

THESIS FOR THE DEGREE OF LICENTIATE

A Career Beyond Startups:

Entrepreneurial Competencies in the Careers of Venture Creation Program Graduates

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Abstract

The entrepreneurial career is an emerging concept in entrepreneurship research. When aiming to understand the trajectory of those embarking on entrepreneurial careers, research has predominantly focused on those who found start-ups. Firm founding is also widely used in research to assess outcomes of entrepreneurship educations. This thesis questions a firm formation view on entrepreneurial careers and instead develops an entrepreneurial-competencies' perspective.

The empirical context of this thesis is three Nordic master's level venture creation programs (VCP). VCPs are designed to enable students to develop competencies for transforming opportunities into viable businesses, using the experience of developing a real-life venture as the main learning vessel. The purpose of this thesis is to investigate career trajectories based upon an entrepreneurial career perspective, that includes entrepreneurial competencies facilitated through VCPs. The aim is to identify entrepreneurial career trajectories by describing entrepreneurial competencies in relation to the career, allowing trajectories beyond those solely addressing firm founding.

Entrepreneurial competencies developed from VCPs are applied similarly in subsequent careers, whether that career choice is as self-employed, a hybrid entrepreneur, or an intrapreneur. Pre-conditions, such as the role of prior entrepreneurial experiences and being raised in an entrepreneurial family are found to have limited impact on career choice for graduates, relative to educational influence. The thesis also identifies distinct archetypical (entrepreneurial) career trajectories, indicating sustainable careers after an education in entrepreneurship. This implies that VCPs, extending also to entrepreneurship education overall, have relevance not only to firm founding, but also to entrepreneurial positions in established organizations regarding graduates' applied entrepreneurial competencies in subsequent careers.

Policy-wise the study implies a need to rethink present policies and appreciate the wider value of entrepreneurship education programs beyond merely firm formation. Research-wise the thesis suggests a change in perspective from firm formation to entrepreneurial competencies, which opens up for a more comprehensive and holistic theory on entrepreneurial careers. It has given new insights into how we can discuss careers of entrepreneurial individuals – focusing the questions to what you do, how you view yourself doing it, and how a progression of these questions makes up an entrepreneurial career.

Keywords: entrepreneurial career, entrepreneurial competencies, entrepreneurship education, venture creation program

List of appended papers

Paper 1: Alsos, G., Hägg, G., Politis, D., Lundqvist, M., Stockhaus, M., Williams-Middleton, K., & Djupdal, K. (under review). Graduates of venture creation programs – where do they apply their entrepreneurial competencies? Paper submitted to and under review in *Small Business Economics* in July 2020.

I had the main responsibility of analyzing the data and writing the associated method and findings sections. The paper was co-authored.

Paper 2: Lundqvist, M., Stockhaus, M., & Williams-Middleton, K. (2022) Archetypes of sustained entrepreneurial careers. Paper abstract was first submitted to the 2022 BCERC conference in September 2021. It was then developed into a working paper.

I conceived the idea and design together with my co-authors. The paper was co-authored.

Paper 3: Aaland, T., Hägg, G., Lundqvist, M., Stockhaus, M., & Williams-Middleton, K. (2021). The role of prior entrepreneurial experience in affecting entrepreneurship education's contribution to entrepreneurial careers. Paper accepted and presented at RENT 2021 conference.

I had the main responsibility of analyzing the data and writing the associated method and findings sections. The paper was co-authored.

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1. Introduction

Many nascent entrepreneurs reference *celebreurs*¹ as their role models, e.g. Elon Musk, Bill Gates, and Steve Jobs (Burton, Sørensen, & Dobrev, 2016; Hegde & Tumlinson, 2021), saying these entrepreneurs have the ideal-typical entrepreneurial career. This view seems to be shared by many researchers and policymakers as well in the framing of start-up creation as the most desirable end-goal of the entrepreneurial career, making the entrepreneurial career synonymous with firm formation in both research and policies. Entrepreneurship research in any form or direction has to deal with the lack of consensus regarding definitions of central concepts in the research field (Landström, 2020). This theme is evident in that each individual researcher has their own interpretation of these concepts, resulting in research that maintains the status quo of a fragmented research field (see Landström and colleagues e.g. 2020; 2010). The problem is extended because entrepreneurship has become a common term in everyday language and is used in contexts of popular issues in society (Davidsson, 2004, Chapter 1). Landström (2020) points at the three most common approaches to defining entrepreneurship: (1) entrepreneurship as a function of the market, (2) the entrepreneur as an individual, and (3) entrepreneurship as a process. The entrepreneurial career is a theme in literature that partly covers all three approaches: (1) firm founding as a career choice, (2) individual antecedents of entrepreneurial career choice, (3) accumulated career behaviors. The most common perspective on the entrepreneurial career is the firm formation view. It is seen in the scenario of transitioning into entrepreneurship (founding a start-up) as the culmination of a career in paid employment (Burton et al., 2016). Entrepreneurship, however, seems characterized by much more heterogeneity and this is shown in another accepted view of entrepreneurship as uniquely multifaceted (Lazear, 2004). This creates a conceptual paradox when discussed characteristics of entrepreneurship are associated with being heterogenous and multifaceted, but the entrepreneurial career is discussed as being synonymous with acting on entrepreneurial intention through the creation of start-ups (preferably at an early stage in the career). The heterogenous and multifaceted reasons for career choices and behaviors, in which one is entrepreneurial in all but being self-employed, remain understudied. What the entrepreneurial career *is* is left to the reader to interpret, as bridging the intention-to-behavior gap is mostly discussed for only a selected few career choices and in selected contexts.

1.1 A competence perspective on entrepreneurial careers

The strategy this thesis adopts to detach the occupational choice from entrepreneurial behavior is the use of *entrepreneurial competencies* as a central concept. Bird (2019) uses the concept of entrepreneurial competencies as a reference to the behavior of an individual, which is observable in an occupational context, as well as being obtainable through training. It's not exclusive to a role or occupation, but it's expected to vary depending on occupational choice and career. Building on Hager and Gonczi (1996, p. 15), competencies can be viewed as being practice-integrated, consisting of "knowledge, skills, abilities and attitudes displayed in the context of a carefully chosen set of realistic professional tasks". With this perspective in use, the definition of *entrepreneur* in the thesis and its research questions is founded on the behavior of an individual (entrepreneur). Also, the definition will include, rather than exclude, those who

¹ A fusion of the words "celebrity" and "entrepreneur".

see transition in and out of different occupational settings, including self-employment, as part of a bigger career narrative. Firm formation and self-employment will be seen as specific types of entrepreneurship, but on equal terms to a career choice in any other occupation. The focus will be shifted to entrepreneurial competencies applied as denominations of being entrepreneurial. One can transition between career choices, but how these applied entrepreneurial competencies remain relevant, might reveal more about the entrepreneurial career than looking at specific types of employment.

1.2 Entrepreneurship education and careers

Entrepreneurship education over the last four decades has risen in importance for societal renewal. A common argument from policy is that to spur economic development, there is a need for a more entrepreneurially-oriented workforce. The entrepreneurial career is sometimes discussed as an outcome of entrepreneurship education (Killingberg, Kubberød, & Blenker, 2020; Matlay, 2005, 2006; Nabi, Holden, & Walmsley, 2006). In parallel, the discussion on the outcomes of entrepreneurship education is often focused on building up the entrepreneurial intention (Bird, 1988) as the primary outcome, i.e. does participation in an entrepreneurship course or program increase the disposition to become self-employed? (e.g. Liñán & Fayolle, 2015; Matlay, 2008; Pittaway & Cope, 2007). The convergence of these research streams can be found in the research efforts to bridge the intention-behavior gap, with the main focus on firm formation as the vessel for transition into entrepreneurship (Adam & Fayolle, 2015; Gartner, 1988). After an education in entrepreneurship, one could expect that a number of start-ups will be created by those undertaking the education, especially in the wake of the rising numbers of entrepreneurship educations worldwide (Kuratko, 2005; Nabi, Linan, Fayolle, Krueger, & Walmsley, 2017; Neck & Corbett, 2018). This implies that there should be growing population of individuals who have participated in entrepreneurship education and that these trained individuals will engage in new venturing activities. Also, critical questions about the cost of entrepreneurship education relative to expected output have increased, particularly in terms of the number of start-up entrepreneurs (Åstebro & Hoos, 2016; Eklund, 2019). *Venture creation programs* (VCP) is an education that is designed to support students in developing competencies needed to transform opportunities into viable businesses, using the experience of developing a real-life venture as the main learning vessel (Lackéus & Williams-Middleton, 2015). A main approach within this type of education has been learning through experience, using an experience-based pedagogical approach (Hägg & Gabrielsson, 2019; Pittaway & Cope, 2007). The experience-based approach is advocated in entrepreneurship education to support students' development of entrepreneurial skills, abilities, and attitudes in addition to knowledge (Hägg & Gabrielsson, 2019; Lackéus & Williams-Middleton, 2015). Entrepreneurship education, including VCPs, are argued as being programs delivering development of competencies for intended practice of set professional tasks associated with entrepreneurial contexts (Killingberg et al., 2020). Galloway, Kapasi and Whittam (2015) emphasize the potential of new insights in the rich and nuanced relationship between entrepreneurship education and graduate careers. But for now, most investigate entrepreneurship education in regard to how it creates or enhances intention; and behavior is expressed through founding firms.

