can be analyzed.

The quantitative research design that this study holds generated valuable statistical insights into differences in entrepreneurial outcomes between VCPs and non-VCPs, however, a more explorative approach based on qualitative insights could present an opportunity to gather deeper understanding into the influence of VCPs on entrepreneurial outcomes. To do so, qualitative research could be conducted that explores ‘how’ VCPs influence students and subsequently entrepreneurial outcomes, which might help entrepreneurship education stakeholders to optimize their entrepreneurship programs and curricula even further.

6 Conclusion

This thesis revolved around the question whether *experience-based pedagogy in terms of venture creation matter for entrepreneurial intention and behaviour*. To answer this question, the research was designed in such a way that should indicate significant differences between entrepreneurial outcomes - intention, nascent entrepreneurship, firm creation (rates), and intrapreneurship – between entrepreneurship students who followed a VCP and entrepreneurship students who did not. Through surveys and quantitative research, the study found that the level of intrapreneurship was the quite the same for both groups, yet, the level of intention as well as the number of nascent entrepreneurship activities, and (frequency of) firm creation was significantly higher for students who followed a VCP compared to students who did not follow a VCP in their entrepreneurship program. Therefore, the majority of the hypotheses have been confirmed, and such, mostly support is found that venture creation programs do matter for entrepreneurial intention and behaviour.

With that, the research aim is lived up to as differences in entrepreneurship outcomes between the two groups have been analysed. Moreover, although there are many more factors to take into consideration, the study does contribute towards defining the “mechanisms through which the great variation across courses and programs may have their effects” (Eesley & Lee, 2020) and a more inclusive view given on entrepreneurial behaviour. With that, practical contributions for educational purposes could be given in order to optimize entrepreneurship programs, contributing society towards economic growth, innovation, and creating jobs.

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Appendices

Appendix I: Survey

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Entrepreneurial Intention, Behavior & Performance

Entrepreneurial Intention, Behavior & Performance

Dear participant,

Welcome to this survey for Marijn & Mick's master thesis for Lund University. The aim of this survey is to measure if there is a difference in entrepreneurial outcomes caused by the difference in entrepreneurial education programs. For this research, we investigate master graduates from multiple entrepreneurship masters, that specifically graduated in either 2017, 2018, or 2019. Therefore, we need your help specifically!

This survey will take around 5 minutes and based on your answers, that are confidential, we would like to hear from you how your Entrepreneurial master has affected your entrepreneurial intention, behavior, and performance. Your answers are treated anonymously.

In case you have any questions, remarks or are curious about the outcome of this survey, please email: Ma2887pl-s@student.lu.se or Mi7272si-s@Student.lu.se

We really appreciate your input!

* Required

Master
Entrepreneurship

At which university did you follow your Master in Entrepreneurship ?

1. At what university did you study your Entrepreneurship master? *

Mark only one oval.

- Lund University
- Chalmers University of Technology
- Vaxjo Linnaeus University
- Halmstad University

2. What year did you graduate from your master in Entrepreneurship? *

Mark only one oval.

2017

2018

2019

3. What is your age? *

4. What is your biological sex? *

Mark only one oval.

Male

Female

5. Did you create a new venture as part of your studies? *

Mark only one oval.

Yes

No

6. Did you have prior start-up experience before the program? *

Mark only one oval.

Yes

No

7. Did anyone in your immediate family and/or close friends start a business before the start of your master? *

Mark only one oval.

Yes

No

8. Which of the following examples describe your main occupational status best for the past six months? *

Mark only one oval.

Employed (for another company)

Self-employed

Studying

Other

Entrepreneurial
Intention

These questions aim to indicate your Entrepreneurial intention (desirability to become an entrepreneur). Please note that all these questions are about intentions that apply directly after graduation.

9. Indicate your level of agreement with the following sentences that apply to your attitude directly after graduating from 1 (total disagreement) to 7 (total agreement). *

Mark only one oval per row.

