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Entrepreneurial Well-Being: Exploring the Interplay Between Student Entrepreneurs' Well-Being and Their Entrepreneurial Activity.

Master's thesis in Entrepreneurship

Supervisor: Haakon Thue Lie

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Abstract

Entrepreneurship, by nature, can be a source of well-being. Entrepreneurs who do find this source can get energized to persist in improbable tasks and become a force for a positive change in society. For some individuals, their entrepreneurial journey begins with attending a venture creation program. This thesis investigates student entrepreneurs in the venture creation program “NTNU School of Entrepreneurship,” with an explorative and proposition-based approach. Based on the experience sampling method, the thesis explores the interplay between student entrepreneurs’ well-being and their entrepreneurial journey. The multidimensional construct of well-being is deconstructed into three elements: engagement, meaning, and optimism, with a focus on engagement and meaning, representing the eudaimonic well-being approach. Using a hierarchical multiple regression on the collected data, findings show that of these three elements, engagement is the dominant predictor if student entrepreneurs anticipate continuing in their startup one year from now. Additionally, this thesis contributes to the field of entrepreneurship with three propositions. Firstly, a template for student entrepreneurs is proposed, aiming to make the difficult process of choosing a startup simpler. Then, the author encourages the development of the context-specific construct of *entrepreneurial optimism* to create more common ground in the fragmented field, outlined as entrepreneurial well-being. Finally, a discussion highlights that the experience sampling method might be a beneficial method for process-oriented research – advancing the growing field of entrepreneurial well-being.

Sammendrag

Entreprenørskap kan av natur være en kilde til livskvalitet. Entreprenører som finner denne kilden kan få energi til å løse de uungåelige utfordringer entreprenørskap medbringer; og dermed bli en kraft for en positiv endring i samfunnet. For enkelte individer begynner deres entreprenørielle reise ved å studere entreprenørskap. Denne oppgaven undersøker studententreprenører ved NTNUs Entreprenørskole og benytter en utforskende og proposisjonsbasert stil. Basert på data innsamlet ved hjelp av «the experience sampling method», fremmer avhandlingen dagens forståelse av samspillet mellom studententreprenørers' livskvalitet og deres entreprenørielle aktivitet. Det mangfoldige begrepet livskvalitet er dekonstruert i tre elementer: engasjement, mening og optimisme. Engasjement og mening inngår i den eudaimoniske livskvalitetstradisjonen, og er særlig vektlagt i oppgaven. Med bruk av en hierarkisk regresjonsanalyse, viser funn at engasjement er den dominerende prediktoren for om studententreprenører forventer å jobbe i samme oppstarten om et år. Avhandlingen bidrar videre til entreprenørskapsfeltet gjennom tre proposisjoner. Først presenteres en mal for studententreprenører som ønsker et rammeverk for hvordan å velge oppstartsbedrift. Videre oppfordrer forfatteren utviklingen av konseptet *entreprenøriell optimisme* for å skape mer enighet i det fragmenterte forskningsfeltet, omtalt som entreprenøriell livskvalitet. Til sist belyses det at «the experience sampling method» kan være en lovende metode for prosessorientert forskning – og dermed fremme det stadig økende forskningsfeltet entreprenøriell livskvalitet.

Preface

This thesis constitutes the final work of a student at the NTNU School of Entrepreneurship. Alongside writing this thesis, the author has worked to establish Lyngen Folkehøgskole and had a part-time job in Mind. The common denominator between the master thesis, Lyngen Folkehøgskole, and Mind is the science of well-being.

With the science of well-being receiving more attention internationally and interdisciplinary and has only recently reached the field of entrepreneurship, the choice of topic was simple. In contrast, writing this thesis has been complexed and has only received this high quality because of collaboration.

A sincere appreciation to Spark* NTNU, which accepted the re-budgeting of funding originally meant to Lyngen Folkehøgskole AS. Using LifeData made this thesis original and rewarding. To Mind, thank you for offering scientifically supported questions to measure well-being. To my supervisor Haakon Thue Lie at the Department of Industrial Economics and Technology at NTNU, without you, this thesis would lack a consistent justification and preciseness. Lastly, thanks to all the student entrepreneurs completing the study.