1.3 Problem statement and research questions

Entrepreneurial careers involve a complex interaction of timing, contexts, anchors, and identity (Dyer, 1995; Hytti, 2010; Katz, 1995). The trajectory of entrepreneurial careers is in this sense seen as the path in which these take place and shape an individual's career. Entrepreneurship as a process is interwoven in the trajectory and manifested in the development and usage of entrepreneurial competencies. The purpose of this research is therefore to investigate career trajectories based upon an entrepreneurial career process perspective, that includes VCP-generated entrepreneurial competencies. And in the process identify entrepreneurial career trajectories through describing the entrepreneurial in relation to the career, also including trajectories besides those that strictly address firm formation through start-ups. It will provide new insights into outcomes of entrepreneurship education and whether subsequent career trajectories can have other measures than the binary terms of "entrepreneur" or "not entrepreneur".

The research will address the following questions.

RQ1: What are the archetypes of entrepreneurial careers in which entrepreneurial competencies are applied?

RQ2: How do graduates of venture creation programs apply knowledge and experience developed from their entrepreneurship education?

RQ3: What role does entrepreneurship education have in forming specific career trajectories?

The thesis is based on the three appended papers that discuss these questions. A simplified guide to which questions are covered by each paper is presented in Table 1.

Table 1. Overview of how the individual appended papers relate to the thesis' research questions.

Paper Title	RQ1	RQ2	RQ3
(1) Graduates of venture creation programs – where do they apply their entrepreneurial competencies?		X	X
(2) Archetypes of sustained entrepreneurial careers	X		X
(3) The role of prior entrepreneurial experience in affecting entrepreneurship education's contribution to entrepreneurial careers			X

1.4 Outline of thesis

Given the introduction to entrepreneurial careers research and presentation of research questions, the next section will continue connecting the research to a theoretical framework. After that, the methodology is presented, giving an overview of the methods used in the appended papers and the synergies they create towards this thesis. Then there is a short summary for each of the three papers, followed by the discussion – with a focus on the synergies between the findings in each paper. A conclusion gives a suggestion for researchers and practitioners on the road ahead. After the kappa, the three papers used as the backbone of this thesis are appended.

2. Theory

Gartner (2001) presents an interesting pattern in the entrepreneurship research community, which is the lack of consensus and the diversity of definitions. His analogy is to the story of a group of blind men trying to define (or rather make sense of) an elephant, without actually seeing it. All have their own interpretation of what an elephant is and that is also how Gartner describes sense-making in the entrepreneurship research community. Ramoglou and Tsang (2016, p. 430) argue that this is expected of entrepreneurship due to that: “Entrepreneurship stands on the thin line between possibility and actuality and therefore faces unique conceptual difficulties unknown to disciplines studying actualized phenomena with more discernible patterns of causality²”. In 2000, Shane and Venkataraman pointed at the potential of entrepreneurship research as a field in its own right. In the years since, the “bounded multi-disciplinarity”³ of the field has been more cemented and, within these disciplines, concepts have been developed independently (Casson, 2014; Gartner, Davidsson, & Zahra, 2006; Landström, 2020). Building on this, the discussion on the entrepreneurial career is likely not exempt from the lack of consensus regarding theories as seen in the field as a whole. Though more developed, career development theories rarely consider the entrepreneurial career (e.g. self-employed, hybrid employment, and intrapreneur) as being distinctively unique within the status passage tradition of career research (Burton et al., 2016). Whilst the potential overlap of career- and entrepreneurship research has, in recent years, been given more attention, these two aspects have mostly been part of related yet parallel research streams (Dyer, 1995; Katz, 1995; Kozlinska, Rebmann, & Mets, 2020). Career researchers have mostly focused on organizational contexts that influence career progression, and entrepreneurship researchers have focused on careers as in firm formation (Jackson & Wilton, 2017; Kozlinska et al., 2020; Vinkenburg & Weber, 2012). According to Blumberg and Pfann (2016), a theory on entrepreneurial careers should incorporate a modeling framework with dynamic perspectives. This is to account for the fact that occupational choices are episodic, attributes change over time, and occupational choice propensity may vary over one’s career (Blumberg & Pfann, 2016; Gorgievski, Stephan, Laguna, & Moriano, 2018). They also argued that a modeling framework should differentiate between various trajectories that may include occupational roles where entrepreneurial competencies are applied. Underlying factors for these trajectories could be derived from a multitude of known and unknown sources (Blumberg & Pfann, 2016; Marshall, Dibrell, & Eddleston, 2019).

Given these requirements of dynamic perspectives and career trajectories, the theoretical framework of this thesis builds from Dyer's (1995) four dimensions that he argues as essential for a comprehensive theory of entrepreneurial careers: career choice, career socialization, career orientation, and career progression from entry to exit. Dyer (1995) was one of the first to recognize that entrepreneurial careers are something more than just a career choice: they are dynamic rather than static and should incorporate the fact that career progression affects choice

² Like microbiology or astronomy for example.

³ Landström and Benner (2010) argue that it is difficult to characterize entrepreneurship as a cross-disciplinary field, as in reality it is more similar to a “bounded multi-disciplinary” field. This is seen in that the entrepreneurship research community is divided into different and rather distinct parts; thus it can be assumed that we would find fairly limited knowledge platforms shared between scholars rooted in various disciplines.

propensity. Choice refers to individual, social, and economic factors influencing a career choice. Socialization refers to the importance of previous experiences in career decisions. Orientation refers to the development process of career roles and identity. Progression refers to the change in priorities and contexts in an individual's career and personal life. Regarding these four dimensions, Burton et al. (2016, p. 243) state: “[Entrepreneurship]... may be a choice that can be revisited as both personal and environmental situations shift, or alternatively, it may be associated with path dependencies⁴ that make it difficult to transition into or out of.” An interpretation of Burton and colleagues is that an entrepreneurial career can be viewed as being transient, i.e. involving movements between self-employment, employment, or a hybrid of both, but also the result of former decisions affecting the range of occupational alternatives (Dlouhy & Biemann, 2018). It resembles what Defillippi and Arthur (1994) describe as the boundaryless career with a high physical and/or psychological mobility. An important note is that Dyer argues from a standpoint of firm formation as the main mode for an entrepreneurial career. In the career progression dimension, Dyer's dilemmas (personal, family, and business) might need to be altered to fit the entrepreneurial-competencies' perspective utilized in this research. But the overall view, that dilemmas evolve in parallel with career progression, is assumed to be true for a competency view of careers as well. Personal dilemmas are assumed as not being affected significantly by the change in perspective. Family dilemmas can be interpreted as a dynamic with perceived opportunity cost in relation to work-life balance in career progressions. Business dilemmas can be translated to role and competencies dilemmas, in which an individual develops their roles and competencies in a career progression. These dilemma assumptions will be discussed in relation to findings in appended papers.

In the following sections I'll go through the dimensions in the model and conclude with a new interpretation of it, considering the developments of theories and concepts since it was first introduced. I will also adapt the model from the original firm formation perspective to an entrepreneurial competencies' perspective.

2.1 Career choice

According to Dyer (1995), there are three major factors that constitute antecedents influencing career choice. The economic factor is important given that the economic situation influences the decision to become self-employed, which sparks founding a firm as a necessity (to put food on the table essentially) or as an opportunity (for economic winnings and/or self-fulfillment). The second factor of importance is the social part in which career choice is influenced by the social context. If there is a culture around an individual that promotes and develops entrepreneurial competencies, self-employment as an occupation is less important (e.g. one could act entrepreneurial in an established organization) (Pinchot, 1985). Reversely, there might be a culture around the individual which promotes self-employment as the best option for applying entrepreneurial competencies, in which case that is the preferred operations mode. Dyer (1995) argues that the most likely individual factors behind career choice come down to social cognition and cognitive processes. Reframing Dyer's perspective towards that of entrepreneurial competencies, the same individual factors could gain more weight as it is the actual activity, and not in what occupational context it is performed, which is of importance.

⁴ Described by David (1985) as what has occurred in the past persists because of resistance to change.

In other words, it is when an individual, for example, uses their competence to evaluate a new business opportunity which creates an attitude towards that specific activity - whether it is in the context of self-employment or as a corporate work task should be secondary.