	1	2	3	4	5	6	7
Being an entrepreneur implies more advantages than disadvantages to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A career as entrepreneur is attractive for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had the opportunity and resources, I'd like to start a firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being an entrepreneur would entail great satisfactions for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Among various employment options, I would rather be an entrepreneur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. If you decided to create a firm, would people in your close environment approve that decision? This accounts for your perspective directly after graduation. Please indicate from 1 (total disapproval) to 7 (total approval). *

Mark only one oval.

	1	2	3	4	5	6	7	
Total disapproval	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Total approval

11. To what extent do you agree with the following statements regarding your entrepreneurial capacity directly after graduation? Value them from 1 (total disagreement) to 7 (total agreement). *

Mark only one oval per row.

	1	2	3	4	5	6	7
To start a firm and keep it working would be easy for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am prepared to start a viable firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can control the creation process of a new firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know the necessary practical details to start a firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know how to develop an entrepreneurial project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I tried to start a firm, I would have a high probability of succeeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Indicate your level of agreement with the following statements on your perspective to become an entrepreneur directly after graduation. 1 represents total disagreement and 7 total agreement. *

Mark only one oval per row.

	1	2	3	4	5	6	7
I am ready to do anything to be an entrepreneur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My professional goal is to become an entrepreneur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will make every effort to start and run my own firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am determined to create a firm in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have very seriously thought of starting a firm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the strong intention to start a firm some day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Entrepreneurial Behavior after the Master program

In this part we will measure your entrepreneurial behavior by looking at firm creation and intrapreneurship. Please note that all these questions are about the behavior AFTER the master program.

13. After graduating, did you start/own a firm, or become self-employed? *

Mark only one oval.

Yes

No

14. In case you answered yes at the previous question, are you still operating in this firm?

Mark only one oval.

Yes

No

15. Are you currently in the process of starting/owning a firm or becoming self-employed? *

Mark only one oval.

Yes

No

16. After graduation, have you participated in any of the following six behaviors? *

Mark only one oval per row.

	Yes	No
Attending a 'start your own business planning' seminar or conference?	<input type="radio"/>	<input type="radio"/>
Writing a business plan or participating in seminars that focus on writing a business plan?	<input type="radio"/>	<input type="radio"/>
Putting together a start-up team?	<input type="radio"/>	<input type="radio"/>
Looking for a building or equipment for the business?	<input type="radio"/>	<input type="radio"/>
Saving money to invest in the business?	<input type="radio"/>	<input type="radio"/>
Developing a product or service?	<input type="radio"/>	<input type="radio"/>

Intrapreneurship: Evaluation of entrepreneurship education should also move beyond looking at firm creation only, especially as the number of corporations that demand within-firm entrepreneurship keeps growing. Therefore, intrapreneurship is also defined under entrepreneurial behavior for the scope of this research and will be measured by 'idea development for a new activity' and the 'preparation and implementation of a new activity'

17. After graduating, have you had an employment with an active or leading role in idea development for new business activity within an existing organization? *
E.g. brainstorming ideas, active information search within an existing organization

Mark only one oval.

- Yes
 No

18. After graduating, have you had an employment with an active or leading role in * dealing with implementation of a new business activity within an existing organization? E.g. Preparing a business plan, market new product activity, acquiring a team for a new activity for an existing organization

Mark only one oval.

Yes

No

19. In case you answered yes for one of the intrapreneurship questions, are you still employed in this position?

Mark only one oval.

Yes

No

Entrepreneurial Performance

In this part we will measure your entrepreneurial performance by looking at financial and non-financial indicators for your created ventures after graduation. Please fill in the indicators for entrepreneurial performance in case you started/owned a firm and/or became self-employed after graduation. Please skip these questions in case you did not created/owned a firm and/or became self-employed. We can imagine that it may be difficult question to answer, but it is very useful and necessary for our research. So, in case you have established a firm, please fill in these question to your best capabilities. Thanks!