Trondheim, June 11th, 2021



Jean Philip Svartdahl

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List of Abbreviations

ESM	Experience Sampling Method
EWB	Entrepreneurial Well-Being
GHQ	General Health Questionnaire
NTNU	The Norwegian University of Science and Technology
NSE	NTNU School of Entrepreneurship
PWB	Psychological Well-Being
SWB	Subjective Well-Being
VCP	Venture Creation Program

1 Introduction

In 2017, entrepreneurship scholars interested in the well-being of entrepreneurs and leading researchers on well-being came together to explore the topic of entrepreneurial well-being (EWB). This assembly resulted in the special issue “Entrepreneurship and Well-being,” published in the *Journal of Business Venturing* in 2019. The goal of the special issue was to encourage new research between these two emerging fields. A crucial view from the main article in the issue was that entrepreneurship, by nature can be a source of well-being. For those individuals finding entrepreneurial activity as a source of well-being, they can get energized to persist in improbable tasks – and become a force for a positive change in society (Wiklund et al., 2019).

This thesis elucidates the above view, by researching the interplay between student entrepreneurs’ well-being and their entrepreneurial activity in the context of the venture creation program “NTNU School of Entrepreneurship.” Although entrepreneurship is a highly dynamic and uncertain endeavor, students battle to get accepted to the master program. Do they battle because entrepreneurship can offer autonomy, meaningful work, and possibly financial success (Shir et al., 2019)? The student may not realize that individuals seeking entrepreneurial activity, particularly self-employment, must confront the reality that the journey often consists of stress, working long hours, unforeseen challenges, and even failure (Nikolaev et al., 2020; Pollack et al., 2012).

Searching for a practice where student entrepreneurs' find an entrepreneurial activity as a source of well-being and become a positive change in society, this thesis first displays background information on the field of entrepreneurial well-being. Then key concepts and definitions are stated, followed by a section on the rationale of conducting this thesis. The chapter ends with the research objective and questions, and the outline for the rest of the thesis.

1.1 Background

The construct of well-being has been most studied in education and health but has grown in recent decades to a wide range of scientific fields (Ryan & Deci, 2001; Ryff, 2017; Ryff &

Singer, 2008; Vittersø, 2016). Only the last decades' entrepreneurial studies have studied the relationship to well-being (Uy et al., 2013). Between 1950-2010, four publications on entrepreneur's well-being were found in entrepreneurship journals (Stephan, 2018). From 2010 onwards, the number of articles printed in high-impact journals increased exponentially, and today there are over 500 articles.¹

The increased interest in entrepreneurs' well-being reveals the importance that researchers have conferred on the subject. Some scholarly researchers even state that the focus on well-being has moved to the forefront of the field of entrepreneurship (Shir et al., 2019). Whether the focus on well-being has moved to the forefront of scholarly research on entrepreneurship or not, numerous researchers are increasingly interested in the well-being of entrepreneurs (Ryff, 2019; Shir et al., 2019; Stephan, 2018; Wiklund et al., 2019). Research on entrepreneurial well-being shows that individuals choose to become entrepreneurs for various reasons (Gorgievski & Stephan, 2016; Wiklund et al., 2019). Entrepreneurs choose their path based on deeply personal idiosyncratic reasons, such as the role of psychological income, job satisfaction, and independence (Abreu et al., 2018). Not only do individuals start their entrepreneurial venture based on a large variety of reasons, but they also engage in, and leave entrepreneurship for a variety of different reasons (Carter et al., 2003). Research on entrepreneurial well-being reflects how entrepreneurs need to recognize the benefits of entrepreneurial activity. These benefits can be classified according to the entrepreneur's motivations, and for some entrepreneurs, it all comes down to the idea of optimal well-being (Sanchez-Garcia et al., 2018).

1.2 Key Concepts and Definitions

Entrepreneurship and well-being are both terms with a variety of interpretations. Intending to state the thesis' theoretical ground clearly, these are the key concepts and definitions used.