It is evident that the majority of studies on entrepreneurial careers have focused on individual characteristics and the conditions leading to entrepreneurship (Burton et al., 2016). A possible explanation for this is that in the early era of modern entrepreneurship research, with scholars such as Joseph Schumpeter, entrepreneurship was seen as an important aspect in industrial dynamics. Landström (2020) gives a good overview of the history of entrepreneurship research and points at the scholars active in the first half of the 20th century who discussed the firm formation path of entrepreneurship as a result of supply/demand relationship, and how the creation of new ventures provided an entity in which entrepreneurship could be studied. It implies that the decision to found a firm is seen as the ideal career path for entrepreneurs, without considering the variety of career paths associated with entrepreneurial competencies (Burton et al., 2016). Consequently, studies that have examined entrepreneurial careers have predominantly focused on self-employment as the primary work situation characterizing entrepreneurs' vocational careers (e.g. Burton et al., 2019) or have assumed that firm formation is the main (or sole) career path to pursue after an entrepreneurship education (Nabi, Holden, & Walmsley, 2010). When entrepreneurship research started to become an academic field on its own merits in the 1970s and 1980s, new perspectives were introduced by scholars such as Peter Drucker who, through his book *Innovation and Entrepreneurship* (1985), discussed entrepreneurship in a corporate setting. At the same time "intrapreneurs" (Pinchot, 1985) became a concept in the discussion of individual entrepreneurship in established organizations. Aside from the start-up entrepreneur and intrapreneur concepts, there is now an emerging discussion on diversity in entrepreneurship, such as social entrepreneurship (e.g. Abebe, Kimakwa, & Redd, 2020) and hybrid entrepreneurship (e.g. Viljamaa, Varamäki, & Joensuu-Salo, 2017). But, currently, there is limited knowledge of the roles of social and hybrid entrepreneurship in career trajectories. The literature on the firm formation perspective of entrepreneurship discusses different forms of founding firms in sequence or in parallel, i.e. serial entrepreneurship and portfolio entrepreneurship (e.g. Westhead & Wright, 1998). In the corresponding literature, there is limited discussions of the role of entrepreneurial competencies in these specific career trajectories and also the role of transitioning into these career trajectories from other occupations.

Returning to Defillippi and Arthur (1994), and taking the perspective of the entrepreneurial career as a boundaryless career, might give better insights than solely looking at occupational status. Their boundaryless competency profiles see the individual as independent relative to the situated occupation, flexible in work tasks, and inter-organizational (and non-hierarchic) in professional (and social) networks. Schein (1996, p. 80) argues for individuals having *career anchors* as "... a strong self-concept which holds their internal career together even as they experience dramatic changes in their external career." Integrating Defillippi and Arthur's (1994) flexibility view on boundaryless competency profiles and Schein's (1996) argument of individual self-concepts in career anchors, the entrepreneurial career might be a combination of dynamic and static career choices. Dynamic as in boundaryless in moving between occupations, and static through anchors in one or a few entrepreneurial roles. This procedure

is supported by Katz (1995), who evaluates the career anchors *autonomy* and *entrepreneurship* in a career progression model that covers vocational movements and concludes that these anchors are influential in forming the career trajectory in entrepreneurial careers. Combining arguments about entrepreneurial competence, boundaryless career, and career anchors it can be concluded that the entrepreneurial career is not restricted to a certain occupational status – instead it is more likely a question of what you do, how you view yourself doing it, and not (as has been the focus until now) in which entity you do it.

2.2 Career socialization

There seems to not be a single sequence or pattern of experience that would lead one individual to embark on an entrepreneurial career (Dyer, 1995). But there is a large amount of research pointing at the importance of family and childhood experiences, education and training, and work experiences that encourage entrepreneurial behavior (e.g. Lanero, Vázquez, & Aza, 2016; Pérez-López, González-López, & Rodríguez-Ariza, 2019). Socio-cognitive career perspectives can be used in career socialization studies with the work of Lent and Brown (e.g. 2013), and with Hackett (e.g. 1994, 2000), in their *social cognitive career theory*, SCCT. In SCCT, contextual factors such as family influences, personal interests, and choices comprise the real and perceived opportunity structure within which career plans are devised and implemented. In the case of the entrepreneurial career, these factors form the socialization for one to engage in entrepreneurial behavior (Dyer, 1995). Also, they are important in the formation of the identity of an entrepreneur (Donnellon, Ollila, & Williams-Middleton, 2014; Hytti, 2005; Radu-Lefebvre, Lefebvre, Crosina, & Hytti, 2021).

As previously mentioned, role models are crucial for the image of an ideal-typical entrepreneurial career. Another influential factor is the normative view that founding a firm is the culmination of a successful career (Burton et al., 2016), but the career trajectory to reach success is fragmented and complex compared with other, more understood, career trajectories. Examples of these more-understood trajectories can be seen in medical, legal, and educational careers - where career choices can be considered to follow a (or a few) predetermined path(s) for career progression. Individuals that intend to pursue these trajectories understand and act along the given career sequences and the process often starts in early adulthood (Pratt, Rockmann, & Kaufmann, 2006). The relevance of the reference points of conventional jobs, e.g., formal responsibilities, cultural conventions, fixed employment terms and vocational codes is less known in entrepreneurial careers.

The role of entrepreneurship education in the career subsequent to the first career choice has received increased attention in research (Liñán & Fayolle, 2015). In their literature review on the effect of entrepreneurship education on producing entrepreneurship, Rideout and Gray (2013, p. 329) argue for: “[That] systematic critique of the studies’ research methods found a variety of methodological weaknesses, undermining confidence in the belief that E-ed [sic] can produce entrepreneurship.” This lowers the confidence of the empiric evidence produced so far. In more recent literature reviews on the outcomes of entrepreneurship education by Henry and Lewis (2018) and Nabi, Linan, Fayolle, Krueger, and Walmsley (2017), the recommendation is to give more attention to the outcomes of entrepreneurship education, thus validating the effectiveness of said educations. Jones, Pickernell, Fisher and Netana (2017, p.

700-701) investigate the impact of entrepreneurship education on entrepreneurial behaviors and conclude that: “[Entrepreneurship Education] programmes provide value both in terms of helping to enable business start-ups and also in supporting alternate career paths, through the enterprising knowledge and skill sets graduates acquire during their specialized studies.” This implies that focusing only on those graduates who create start-ups neglects potential application of entrepreneurial competencies by the rest of the graduate population, with only a fraction of the outcomes of entrepreneurship education being investigated. An emerging set of empirical studies has approached the graduates of entrepreneurship educations who have collected vocational experience before initiating creation of a startup. Galloway, Kapasi and Whittam (2015) show that after an eight-year period, career experiences and outcomes are highly idiosyncratic and that original intentions change over time, regardless of original ambitions. This implies that measuring and evaluating the outcomes of entrepreneurship education depends upon when in a graduate’s career one inquires. Even though there are some studies positioned as longitudinal outcomes of entrepreneurship education, calls for more work on this subject are still very prominent (Galloway et al., 2015; Nabi et al., 2017). Entrepreneurs bring their previous experiences with them into the next career transition and therefore sequences of experiences after an education in entrepreneurship are important (Politis, 2008; Politis & Gabrielson, 2009). The role of entrepreneurship education in mid- and late careers might be due to its influence in early career socialization and orientation that form an entrepreneurial identity (Lundqvist, Williams-Middleton, & Nowell, 2015).

2.3 Career orientation

According to Dyer (1995), the main drivers of career orientation are identity and role development. These developments can be seen in the change from general to specific roles in the process of starting and growing a firm. Orientation is when these developments form a trajectory as an individual engages in professional work tasks (Dyer, 1995). In this view, career orientation is the process of claiming a career niche through trying out and evaluating roles that are in line with one’s self-concept (see Super, 1980). The self-concept as an entrepreneur is affected by social and popular influences and also one’s own interpretation of work tasks and roles (Lundqvist et al., 2015; Schein, 1996), resulting in the situation that an individual might not reflect on their entrepreneurial identity due to them not being self-employed (which, in popular consideration, is held to be the ideal career for an entrepreneur). A limitation in Dyer’s proposed entrepreneurial career model is that the career orientation dimension is underdeveloped in comparison with the other three dimensions, and also focuses exclusively on firm formation perspectives. In the 25 years since it was first introduced, progress has been made towards understanding the identity and role development of entrepreneurs. One of these developments is the concept of entrepreneurial competencies, as these can be applied in a variety of professional settings that are not the starting and growing of a firm (Jones et al., 2017). Entrepreneurial competencies provide a means for discussing role development beyond firm formation, but still faces dilemmas, such as: ideation and implementation of new business ideas, allocation of resources to develop new business ideas, the management of uncertainty, and agency to take action under uncertainty, etc. (Lazear, 2004; Sarasvathy, 2009). Another benefit of the entrepreneurial-competencies’ perspective in career orientation is that these are

applied in a variety of roles that may span the entirety of a career or merely explain a sequence in one's overall career trajectory (Hytti, 2010).

Dyer discusses identity development through the perspective of role identity (Stryker & Burke, 2000), with roles as social positions that carry with them expectations for specific behaviors. This view of identities can be interpreted as internalized role expectations, with the "Who am I?" question being associated to roles one engages in. Previous research shows that the way entrepreneurs answer the question "Who am I?" plays a critical role throughout the entrepreneurial career (Radu-Lefebvre et al., 2021). Sourcing and evaluating roles and associated competencies in the general phase can be seen as an early career dilemma (Pratt et al., 2006). In the specific role development phase, the "Who am I?" question might be a mid-to late-career dilemma as a critical question on one's career so far, introducing the thought of career transitions and reevaluating roles and associated competencies (Pratt et al., 2006; Radu-Lefebvre et al., 2021). The growing research stream of entrepreneurial identity frames a picture of identity as a major driving force in initiating and maintaining entrepreneurial activity and passion (Radu-Lefebvre et al., 2021). The entrepreneurial identity is one of many one could have and therefore it is not uncommon for entrepreneurial individuals in corporate settings to first and foremost identify, for example, as an engineer. Managing multiple identities may lead to interpersonal conflicts; a common theme in literature is motherhood and entrepreneurship (e.g. Lewis, Harris, Morrison, & Ho, 2015), which might explain why some women giving up their entrepreneurial career (Thébaud, 2016). From the perspective of education and the empirical context of this thesis, VCPs have been shown to facilitate the development of entrepreneurial identity (Donnellon et al., 2014). This indicates an overlap in the socialization and orientation dimensions of an entrepreneurial career, while being a student in a VCP.