20. How many firms have you created/owned since you graduated?

21. How many of your established firms had to close down?

- 22. What is the year of establishment of your company that is still operating? If you have more than one company, please give the answers per company specifically (e.g company 1: 2018, company 2: 2020)

- 23. How many employees, including yourself, did your company have when you started? If you have more than one company, please give the answers per company specifically

- 24. How many employees, including yourself, did your company have in 2021? If you have more than one company, please give the answers per company specifically

- 25. What was your companies' market share percentage when you started? If you have more than one company, please give the answers per company specifically (please use dots instead of comma's e.g. 2.6%)

- 26. What was your companies' market share percentage in 2021? If you have more than one company, please give the answers per company specifically (please use dots instead of comma's e.g. 2.6%)

- 27. What was your companies' revenue in the first year when you started? If you have more than one company, please give the answers per company specifically (please use dots again and provide the revenue in SEK)

28. What was your companies' revenue 2021? If you have more than one company, please give the answers per company specifically (please use dots again and provide the revenue in SEK)

29. What was your companies' net profit in the first year when you started your venture? If you have more than one company, please give the answers per company specifically (please use dots again and provide the revenue in SEK)

30. What was your companies' net profit in 2021? If you have more than one company, please give the answers per company specifically (please use dots again and provide the revenue in SEK)

Thank
you!

This was the end of the survey. We want to thank you for your time and effort, it is very appreciated! Once again, in case you have any questions, remarks or are curious about the outcome of this survey, please send an email to: Ma2887pl-s@student.lu.se or Mi7272si-s@Student.lu.se

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Appendix II: SPSS Output

Appendix II – A Intention

Factor Analysis

Communalities

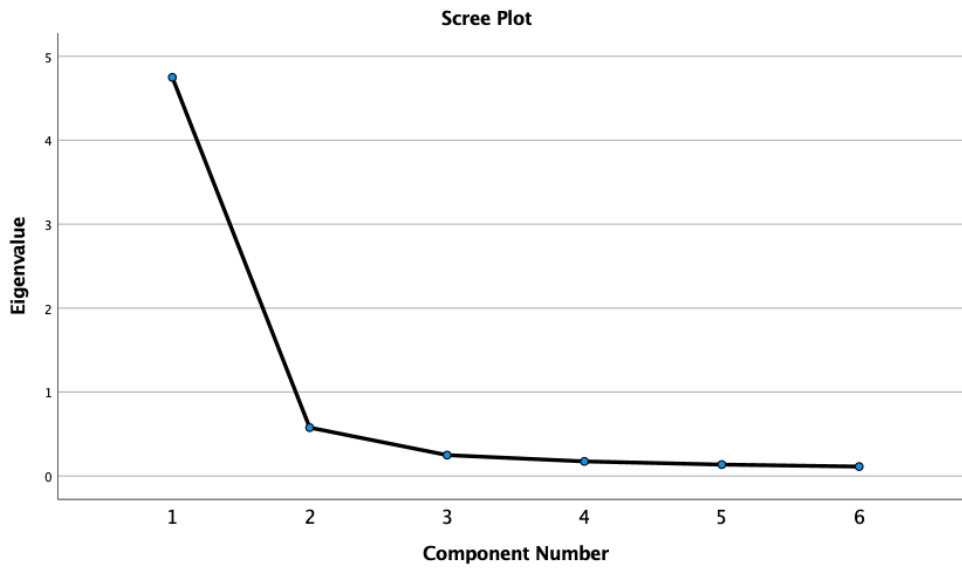
	Initial	Extraction
Intention1: readiness	1.000	.709
Intention2: Professional goal	1.000	.847
Intention3: every effort for firm establishment	1.000	.805
Intention4: determined firm creation future	1.000	.884
Intention5: serious thought	1.000	.843
Intention6: intention firm creation	1.000	.660

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.750	79.160	79.160	4.750	79.160	79.160
2	.577	9.619	88.779			
3	.249	4.157	92.936			
4	.174	2.906	95.842			
5	.137	2.276	98.118			
6	.113	1.882	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component 1
Intention1: readiness	.842
Intention2: Professional goal	.920
Intention3: every effort for firm establishment	.897
Intention4: determined firm creation future	.940
Intention5: serious thought	.918
Intention6: intention firm creation	.813

Extraction Method: Principal Component

Analysis.

^a. 1 components extracted.