Entrepreneurship

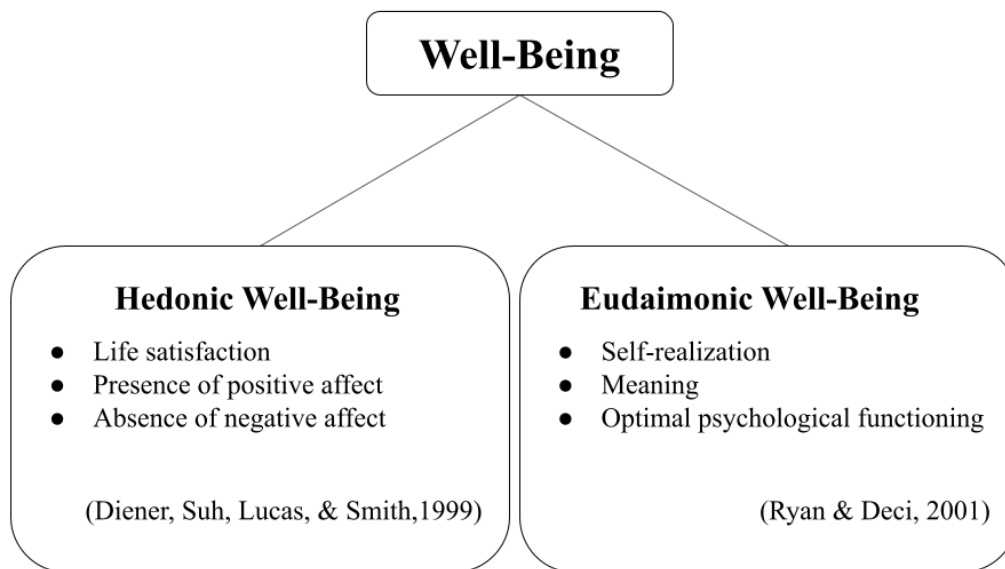
A process by which individuals either on their own or inside organizations pursue opportunities without regard to the resources they currently control (Stevenson & Jarillo, 1990, p. 23).

¹ Finding from the author literature review, conducted autumn 2020.

Well-being

A complex construct that concern optimal experience and functioning (Ryan & Deci, 2001, p. 141) – i.e., combining the hedonic approach and the eudaimonic approach.

Figure 1
The Construct of Well-Being.



Hedonic Well-Being Approach

The hedonic approach refers to well-being in terms of “satisfaction, attaining pleasure and avoiding pain” (Diener et al., 1999, p. 276), and is often associated with the desired-based well-being movement know as subjective well-being (Wiklund et al., 2019). Key aspects of hedonic well-being are positive temperament, tendency to look on the bright side of things, not ruminating excessively about bad events, social confidants, and possessing adequate resources for making progress toward valued goals (Diener et al., 1999).

Eudaimonic Well-Being Approach

The eudaimonic approach refers to well-being in “terms of the degree to which a person is fully functioning” (Ryan & Deci, 2001, p. 141) and is often associated with psychological well-being (Ryff, 1989, 2019; Wiklund et al., 2019). Key aspects of eudaimonic well-being are self-realization, purposeful life engagement, meaning, and effective management of complex environments (Ryff, 2019).

The Distinction Between Well-Being and Happiness

Happiness, emotions, and well-being are unfortunately used interchangeably in the literature. The definition of well-being itself varies in cultures and languages around the world. For instance, “it is chronically difficult to translate well-being into Norwegian” (J, Vittersø, professor in psychology, personal communication, November 2020). In this thesis, well-being will be translated into the Norwegian word “livskvalitet” and is broad and long-lasting, not a day-to-day emotional experience. The eudaimonic well-being approach is valuable because it refers to well-being as distinct from happiness per se (Ryan & Deci, 2001). There is also literature dividing well-being into a subjective and objective part (e.g., Bang Nes et al. (2018)).² In this thesis, in compliance with Vittersø, the subjective part is referred to as well-being. The objective part is referred to as welfare and is excluded.

Entrepreneurial Well-Being (EWB)

Entrepreneurial well-being is “the experience of satisfaction, positive affect, infrequent negative affect, and psychological functioning in relation to developing, starting, growing, and running an entrepreneurial venture” (Wiklund et al., 2019, p. 579).³ This definition embraces both the hedonic and eudaimonic approaches and accounts for their differences and similarities.

Entrepreneurial Optimism

Entrepreneurial optimism is primarily as an abbreviation for the dependent variable in the hierarchical multiple regression. Furthermore, the construct is discussed in chapter 5.

Venture Creation Program (VCP)

A venture creation program is defined as an “entrepreneurship education programs which utilize the on-going creation of a real-life venture as the primary learning vessel (thus involving venture creation as part of the formal curriculum), including intention to incorporate.” (Lackéus & Williams Middleton, 2015, p. 50).