2.4 Career progression

The final dimension suggested by Dyer (1995) describes the time-dependent dynamics of a career and that a theory of entrepreneurial careers must incorporate the many changes that time might inflict on the previous dimensions. He continues to list three types of dilemmas: personal, family, and business, which change as the career progresses. Examples of these might be (1) a young entrepreneur might suppress entrepreneurial intention to undergo a formal education first, (2) the new mother who seeks a formal employment over self-employment for financial security, and (3) the self-employed person who is soon to retire but fears letting go of what makes up a large part of their identity. An important variable in the career development and entrepreneurship process overlap is the question of when one is most suited to engage in self-employment (Dyer, 1995). Lucas (1978) argues that individuals with entrepreneurial intention and competence should enter self-employment as the first step in a working life. Calvo and Wellisz (1980) challenge this, saying that in practical terms willing young individuals often lack relevant experience and capital to start a new business venture. This is also supported in a multitude of empirical studies indicating that the timing of self-employment comes later in an individual's career (e.g. Aldrich & Yang, 2014; Marshall & Gigliotti, 2020; Sørensen, 2007; Sorgner & Fritsch, 2018). Previous research has pointed at some explanatory factors of timing such as: perceived financial risk and gains (Berkhout, Hartog, & van Praag, 2016), social contexts (Jack & Anderson, 2002; Robb & Watson, 2012), gender (Robb & Watson, 2012; Thébaud, 2016), influence of entrepreneurial parents (Bindah, 2017; Bloemen-Bekx,

Voordeckers, Remery, & Schippers, 2019), personality (Roberts, 1989; Schmitt-Rodermund, 2004), previous entrepreneurship experiences (Politis & Gabrielsson, 2009), giving priority to family creation (Davis & Shaver, 2012) and development of skills (Chen & Thompson, 2016). These are just a few potential factors affecting the timing of entrepreneurship with the overall consensus being that timing is a complex phenomenon and made up of numerous variables with multi-way interactions between them (Burton et al., 2019).

Entrepreneurial careers are discussed as being highly transient when viewed as a mobility process, where the barriers between employment and self-employment are not as important as previously thought (Burton et al., 2019, 2016; Sørensen & Sharkey, 2014). This supports the utilizing of entrepreneurial competencies as the main lens in Dyer’s model, with competence rather than occupation being the denominator in entrepreneurial careers. Entrepreneurial competencies can also bridge the chasm between career development and entrepreneurship theories and introduce concepts of career anchors (Schein, 1996) and boundaryless career (Defillippi & Arthur, 1994) as moderated by competence and activity, rather than occupational position. Another important theoretical perspective that could help bound the theoretical package together is the concept of path dependency (Dlouhy & Biemann, 2018; Rusko, Hietanen, Kohtakangas, & Järvi, 2019), and see Figure 1. The opportunity cost is weighted by the time and resources invested in the current path and it dictates the likeliness of a career transition (Botticini & Eckstein, 2008). Empirical evidence shows decreased mobility as careers progress (Dlouhy & Biemann, 2018) and implementing path dependency as a component in an entrepreneurial career might help moderate changes in mobility over time.

2.5 Theory framework

This thesis attempts to move towards *a* theory on entrepreneurial career but will utilize established theories and concepts in connecting the empirical evidence in the appended papers; see theoretical framework in Table 2. These address deficiencies in Dyer’s model and also complement it with new or updated perspectives on entrepreneurial careers.

Table 2. Theories positioned in framework.

Theories	Model dimensions			
	Career choice	Career socialization	Career orientation	Career progression
Social cognitive career	X	X		
Entrepreneurial identity		X	X	
Career anchors	X			X
Boundaryless career				X
Path dependency				X

The theory model of this thesis, see Figure 1, is a development of Dyer’s model with recent theory developments and discussions taken into consideration. The model has been adapted from a focus on entrepreneurial career as in creation and growth of firms, to entrepreneurial career as entrepreneurial competencies developed and applied. Dyer’s original four dimensions remain the same but are placed on a scale of static and dynamic processes. Career choice, as including individual, social, and economic factors, is placed on the static end of the model as

the factors are considered to be enduring throughout a career. Career socialization and career orientation are affected by social contexts, development of roles and identity, and previous experiences. These are considered to be changeable conditions and are deemed to be less enduring, but more episodic than career choice. Career progression covers dynamic aspects of a career and how each stage in a career (early, mid, and late) introduces dilemmas into the model. An important distinction from the original model is that the adapted model is not read as a linear process with success/failure outcomes as suggested by Dyer (1995). Instead, it's intended to account for how entrepreneurial career trajectories are episodic, attributes change over time, and choice propensity may vary over one's career. The four dimensions affect each other and the trajectory of a career without internal hierarchy. Instead, differentiation comes from whether the dimensions are inherently stemming from static or dynamic processes. As a whole, the model creates a structure in which to discuss both the dynamic and static factors constituting entrepreneurial career trajectories.

The adapted model spans many concepts and fields within entrepreneurship research (as does the original model). A complete and holistic attempt to cover all aspects in the model will be outside the reach of this thesis. Instead, I will discuss some important concepts, namely entrepreneurship education and entrepreneurial identity, in relation to entrepreneurial competencies in a career. These concepts span the four dimensions but do not cover the multitude of other concepts and variables that are expected to be significant in a complete model.

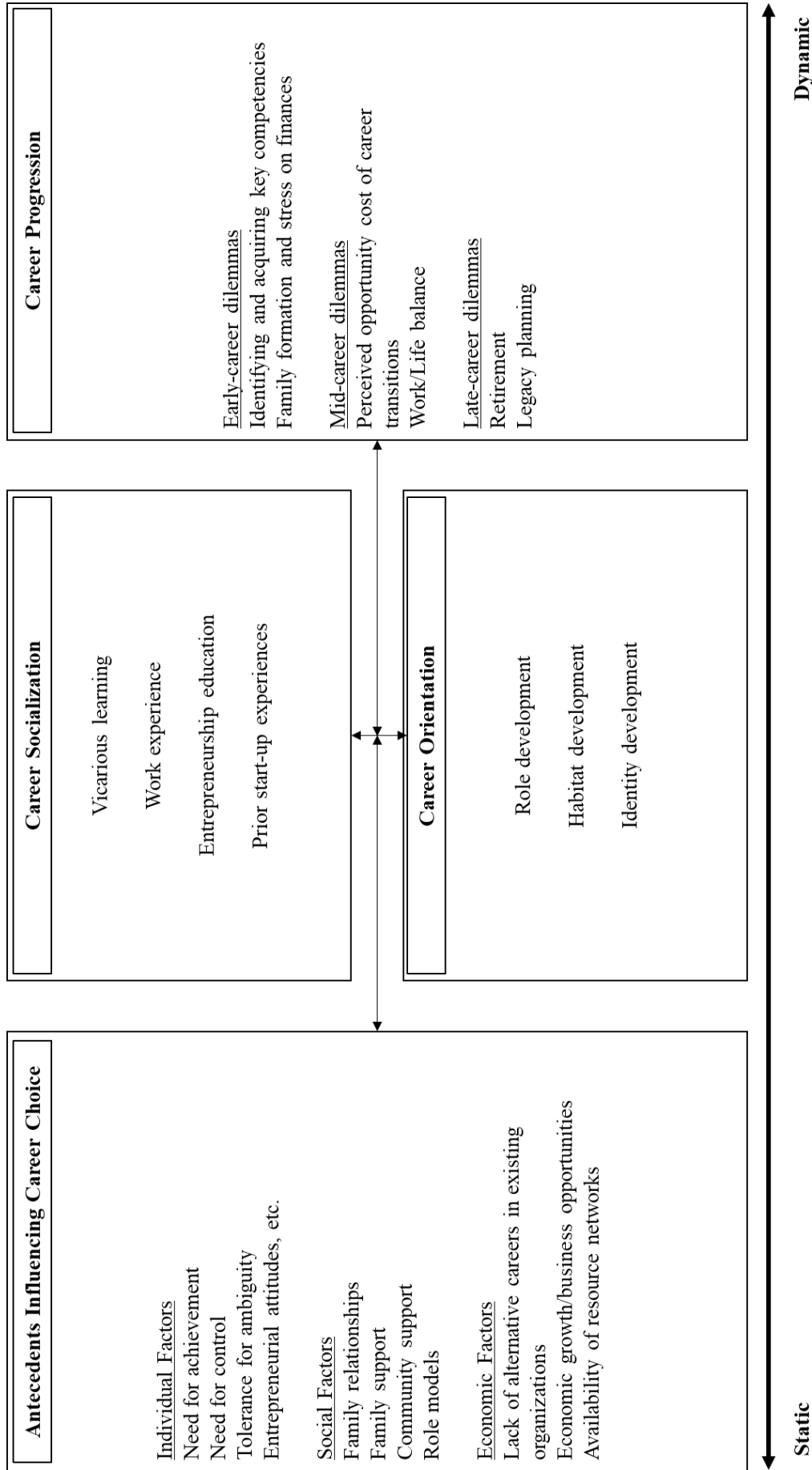


Figure 1: A model of entrepreneurial careers (adapted from Dyer (1995)).