Reliability Analysis

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.947	.947	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Intention1readiness Intention1: readiness	21.62	68.949	.774	.672	.944
Intention2Professionalgoal Intention2: Professional goal	20.83	64.792	.879	.803	.932
Intention3everyeffortforfirmest abishment Intention3: every effort for firm establishment	21.24	65.346	.845	.793	.936
Intention4determinedfirmcreati onfuture Intention4: determined firm creation future	20.41	62.827	.911	.844	.928
Intention5seriousthought Intention5: serious thought	20.52	62.157	.879	.814	.932
Intention6intentionfirmcreatio n Intention6: intention firm creation	19.98	68.532	.742	.678	.948

Test for Normality

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Intention_construct	.068	63	.200*	.970	63	.122

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix II – B Nascent entrepreneurship

Reliability Analysis

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.746	.741	6

Test for Normality

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Gestation_construct	.163	63	<.001	.895	63	<.001

a. Lilliefors Significance Correction

Appendix II – C Frequency of firm creation

Test for Normality

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Numberoffirms	Number of firms	.417	63	<.001	.555	63	<.001

a. Lilliefors Significance Correction

Appendix II – D Level of Intrapreneurship

Reliability Analysis

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.877	.877	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Intrapreneurship1_recoded	.5556	.251	.781	.611	.
Intrapreneurship2_recoded	.6349	.236	.781	.611	.

Test for Normality

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Intrapreneurship_construct_su m	.347	63	<.001	.690	63	<.001

a. Lilliefors Significance Correction

Appendix II – E Regression Analyses

Intention

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.736	.258		14.468	<.001
	VCP_transformed	.944	.403	.291	2.340	.023
2	(Constant)	3.456	.351		9.836	<.001
	VCP_transformed	.897	.404	.277	2.221	.030
	Socialrolemodel_recoded	.480	.410	.146	1.171	.246
3	(Constant)	3.200	.357		8.955	<.001
	VCP_transformed	.602	.411	.186	1.464	.149
	Socialrolemodel_recoded	.624	.401	.190	1.557	.125
	Priorexperience_recoded	1.031	.452	.290	2.281	.026
4	(Constant)	5.846	1.406		4.159	<.001
	VCP_transformed	.507	.404	.157	1.255	.215
	Socialrolemodel_recoded	.724	.395	.220	1.834	.072
	Priorexperience_recoded	1.318	.465	.371	2.831	.006
	Age	-.091	.047	-.241	-1.943	.057
5	(Constant)	6.039	1.472		4.103	<.001
	VCP_transformed	.524	.409	.162	1.282	.205
	Socialrolemodel_recoded	.707	.399	.215	1.771	.082
	Priorexperience_recoded	1.248	.491	.351	2.544	.014
	Age	-.093	.047	-.247	-1.971	.054
	Gender_transformed	-.192	.402	-.060	-.478	.634

^a. Dependent Variable: Intention_construct

Nascent entrepreneurship

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.083	.065		1.281	.205
	VCP_transformed	.397	.102	.453	3.903	<.001
2	(Constant)	.203	.087		2.345	.022
	VCP_transformed	.416	.100	.476	4.185	<.001
	Socialrolemodel_recoded	-.205	.101	-.231	-2.031	.047
3	(Constant)	.139	.088		1.580	.120
	VCP_transformed	.342	.101	.391	3.386	.001
	Socialrolemodel_recoded	-.169	.099	-.190	-1.714	.092
	Priorexperience_recoded	.259	.111	.269	2.326	.024
4	(Constant)	-.041	.356		-.115	.909
	VCP_transformed	.349	.102	.398	3.403	.001
	Socialrolemodel_recoded	-.176	.100	-.198	-1.757	.084
	Priorexperience_recoded	.239	.118	.249	2.027	.047
	Age	.006	.012	.060	.521	.604
5	(Constant)	.049	.371		.131	.896
	VCP_transformed	.356	.103	.407	3.459	.001
	Socialrolemodel_recoded	-.184	.101	-.207	-1.825	.073
	Priorexperience_recoded	.207	.124	.215	1.671	.100
	Age	.005	.012	.049	.420	.676
	Gender_transformed	-.089	.101	-.104	-.881	.382