² One example where the distinction is highlighted is when measuring well-being on a national level. Norway is a country that is ranked the world's happiest country (e.g. World Happiness Reports). Few people know that such rankings are often based on small selections and on a single question of satisfaction with life all in all. The same rankings rely heavily on information about objective living conditions that we assume lead to quality of life - such as average household income, level of education, and life expectancy. Subjective well-being has been an under-prioritized focus area in this country - both politically and scientifically (Bang Nes et al., 2018).

³ Wiklund et al. (2019) don't define entrepreneurship in their article, but the definition of Stevenson & Jarillo (1990) seems appropriate.

Student Entrepreneurs

University students which undertake entrepreneurial activity as part of their education (Bergmann et al., 2016). In this thesis, students attending NSE.

1.3 Motivation

The motivation for conducting this thesis is based on two actualities. Firstly, the link between entrepreneurial well-being and venture creation programs appears weak in the literature, particularly research applying the eudaimonic well-being approach. The second actuality is how process-oriented studies are essential in moving the field of entrepreneurship forward (Gartner, 1988; McMullen & Dimov, 2013; Shane & Venkataraman, 2000).

Entrepreneurial Well-Being and Venture Creation Programs

Entrepreneurship has been recognized as an important driving force of economic growth for over a decade (van Praag & Versloot, 2007; Wilson et al., 2009). Therefore, student entrepreneurs attending venture creation programs can be seen as potential future entrepreneurs and a part of this upcoming driving force. Student entrepreneur and their ventures impact the economy by commercializing entrepreneurial and technological knowledge provided at the university (Hahn, 2020). Consequently, entrepreneurial activity undertaken by university students has increasingly attracted the interest of scholars and policymakers (Wright et al., 2017), and universities are increasingly involved in establishing new ventures (Kaloudis et al., 2019).

Additionally, that entrepreneurship is a positive force for economic growth, entrepreneurship, by nature, can be a potential source of personal development, and well-being for individuals (Ryff, 2019; Shir, 2015; Stephan, 2018) expressing the very process of self-realization through purposeful, authentic, and self-organized activities – that can lead to a fulfilling and fully functioning life (Shir et al., 2019; Wiklund et al., 2019).

The attentive reader observes that *growth*, *self-realization*, and a *fulfilling and functioning* life are all keywords within the eudaimonic well-being approach. Nevertheless, the eudaimonic well-being approach has received little attention in entrepreneurship (Nikolaev et al., 2020; Ryff, 2019; Stephan, 2018; Stephan et al., 2020; Wiklund et al., 2019). This, although key aspects of eudaimonic well-being (e.g., the realization of personal potential, purposeful life

engagement, effective management of complex environments), may be particularly relevant to entrepreneurial pursuits (Nikolaev et al., 2020; Ryff, 2019). The small amount of research done with a eudaimonic well-being approach has linked eudaimonia to self-employment (Hahn et al., 2012; Nikolaev et al., 2020; Shir et al., 2019). The link between eudaimonia and venture creation programs appears to be nonexciting.

Process-Oriented Research

Although the consensus that entrepreneurship is a process that transpires over time (Gartner, 1990; Shane & Venkataraman, 2000). Process-oriented research is surprisingly limited in volume (Davidsson & Gruenhagen, 2020). Although the great volume of empirical research generated in entrepreneurship and process-oriented research in general (Brown et al., 2001; McMullen & Dimov, 2013). Most empirical studies in entrepreneurship employ linear models that are presumed to occur at a single point in time (McMullen & Dimov, 2013). Energized by this under-researched orientation, entrepreneurship being a process that transpires over time and Shepard et al. (2019) encouragement to explore the entrepreneurial process this thesis is conducted.

1.4 Research Objective and Questions

The research objective of this thesis is to advance the understanding of how entrepreneurship is related to well-being. More specifically, the study investigates the association between student entrepreneurs at a venture creation program with a startup and their well-being. Not in a static manner, but multiple times for 19 days. The study has an explorative approach, and it is not the author's intention to generalize the results of this study at this point. Instead, the objective is to capture arguments concerning entrepreneurship and well-being in a more abbreviated manner, experiment with a new method in the context of venture creation programs, and hopefully act as an inspiration to further empirical research on entrepreneurial well-being.