3. Methodology

The purpose of this research is to investigate career trajectories based upon an adapted entrepreneurial career process perspective, that includes VCP-generated entrepreneurial competencies. The research aims to identify entrepreneurial career trajectories through describing the "entrepreneurial" in relation to the career, also including trajectories that do not include firm formation. Inherently, this research does not come with any disposition towards a particular method. The research is therefore designed with both quantitative and qualitative methods in mind. Quantitative methods are ideal when mapping patterns in a population, which is needed due to the limited knowledge we have of VCP graduates. Qualitative methods are used in a mixed method approach, supporting and explaining non-numerical data such as underlying motivation, reason, and opinions. The mixed method strategy mitigates the limitations of relying on a single method and captures the potential in both quantitative and qualitative data (Fetters, Curry, & Creswell, 2013). Fetters et al. (2003) describe how mixed method designs are meant to explain, explore, and interpret phenomenon at a several different levels. They may also be used to address a theoretical perspective from more angles than a single design. The mixed method is presented in Figure 2, showing how synergy between the appended papers starts with quantitative methods (surveys and databases) and is followed by qualitative methods (interviews) in a sequential explanatory design. Entrepreneurial careers are a relatively unexplored area, and applying quantitative methods as an initial step provides relevant qualitative research questions and integration.

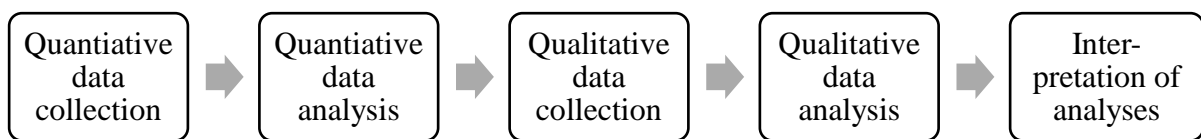


Figure 2. The process of a sequential explanatory design (adapted from Fetter et al. (2003)).

Figure 2 represents the theoretical process of data collection and analysis but, to create synergies between quantitative and qualitative questions, they have been collected in parallel, which has opened up for an iterative exchange of insights between studies. This is important in mitigating some of the weaknesses of a mixed method design, in which one of the most pressing issues is the difficulties in transforming quantitative findings into qualitative input parameters (Teddlie & Tashakkori, 2010).

3.1 Empirical setting

The research context comprises of graduates from three Nordic universities with masters-level programs in entrepreneurship and innovation. The common thread of the programs is the focus on experience- and reflection-based approaches to learning, in which student engagement in actual entrepreneurial project is the vessel for learning. These VCPs, though represented by individual contexts, share an underlying view on venture creation as the main learning vessel (Lackéus & Williams-Middleton, 2015). The empirical context of this thesis and its appended papers is anchored in these three programs. This thesis has aimed to investigate the entrepreneurial competence of these graduates, in whatever career trajectory they have pursued,

so as to understand the entrepreneurial competencies applied, and the extent to which this application is formed/guided by their education. Two of the universities are in Sweden: Chalmers School of Entrepreneurship (Chalmers University of Technology) and Sten K. Johnson Centre for Entrepreneurship (Lund University). The third is in Norway: NTNU School of Entrepreneurship (Norwegian University of Science and Technology). The VCPs at Chalmers and NTNU are two-years long and are situated at departments of technology management, while Lund University's VCPs are one-year long and in the context of a Business School. This situational context results in Chalmers and NTNU VCPs being constituted of a majority of engineering students and Lund University VCPs being constituted mainly of business students. But over time, all have had an increasing breadth of student educational backgrounds. Despite these differences, there are several arguments for strong similarities between the VCPs; the most important being the common geographical, social, and cultural contexts. Below follows a short description of each education.

Chalmers Graduates – Between 1997 and 2018, 837 graduated from Chalmers School of Entrepreneurship, the Master's program in Entrepreneurship and Business Design at Chalmers University of Technology in Gothenburg, Sweden. Since the foundation in 1997, the class cohorts have increased, and the educational design has evolved. Apart from its tech-focused independent VCP, Chalmers School of Entrepreneurship also runs a VCP with a corporate focus and a program on intellectual capital management. All three programs are joined through a common set of courses and action-oriented pedagogy, before the individual differences mostly appear in projects run in the second year of the program. The education lasts for two years and the main language is English.

Lund Graduates – Between 2007 and 2018, 472 graduated from the Master's program in Entrepreneurship and Innovation at Sten K. Johnson Centre for Entrepreneurship, Lund University, Sweden. It consists of an independent VCP, which was followed by a corporate-focused VCP in 2011. The education lasts for one year and the main language is English.

NTNU Graduates – Between 2003 and 2018, 259 graduated from NTNU School of Entrepreneurship, at the Norwegian University of Science and Technology, Trondheim, Norway. There is only one VCP, with a focus on independent venture creation. The education lasts for two years and the main language is Norwegian.

Since I'm embedded at Chalmers, teaching at Chalmers School of Entrepreneurship and also being a graduate of said education, it forms the main anchor in the empirical context of this research. In the quantitative-focused papers (Paper 1 and 3) I build on the equal strength of all three educations. But in the mixed-method paper (Paper 2), my embeddedness made it convenient to source qualitative data from the Chalmers graduates only.

3.2 Quantitative data collection

The quantitative data for the three appended papers was collected from two sources. The first was a web-based survey developed during the spring and summer of 2018 by my co-authors as a joint research effort to begin a study on careers following a VCP. Standardized questions were used stemming from prior alumni surveys from MIT, Ohio University, HEDS Alumni survey, and Cornell University. These questions were translated to variables connected to post-

graduation career paths, demographics, as well as graduates' contact and engagement. The post-graduation career path questions were elaborated and complemented with questions on intrapreneurial activity, in a similar way as in the GEM-project (gemconsortium.org). Questions related to start-up behavior and nascent entrepreneurial activity was also inspired by the GEM-project. The survey design also included newly-developed questions consisting of variables addressing competencies, in line with this being a key concept in our research's interpretation of the entrepreneurial career. Entrepreneurial competencies were questioned so as to assess what had been gained from educational experiences during the VCP and the application of these in the current occupations. The web-based survey was distributed to 1,326 graduates of the three entrepreneurship educations during the fall of 2018. In Table 3, the survey response rate statistics is presented.

Table 3. Overview of 2018 alumni survey.

Program	Chalmers School of Entrepreneurship	NTNU School of Entrepreneurship	Sten K. Johnson Centre for Entrepreneurship
Graduate population	837	259	472
Data collection period	Oct -18 to Nov -18 (three reminders)	Sep -18 to Nov -18 (four reminders)	Oct -18 to Nov -18 (four reminders)
Approached by survey	595	259	472
Response rate	53.0 %	67.6 %	42.6 %

The second source of quantitative data came from mapping the career histories of graduates from LinkedIn. I had a contributing role in the data collection, but the main data collection was made by my co-authors. This was mainly done for the analysis in Paper 2 and only covered graduates from Chalmers School of Entrepreneurship. In the web-based survey, a limitation was the space and time needed to ask the graduates about the associated roles and tasks for each occupation they've had. To mitigate this limitation of the survey design, the career histories of graduates were collected through LinkedIn. In this dataset, parallel occupations could be mapped, as well as key roles and tasks that manifest in and beyond one occupation. The dataset was used in Paper 2, as a template for individual interviews where career transitions, motivations, and reasons could enhance the timeline sourced before the interviews.

3.3 Qualitative data collection

After the survey was sent out and answers collected, qualitative data was needed to answer research questions associated with motivation, reasons, views on competence, and on identity. Also, there was a need to confirm the assumptions made in mapping career histories based on quantitative data. A first batch of interviews with VCP graduates was conducted by my co-authors in Paper 2 in 2017 at Chalmers School of Entrepreneurship, before the initiation of my PhD. An iterated version of interview questions was adapted from the findings of these first interviews (as well as the survey and LinkedIn findings), resulting in a second data collection

in 2021 (to which I contributed). In Table 4, the data collection through interviews is summarized.

Table 4. Summary of qualitative data collection through semi-structured interviews.

Target population	Chalmers School of Entrepreneurship 1997-2007 cohorts (242 graduates)
First batch – collected in 2017	20 interviews
Second batch – collected in 2021	57 interviews
Total	77 interviews (31.8 %)

The first set of questions in the interviews focused on career transitions and specifically what motivated the graduate to change job. Adjoined to these questions, the types of roles and transitions between these was asked for, to map out role development. For each occupation that they have had, interviewees were asked to elaborate on intrapreneurial activity, with a distinction between ideation and implementation of new business activity. This gave an indication of how intrapreneurial roles have developed during the career and how entrepreneurial competencies have been used. The second set of questions focused on identity; in what ways roles, social, and narrative identities were negotiated in parallel with career development. The graduates were asked in what ways they see themselves as being entrepreneurial, and what behavior and/or mindset they ascribed to being entrepreneurial. The third set connected to their education, both the entrepreneurial education and relevant previous educational experiences. The questions mapped the knowledge and skills that they learned from the entrepreneurship education and how these have been applied in their career development.