^a. Dependent Variable: Firmcreation_recoded

Firm creation

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.083	.065		1.281	.205
	VCP_transformed	.397	.102	.453	3.903	<.001
2	(Constant)	.203	.087		2.345	.022
	VCP_transformed	.416	.100	.476	4.185	<.001
	Socialrolemodel_recoded	-.205	.101	-.231	-2.031	.047
3	(Constant)	.139	.088		1.580	.120
	VCP_transformed	.342	.101	.391	3.386	.001
	Socialrolemodel_recoded	-.169	.099	-.190	-1.714	.092
	Priorexperience_recoded	.259	.111	.269	2.326	.024
4	(Constant)	-.041	.356		-.115	.909
	VCP_transformed	.349	.102	.398	3.403	.001
	Socialrolemodel_recoded	-.176	.100	-.198	-1.757	.084
	Priorexperience_recoded	.239	.118	.249	2.027	.047
	Age	.006	.012	.060	.521	.604
5	(Constant)	.049	.371		.131	.896
	VCP_transformed	.356	.103	.407	3.459	.001
	Socialrolemodel_recoded	-.184	.101	-.207	-1.825	.073
	Priorexperience_recoded	.207	.124	.215	1.671	.100
	Age	.005	.012	.049	.420	.676
	Gender_transformed	-.089	.101	-.104	-.881	.382

^a. Dependent Variable: Firmcreation_recoded

Frequency of firm creation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.111	.138		.808	.423
	VCP_transformed	.769	.215	.422	3.578	<.001
2	(Constant)	.164	.189		.869	.389
	VCP_transformed	.778	.217	.427	3.576	<.001
	Socialrolemodel_recoded	-.091	.221	-.049	-.413	.681
3	(Constant)	-.006	.188		-.032	.974
	VCP_transformed	.581	.216	.319	2.691	.009
	Socialrolemodel_recoded	.005	.210	.003	.022	.982
	Priorexperience_recoded	.687	.237	.344	2.893	.005
4	(Constant)	-1.879	.717		-2.619	.011
	VCP_transformed	.647	.206	.356	3.137	.003
	Socialrolemodel_recoded	-.066	.202	-.036	-.328	.744
	Priorexperience_recoded	.484	.238	.242	2.036	.046
	Age	.064	.024	.303	2.695	.009
5	(Constant)	-1.667	.745		-2.236	.029
	VCP_transformed	.666	.207	.366	3.217	.002
	Socialrolemodel_recoded	-.085	.202	-.046	-.419	.677
	Priorexperience_recoded	.407	.248	.204	1.639	.107
	Age	.061	.024	.290	2.567	.013
	Gender_transformed	-.212	.204	-.118	-1.039	.303

^a. Dependent Variable: Numberoffirms Number of firms

Intrapreneurship

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.597	.078		7.660	<.001
	VCP_transformed	.003	.122	.003	.023	.982
2	(Constant)	.525	.106		4.933	<.001
	VCP_transformed	-.009	.122	-.010	-.075	.940
	Socialrolemodel_recoded	.124	.124	.131	.998	.323
3	(Constant)	.512	.113		4.535	<.001
	VCP_transformed	-.024	.130	-.026	-.185	.854
	Socialrolemodel_recoded	.131	.127	.138	1.035	.305
	Priorexperience_recoded	.052	.143	.050	.361	.719
4	(Constant)	.411	.459		.895	.375
	VCP_transformed	-.020	.132	-.022	-.155	.878
	Socialrolemodel_recoded	.127	.129	.134	.988	.328
	Priorexperience_recoded	.041	.152	.040	.267	.790
	Age	.003	.015	.032	.229	.820
5	(Constant)	.267	.476		.561	.577
	VCP_transformed	-.033	.132	-.035	-.248	.805
	Socialrolemodel_recoded	.140	.129	.147	1.083	.283
	Priorexperience_recoded	.092	.159	.090	.581	.563
	Age	.005	.015	.049	.348	.729
	Gender_transformed	.143	.130	.155	1.099	.276

^a. Dependent Variable: Intrapreneurship_construct

Appendix II Proof of word Count

Words: 16670