When studying entrepreneurial well-being, it is recommended to embrace both the hedonic (SWB) and the eudaimonic (PWB) approach (Wiklund et al., 2019). As of today, there is, however, no consistency and the research remains unclear and fragmented. Thus, this thesis strives for clarity. Well-being in this thesis is deconstructed into four underlying elements: engagement, meaning, optimism, and psychological health. Engagement and meaning are aspects of the eudaimonic well-being approach. Optimism is an aspect of the hedonic well-

being approach. Psychological health is implemented to research student entrepreneurs' mental distress. The study explores the following research questions:

RQ1: How are student entrepreneurs' level of well-being associated with their entrepreneurial activity?

RQ2: Can we predict student entrepreneurs' anticipation to continue in their startup one year from now, based on their level of well-being?

The author frames "anticipation to continue in their startup one year from now" as the construct "entrepreneurial optimism", until chapter five. In chapter five a section discusses the need for new definitions and constructs to advance the research on entrepreneurial well-being. With the use of ESM in the context of VCP's, being a novel contribution, the thesis also discusses how ESM can be used in future process-oriented research.

1.5 Structure and Outline of the Thesis

This thesis consists of six chapters. The second chapter displays two approaches to well-being: the conceptual framework, the theory on entrepreneurial well-being, and the link to venture creation programs. In the third chapter, new technology and the methodology used in the thesis, and its limitations are explained. Chapter four display the results. Chapter five presents three main ideas, going beyond the research questions and leaving three propositions for scholars and policymakers. Chapter six conclude the thesis.

2 Theoretical Background

This chapter presents the theoretical background. Beginning with a brief description of the psychology of entrepreneurship, its progress, and contributions, followed by a historical perspective on the science of well-being. Then a section presents the ongoing shift in the science of well-being, major political events, and its implications. Leading up to the construct framed as entrepreneurial well-being. The chapter ends with summarizing what is known about the interplay between student entrepreneurs' well-being and startups in the context of venture creation programs.

2.1 The Psychology of Entrepreneurship

The psychology of entrepreneurship is recognized as a relatively young research field (Gorgievski & Stephan, 2016), in contrast to economy and management which have played a central role in entrepreneurship since the systematic research on entrepreneurship began in the 1970s (Landström, 2010). Although the psychology of entrepreneurship suffers from a lot of “one-timers” (Omoredede et al., 2014) the field has gained substantial progress in the past decades – leveraging the strengths of psychological approaches, both theory and methodology to fully understand entrepreneurship in all its facets (Gorgievski & Stephan, 2016). The field aims to advance the understanding of entrepreneurial intentions, actions, motivation, and well-being, on an individual-, team- and organization level, as well as in educational programs, local communities, and societies.

The psychology of entrepreneurship has five research areas, whereas health and well-being are the third-largest research area behind careers and personal differences⁴ (Gorgievski & Stephan, 2016). Additionally, the psychology of entrepreneurship includes three cross-cutting themes: gender issues, genetic and biological foundations, and context (Gorgievski & Stephan, 2016). This thesis focus on the research area of well-being in the context of a venture creation program, and emphasis the individual level. Knowing that student entrepreneurs, as entrepreneurs in general, are most likely a part of a team and an organizational context.

⁴ Personal difference, careers, health and well-being, cognition and behavior, and leadership.

2.2 Entrepreneurial Well-Being

To fully understand the concept of entrepreneurial well-being, it is necessary first to understand the evolution of well-being from a historical perspective.

2.2.1 An Historical Approach to Entrepreneurial Well-Being

Until the middle of the last century, the question of well-being was a mental struggle for religious leaders and philosophers. In modern time questions about well-being is answered by scientists (Diener, 2009). In the early years' research studied happiness⁵, typically conducting surveys on people's moods (Diener, 2009) and well-being as something limited to various resources and demographic factors (i.e., Health, Income, Religion, Marriage, Age, Sex Difference, Education, Intelligence). From the 1970s to the turn of the millennium, research has increased our knowledge, stating that bottom-up factors, as mentioned above, are responsible only for a small part of the variance in an individual's well-being. Rather than external factors, internal factors such as temperament and cognitions, goals, culture, and coping moderate and mediate well-being (Diener, 2009). In the last decade, mainstream research on well-being presents the construct as a combination of feeling good and functioning well. Today scientists are increasingly interested in more advanced measurements and dimensions of well-being (Ryff, 2017, 2019; Seligman et al., 2005; Straume & Vittersø, 2012). The following figure displays the evolvement of well-being for five decades. Note that Wilson and Diener were researchers within the field of psychology. Sanchez-Garcia and colleges are entrepreneurship researchers. Their statement of well-being as the combination of feeling good and having purpose and meaning in life is supported by e.g., (Ryan & Deci, 2001; Ryff, 2014; Straume & Vittersø, 2012).