3.4 Methodological limitations

The research design is not without methodological limitations. The sample of this thesis includes graduates from VCPs only. Hence, the results hold for those self-selecting into entrepreneurship education, limiting the generalizability of the findings. This is mainly due to the shortage of a control group that would provide meaningful comparisons. The students had taken on a master's level entrepreneurship education for one or two years, which implies the question: Who do we ask to provide comparison, and what answers do we expect are truly unknown when compared with other or lesser educations? To some extent, this limitation has been mitigated by including a large sample of graduates from three institutions, two countries, various educational backgrounds, and by covering a relatively long time span.

4. Summary of appended papers

In the following section, the three appended papers are summarized with an emphasis on findings that inform my subsequent discussion in relation to the thesis RQs presented in section 1.5. Each paper summary is concluded with an implication the paper has towards the thesis RQs.

4.1 Paper 1: Graduates of venture creation programs– where do they apply their entrepreneurial competencies?

The development of entrepreneurial competencies obtained from entrepreneurship education can lead to careers other than “startup entrepreneur”. In Paper 1, this is investigated using graduates of the three VCPs that have 28% self-employed entrepreneurs and 72% employed and hybrid graduates. Applying the dichotomic tradition of categorizing entrepreneurs as startup entrepreneurs, it implies that these are the ones mostly included in studies and material for policymaking based on their occupation choice and not on the competence they have attained. The initial query was: How does one research entrepreneurial careers, when it is not known who can be considered to have one? Applying the description of competence from the work of Hager and Gonczi (1996), the theoretical assumption is that a competence developed (e.g. through a VCP) can then be applied (e.g. in an occupational setting). The graduates from the three VCPs reported the extent to which they apply entrepreneurial competencies in their career, through the web-based survey. The battery of questions on competencies covers 14 entrepreneurial competencies categorized into sections: 1) knowledge and skills related to the entrepreneurial process, 2) judgmental ability and decision-making related to entrepreneurial action, 3) social skills and networking abilities. The graduates were then asked for their main occupation with the results being that the most common career is as a self-employed entrepreneur. On a close second place was intrapreneur, in which graduates apply their entrepreneurial competencies in established organizations. A smaller group of graduates have careers as hybrid entrepreneurs (combining paid employment with self-employment) or have conventional careers as full-time employees in established companies where entrepreneurial tasks (defined as ideation and implementation of new business activity) are not their main activities. These descriptive findings indicates that VCPs provide a fertile ground for graduates to engage in entrepreneurial careers in a broad sense. The present occupation was used as the dependent variable, with entrepreneurial competencies developed through education and attained in professional work. The analysis was carried out through ANOVA with post hoc analysis between occupations to show differences and similarities of entrepreneurial competencies. From the analysis it was found that careers as intrapreneur and self-employed entrepreneur are more similar than between careers as intrapreneur and conventional employee, implying that, even though these careers both take place in established organizations, the application of entrepreneurial competencies is to a higher extent manifested in graduates with intrapreneurial careers. Given these findings, the study provides implications that entrepreneurship education involving real-life experience through venture creation contributes to entrepreneurial careers beyond start-ups. Additionally, the study provides a first attempt to assess how entrepreneurial competencies developed through education are manifested when applied in subsequent careers, providing implications for policy on moving beyond the start-up perspective that VCPs have been tied to.

Table 5. Paper 1's contribution to the thesis research questions

<p>RQ2: How do graduates of venture creation programs apply knowledge and experience developed from their entrepreneurship education?</p>	<p>The applied competencies were on par or higher for almost all competencies, indicating that the answer to how they are applied is equivalent to how they were obtained through the VCP. There are stronger similarities than differences in applied competencies between self-employed, intrapreneurs, and hybrid entrepreneurs. Conventional employees applied the competencies consistently less.</p>
<p>RQ3: What role does entrepreneurship education have in forming specific career trajectories?</p>	<p>Entrepreneurship education graduates obtain the same level of entrepreneurial competencies, regardless of future occupational choice.</p>

4.2 Paper 2: Archetypes of sustained entrepreneurial careers

Research investigating the longer-term impact of entrepreneurship education has focused mainly on the number of firms created by graduates. But as found in Paper 1, entrepreneurial competencies obtained through entrepreneurship education can also be applied in other organizational settings, making firm-counting insufficient, and under-representative of applied entrepreneurial competence. Paper 2 aims to identify archetypical entrepreneurial careers that are sustainable over time. Excepting for accounts of founder-entrepreneurs building legacy through their firms, the literature is scarce regarding sustained entrepreneurial careers, such as intrapreneurs or individuals taking on entrepreneurial roles in specific phases/settings.

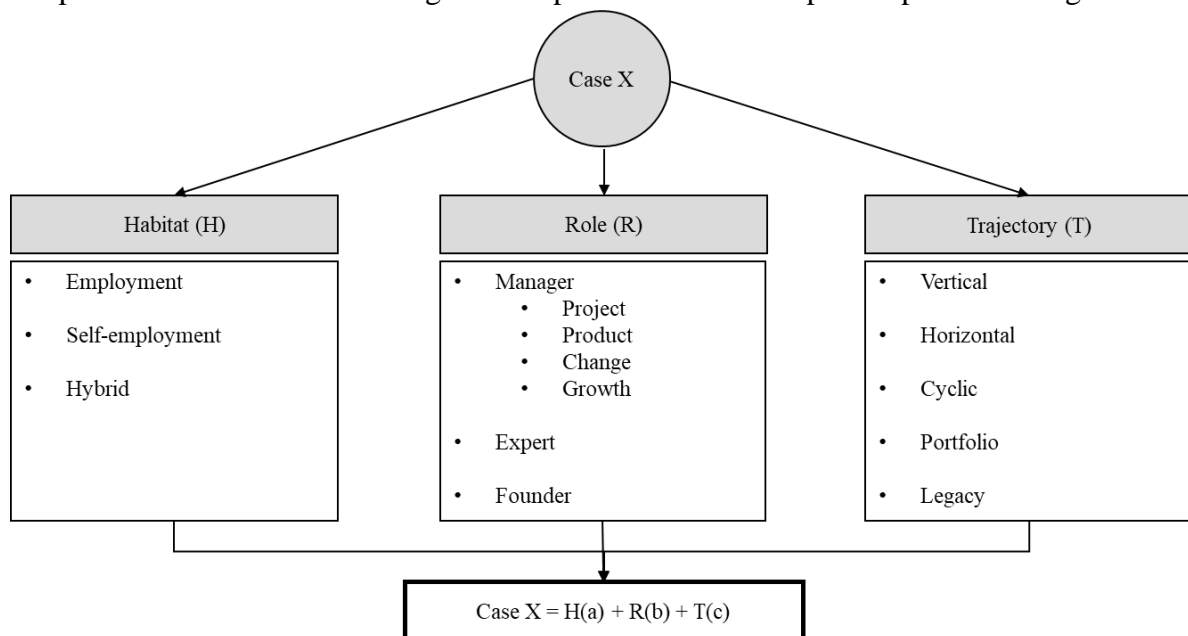


Figure 3. Coding process of assigning a case a habitat (H), a role (R) and a trajectory (T), resulting in an expression that describes accumulated career patterns.

A systematic categorization was developed, in which careers were given a habitat (H), role (R) and trajectory (T); see Figure 3. Habitat describes the occupational setting in which one operates. Role describes which activities and responsibilities one has in the occupational

setting. Trajectory describes patterns of path directions in habitat and role(s) over time. The framework was applied to interviews of 45 entrepreneurship education graduates at Chalmers School of Entrepreneurship with 15 to 24 years of career history in order to answer the question: How can entrepreneurial career archetypes be derived from applying a habitat, role and trajectory (HRT) framework? Approximately 60% of the 45 interviewed graduates fell into one of four archetypes. Three of the four archetypes are considered entrepreneurial, while the fourth represents a more conventional “business” career (employed – manager – vertical), seen in four of the graduates interviewed. Eight of the graduates had the recognized “firm-builder” archetype, being self-employed – founder – legacy/portfolio. The two additional entrepreneurial career archetypes found were “intrapreneur” (employed – manager – cyclic) with nine examples, and “surrogate” (self-employed – manager – cyclic), with five examples. The intrapreneurs were identified by their roles in ideation and implementation of new business activity. Individuals pursuing one of three entrepreneurial careers were satisfied and in their sustainable careers, as were those having conventional “business” careers.

Table 6. Paper 2’s contribution to the thesis research questions

<p>RQ1: What are the archetypes of entrepreneurial careers in which entrepreneurial competencies are applied?</p>	<p>Three entrepreneurial career archetypes have been identified and substantiated. It implies that the use of entrepreneurial competencies can be used to show that entrepreneurship education can communicate and strive for at least three archetypical sustainable entrepreneurial careers. Entrepreneurial careers include more than the narrow measure of creating and running a startup or not. Surrogate and intrapreneur careers need to be recognized as viable entrepreneurial careers, just as viable as conventional business careers.</p>
<p>RQ3: What role does entrepreneurship education have in forming specific career trajectories?</p>	<p>Graduates from VCPs set on a variety of careers, including archetypical entrepreneurial careers. VCPs can be argued to contribute to the career socialization and orientation of graduates, while facilitating competencies applied in archetypical entrepreneurial careers.</p>

4.3 Paper 3: The role of prior entrepreneurial experience in affecting entrepreneurship education’s contribution to entrepreneurial careers.

To increase the understanding of how entrepreneurship education impacts entrepreneurial careers, the purpose of Paper 3 is to investigate how entrepreneurship education in the form of VCPs mitigates or surpasses a lack of other antecedents of entrepreneurial careers, such as entrepreneurial pedigree or prior entrepreneurial experience. The overarching question raised in Paper 3 is: What role do VCPs play in the subsequent career choices of graduates in relation to career impact due to prior entrepreneurial experience and entrepreneurial pedigree? There is limited understanding regarding the extent to which experiential action-based learning, as found in VCPs, might mitigate other antecedents of entrepreneurial careers, such as entrepreneurial pedigree or prior entrepreneurial experience. Instead, these antecedents have

been used to primarily explain why someone is inclined towards more entrepreneurial careers. The findings from Paper 1 inform the view of entrepreneurial careers in this paper to include four occupational forms: self-employed, intrapreneur, hybrid (self-employed and employed in parallel), and conventional employment. To investigate career choice, data collected from the web-based survey to the graduates from all three VCPs was utilized. Questions ranged from asking about graduate background prior to education, yearly occupational employment subsequent to graduation, and graduates' own perception of entrepreneurial activity in employment positions. Present occupation was used again, in the same fashion as in Paper 1, as a dependent variable but in a logistic regression design in which entrepreneurship education, pedigree, and previous entrepreneurial experience constituted independent variables.

The findings of Paper 3 point to the educational context of a VCP as being independent venturing (Ind-VCP) or corporate entrepreneurship (Corp-VCP) mitigated prior entrepreneurial experience. Although prior entrepreneurial experience interacted with Ind-VCP in making a career as self-employed more likely, this was not the case for Corp-VCP in subsequently choosing intrapreneurial careers. Entrepreneurial pedigree had no significant effect on career choice other than for hybrid careers.

Table 7. Paper 3's contribution to the thesis research questions

<p>RQ3: What role does entrepreneurship education have in forming specific career trajectories?</p>	<p>Entrepreneurship education graduates comes into the education with different prior experiences. These are shown to have some effect, with self-employed more likely to have a pre-educational startup experience, and hybrid entrepreneurs more likely to have an entrepreneurial pedigree. These effects are minor considering the impact of a master's level VCP. Graduates are not blank canvases going into the education, but the type and focus of a VCP have larger impacts on career choice than other antecedents.</p>
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5. Discussion

In this chapter, the findings of the three appended papers will be synthesized and discussed in relation to how the entrepreneurial-competencies' perspective can inform entrepreneurial career and the role of entrepreneurship education.

5.1 Entrepreneurial competencies and careers

A theme throughout the three papers is introducing the concept of entrepreneurial competence that provides a framework that includes rather than excludes graduates' subsequent careers after an entrepreneurship education. Entrepreneurial competencies were first used in Paper 1 as a key measure to distinguish between specific occupations. It shows that the "traditional" entrepreneurs, the self-employed, utilize to the same extent their entrepreneurial competencies as do their intrapreneur and hybrid entrepreneur peers - to such a degree that they are indistinguishable from each other. The implication of this has many facets, but from the perspective of this thesis it makes the suggested interaction between the boundaryless career (Defillippi & Arthur, 1994) and career anchors (Schein, 1996) plausible. The boundaryless career profile and its inter-occupational movement and networks seems to have a career anchor in entrepreneurship and entrepreneurial competencies. It should therefore not come as a surprise that many graduates from VCPs prioritize employment over self-employment in certain stages of their career (e.g., due to starting a family or other early-career dilemmas as Dyer (1995) suggests). Measuring self-employment as a first career choice might not be representative of evaluating the outcomes of entrepreneurship education, due to entrepreneurial competence being applied in intrapreneurial and hybrid roles. This can also be seen through the theoretical lens of social cognitive career theory, in that the contextual factors such as family influences, personal interests, and choices comprise the real and perceived opportunity landscape of career choice. In Paper 3, we see that family status and number of children have a profound effect on the sample occupational distribution, with those with a partner and children opting not to go into self-employment. Lent et al. (2000) points at the importance of aligning career choice with family priorities and family being an important career support from a social-cognitive career perspective.

Returning to the theoretical framework in Table 2, the findings of Paper 1 suggest that a large majority of graduates utilize entrepreneurial competence similarly, and thus this competence acts as a career anchor that promotes sustainable patterns over time. This is supported by the findings in Paper 2, in which three archetypes of entrepreneurial careers were identified and can be considered to utilize entrepreneurial competencies to the same degree. The boundaryless aspect of the theoretical framework suggests that transitions into and out of occupations with similar competence profiles present lower barriers than do transitions associated with vastly different competence profiles. An entrepreneur with early career dilemmas, who chooses to take an intrapreneur or hybrid position over the self-employed option, does not exclude themselves from future transitions into self-employment. On the contrary, the suggested theoretical model of choice and progression as an interplay of boundlessness and anchors, says that these individuals are likely to see the transition into or from self-employment as a low barrier. Even if the theoretical barrier is low, there is a remarkable stability in the three archetypes identified in Paper 2. Those who set out on the intrapreneurial path build networks and the competence to ideate and implement new business activity in specific corporate settings. Self-employed individuals do the same in startup settings, and conventional employees choose to apply other competencies than those associated with entrepreneurship. It

seems that the stability of the archetypes can be considered constructs of, though not easily explained by, path dependency. In path-dependent processes, there is initially a broad scope of alternatives for possible actions, but these are increasingly constrained as, in the perspective of entrepreneurial careers, the career progresses. It may be speculated that some transition into another career path in mid- and late careers due to an intrinsic motivation to continue the development of their entrepreneurial competencies that cannot be sustained in the current occupation. This can partially explain why not 100% of the sample in Paper 2 was able to be coded as having archetypical careers. Trajectory-breaking transitions are a part of careers as well and should be more available if careers share the same competence profile. Standing with one leg in each, as the hybrid entrepreneur does, seems to not generate sustainable careers over time. Findings in Paper 2 suggest that entrepreneurs use the hybrid format as a transitioning phase, scouting the less-familiar setting while keeping the security of the known. Therefore, the archetypical careers of those who graduate from VCPs (and likely other entrepreneurship educations as well) set on self-employment or intrapreneurship and hold the door open between the two for the right opportunity to present itself.

5.2 The role of entrepreneurship education in entrepreneurial careers

The role of entrepreneurship education in forming subsequent careers has been the second main theme throughout the three appended papers. In Paper 1, entrepreneurial competence is measured from the perspective of what has been developed through education and applied in the current occupation. The conventional employees applied entrepreneurial competencies significantly less than self-employed, hybrids, and their employed intrapreneurial peers. But there was no significant difference in who developed entrepreneurial competencies through education. This is an important finding in that even though there are numerous career paths stemming from an education in entrepreneurship (Henry & Lewis, 2018; Jones et al., 2017), including four archetypical careers (see Paper 2), engaging in a VCPs is appreciated among graduates regardless of what career they pursue after graduation. One could argue that those who are set on a corporate career could benefit from a wider educational experience than doing early-stage venture creation. But the implication of the findings in Paper 1 suggests that focused and specific experiences gained within an early-stage venture team are appreciated and applied widely in subsequent careers. Hence, VCPs help develop not only knowledge and skills valuable long after graduation but also judgmental decision-making as well as social skills, appreciated in a variety of settings. VCPs have an important role in the development of an entrepreneurial identity (Donnellon et al., 2014) and therefore also career orientation, according to Dyer (1995). In Paper 3, the type of VCP is the most influential factor in a first career choice as the education fosters development of a self-concept derived from the specific social context and one's own interpretation of roles in the venture creation process (Lundqvist et al., 2015). The role of entrepreneurship education in Dyer's (1995) model, as both a career socialization and career orientation, has not been explicitly investigated in the appended papers. But building on previous research (e.g., Donnellon et al., 2014; Lundqvist et al., 2015), and the strong correlation of VCPs on first career choice, indicates a substantial influence of entrepreneurship education (and in particular VCPs) on career-socialization and orientation, through development of entrepreneurial roles and identity. In Paper 3, the aim was to understand the importance of career-socialization and orientation of VCPs, compared to other antecedents of career choice. Two important antecedents, as discussed in both entrepreneurship (Bloemen-Bekx et al., 2019) and career literature (Lent et al., 2000), are entrepreneurial pedigree and prior entrepreneurial experience. In Paper 3, prior personal experience interacted

with Ind-VCP, making a career as self-employed more likely. This was not the case for Corp-VCP when engaging in intrapreneurial careers. Entrepreneurial pedigree did not have any significant effect on career choice other than for hybrid careers. This finding further cements the importance of VCPs in forming entrepreneurial career trajectories.

5.3 Contributions

Understanding the career trajectories of those who have taken an education in entrepreneurship has been of increasing interest for entrepreneurship researchers for some years now, as has especially the role of the education in careers (Galloway et al., 2015; Henry & Lewis, 2018; Nabi et al., 2017). This research contributes to that emerging stream of literature by introducing a number of theoretical concepts and selective empirical analysis.

First, the introduction of entrepreneurial competencies covers more career trajectories than the firm formation view that has been dominant throughout the history of entrepreneurship research. Where others have focused on shorter entrepreneurship educations, i.e. courses (e.g., Jones et al., 2017; Meoli, Fini, Sobrero, & Wiklund, 2020), the empirical sampling of VCPs provides graduates who have expressed high entrepreneurial intention and also willingness to undergo a one-two year dedicated master's level program in entrepreneurship. The VCP utilize the venture creation process as the main learning vessel in which students develop knowledge about entrepreneurship and also skills to perform entrepreneurial activities, and abilities for when and why to make decisions in situations characterized by uncertainty (e.g., Hägg, 2017; Lackeus & Williams-Middleton, 2015). These can be considered developed competencies, according to Hager and Gonczi (1996) in that competence can be nurtured through training. It has been argued in this thesis that these developed competencies can be applied in a variety of occupations beyond self-employment. This can in turn be used for entrepreneurship education on a broader scale, by including the impact of entrepreneurial competencies beyond firm formation, and through the understanding that reflective venture creation experiences are transferrable to a variety of contexts. To an extent, these findings challenge societal views of who is an entrepreneur and thus also challenge the common perception of entrepreneurs being solely located in the start-up ecosystem. Indications of insight are seen in that there is not an exclusive entrepreneurial role in an occupational context, which provides both more distinct, as well as more nuanced, options of how individuals can pursue entrepreneurial roles in a career trajectory. In these entrepreneurial roles, there is a consistent utilization of entrepreneurial competencies derived from VCPs, which are likely aligned in early career, with gradual nuances along the career trajectory due to changed career socialization and orientation inputs.

An important implication is the acknowledgment of the broader potential value of entrepreneurially-trained and competent individuals beyond self-employment. Entrepreneurship education graduates can, in this respect, be seen as valuable co-workers emphasizing a more collective teamwork-oriented view of entrepreneurship and intrapreneurship.

This implication will create reasons to rethink present policies and should therefore incentivize universities to have educational programs that have venture creation as the main vehicle for learning. A practical contribution for policymaking on the critical questions about the cost of entrepreneurship education relative to expected output, particularly in terms of the number of

start-up entrepreneurs (Åstebro & Hoos, 2016; Eklund, 2019), can be a change from the creation of start-ups as the main output, to entrepreneurial competencies that create value in the smallest to the largest of organizations.

A second contribution is that entrepreneurship education can level the playing field for students aspiring to an entrepreneurial career but lacking prior entrepreneurial experience or having been born into an entrepreneurial family. There is strong support for the conclusion that many of the VCP graduates lacking prior entrepreneurial experience instead develop entrepreneurial competencies (knowledge, skills, and judgmental abilities) through the programs, which prepare them to engage in an entrepreneurial career based on a broad perspective.

The third contribution is that the entrepreneurial career can be generalizable with specific archetypes of entrepreneurial careers. This finding has many facets and potential future research trajectories but, in the focus on entrepreneurial competencies and entrepreneurship education, it creates new ways to discuss how these contribute to entrepreneurial careers. Entrepreneurship education has a spectrum of outcomes in which applied entrepreneurial competencies are used to a limited degree, in conventional employment, and to a high degree in the “traditional” setting of self-employment through firm founding. But in this spectrum, there are two more archetypes of entrepreneurial careers that have previously remained on the periphery of entrepreneurial career research: the surrogate entrepreneur and the intrapreneur. These have been identified not only as transitional passages but as sustainable careers over time. The binary outcome term of entrepreneur or not (Gartner, 1988) seems to be even less accurate than previously known and this research points at the need for surrogate and intrapreneur careers to be recognized as viable entrepreneurial careers, and also that entrepreneurship education is viable in more conventional business careers. Returning to the practical implication of the value of entrepreneurship education in policymaking, it can now be said that VCPs also produce a workforce that ideate and implement new business activity in established organizations (intrapreneurs). They also join early projects as expert entrepreneurs and business developers, utilizing entrepreneurial competencies in specific parts of the firm formation process (surrogates).

The common thread throughout these contributions is that changing the perspective from venture creation to entrepreneurial competencies might lower the barrier for a comprehensive and holistic theory on entrepreneurial careers. It has given new insights into how we can discuss career orientation, and role and identity development of entrepreneurial individuals – into questions on what you do, how you view yourself doing it, and how a progression of constitutes an entrepreneurial career. Revisiting the entrepreneurial career model in Figure 1, the findings of the appended papers and the discussed synergies in this thesis can be packaged as theoretical contributions. In regard to career socialization, we can now say that entrepreneurial pedigree and previous startup experience have a moderate impact on career trajectory compared to the significant effect of entrepreneurship education through VCP. In career orientation, the development of roles, habitat, and identity has a profound effect on career trajectories. Most often, it leads to archetypical career trajectories. In career progression, the graduate population ranges from just graduated to 24 years of experience. In an early stage, family formation is an important dilemma but so also is the search for a niche in competencies to apply and develop,

and identity associated with specific roles. In mid-career, the balance between work and family continues, but also the question of how the career should progress. Contemplating career transitions is a common theme (Burton et al., 2016; Rider, Thompson, Kacperczyk, & Tåg, 2019), as well as the path dependency one might perceive (Dlouhy & Biemann, 2018; Rusko et al., 2019). My future research will focus on these questions and my aim is to continue to contribute to the knowledge of entrepreneurial careers and to elucidate the landscape in Figure 1 more clearly.

5.4 Limitations

This thesis and its appended papers are not without limitations. Despite the apparent limitations, the results are intriguing, based on a specific sample, and novel in addressing the gap between intentions and actual behavior. There are many other potential variables that impact and build up to the career choice taken, as seen in Figure 1; therefore, future research should expand and differentiate the findings presented in this thesis for a more holistic knowledge landscape of entrepreneurial careers. Also, the findings are mostly based on quantitative data and therefore there is a need for future research to employ a qualitative lens on the studies included in the thesis. First, there is the potential of combining experiential, vicarious, and reflective learning as they occur in VCPs. There is a deepened knowledge needed of how such combined learning could explain why a VCP mitigates prior experience and pedigree. Second, entrepreneurial competencies as measurements could be contextualized depending on occupational roles and situations, also over time. The aim should be to explore how the use of competencies developed in education may shift or vary during the entrepreneurial careers of graduates. There are potential interesting perspectives to bring from gender, social, and cultural contexts, industry habitats, previous higher education focus, etc.

5.5 Future research

As a steppingstone for a PhD thesis, this Licentiate thesis has focused on some of the perspectives of the entrepreneurial career as outlined by Dyer (1995), the career socialization, orientation, and progression. An integration between career and entrepreneurship education was explored using entrepreneurial competencies (Bird, 2019), consisting of “knowledge, skills, abilities and attitudes displayed in the context of a carefully chosen set of realistic professional tasks” (Hager & Gonczi, 1996). This exploration will continue in coming studies, leading to a PhD thesis. The first order on the agenda is to strengthen the quantitative findings with use of a qualitative lens. A specific topic that I see as important, following the findings in Paper 2, is to investigate career transitions and the perceived opportunity gains (or costs) associated with these transitions (see Rider et al., 2019). My intention is also to conduct a formal literature review of entrepreneurial careers as a strategy to establish a niche for my research in the research field.

6. Conclusion

The purpose of this thesis is to investigate career trajectories based upon an adapted entrepreneurial career process perspective that includes VCP-generated entrepreneurial competencies. First, the premise of entrepreneurial career as a concept was positioned as problematic due to the lack of clear or consistent definition. This implies that one must be concise regarding whether the entrepreneurial career is a desired outcome of intention or is an accumulated career behavior over time. The introduction of entrepreneurial competencies has provided a lens to measure, interpret, and discuss the careers of those who engage in entrepreneurial activities. This thesis has empirically shown the career trajectories for those who have had formal training in entrepreneurship, and/or express behaviors and intent, would be considered “entrepreneurial” if not for their choice to be employed (rather than self-employed). This indicates the greater value of entrepreneurship education and, specifically, VCPs, beyond graduating startup entrepreneurs and contributing to an entrepreneurial workforce beyond self-employment.

This thesis, including appended papers, has further contributed to closing the intention-behavior gap by studying the actual behavior of a specific population of VCP graduates. By looking beyond the first career choice of these graduates to as far as 24 years after their education, several distinct archetypes of entrepreneurial careers have been identified. These career trajectories are shown to benefit significantly from qualities gained through formal education in entrepreneurship. Other antecedents, such as entrepreneurial pedigree and previous startup experience, have little or moderate effect on entrepreneurial career trajectories in comparison.

Finally, I have proposed a broader and more inclusive view of what the entrepreneurial career *is* by developing Dyer's (1995) four dimensions and with the fundamental assertion that entrepreneurship can be expressed through entrepreneurial competencies. Echoing Gartner (2001), I believe that entrepreneurship and, as an extension, entrepreneurial careers, needs more research in order to make sense of why some graduates set out on these trajectories and what we, as teachers and educators, can contribute to that complex process.

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