⁵ Happiness is an overall long-lasting mental state associated with the hedonic well-being approach and subjective well-being. The most central researcher is the recently deceased Ed Diener.

Figure 2
Five Decades of Well-Being

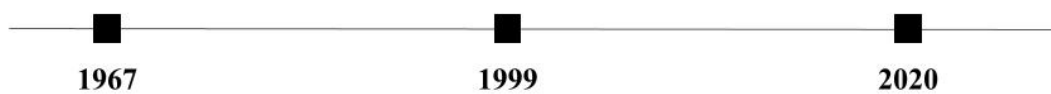
The happy person is...

"young, healthy, well educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence"

(Wilson, 1967, p 294).

"Efforts are now focused on studies that support the construct of *well-being* as a combination of feeling good and having purpose and meaning in life"

(Sanchez-Garcia et al., 2018, p 2).



The happy person is...

"blessed with a positive temperament, tends to look on the bright side of things, and does not ruminate excessively about bad events, and is living in an economically developed society, has social confidants, and possesses adequate resources for making progress toward valued goals" (Diener et al., 1999, p 295).

Sanchez-Garcia et al. (2018) statement is supported by the fact that although considerable empirical research in the 1980s was concerned with well-being. Endeavors focused mainly on reports of happiness, life satisfaction, and positive affect. Minimal attention was given to the eudaimonic well-being approach (Ryff, 2014, p. 11). Nowadays, researchers, policymakers, and organizations see well-being as a complement to traditional economic measures (Diener et al., 2015; Diener & Seligman, 2004; OECD, 2021).

Numerous major events show a profound shift in attitude towards socio-economic progress on a global level. In 2007, the European Commission hosted the conference "Beyond GDP", developing indicators that are as clear and appealing as gross domestic product GDP, but more inclusive of environmental and social aspects of progress (European Commission, 2021). Two years later, the Stiglitz-Sen-Fitoussi Commission identified the limits of GDP and concluded their report with the key message. It is time to shift emphasis from measuring economic production to measuring people's well-being (Noll, 2010). In 2013 the United Nations International Day of Happiness, a holiday meant to promote well-being around the world was first celebrated (United Nations, 2021b). The same year the Global Entrepreneurship Monitor 2013 analyzed well-being as a special topic, in addition to its annual measures of entrepreneurship dynamics (Amoros & Bosma, 2014). Two years later, United Nations

launched 17 Sustainable Development Goals, whereas goal three states the importance of good health, and *well-being* (United Nations, 2021a).

These events show how empirical research on well-being has advanced and grown internationally and interdisciplinary. Modern psychology offers two main theoretical perspectives on well-being – the hedonic and eudaimonic approach.

2.2.2 Two Approaches on Well-Being: Hedonia and Eudaimonia

The hedonic well-being approach focus on attaining pleasure and avoiding pain. Often this approach is associated with happiness and is assessed by people’s evaluation of their lives and encompasses both cognitive judgments of satisfaction and affective appraisals of moods and emotions (Diener et al., 1999). Dispositional optimism, the predominant tendency to hold generalized favorable expectancies for their future is a key aspect of the hedonic well-being approach⁶ (Diener et al., 2003; Karademas, 2006). In contrast, the eudaimonic well-being approach focus on meaning, self-realization, positive life engagement, personal excellence, and succeeding in effortful, self-determined activity (Ryff, 1989). Eudaimonic well-being defines well-being in terms of the degree to which a person is fully functioning (Ryan & Deci, 2001).

In brief: *feeling good* refers to the hedonic approach, *functioning well* refers to eudaimonia.

While hedonic and eudaimonic indicators are positively correlated and have empirical overlap, they originate from different ontological and ethical assumptions about human nature and the state of well-being (Ryan & Deci, 2001; Ryff, 1989). Ryff (2019) state that the traditions are empirically distinct and sometimes even be at odds with each other. Researchers within the eudaimonic well-being approach traditionally use the theoretical frameworks known as “self-determination theory” (SDT) or the “psychological well-being model” (Ryff, 2019). Although both frameworks are concerned with the realization of human potential, they are notable distinct (ibid). While SDT focus on three innate motivational needs,⁷ the psychological well-being model explains the various components of what it means to be fully functioning.

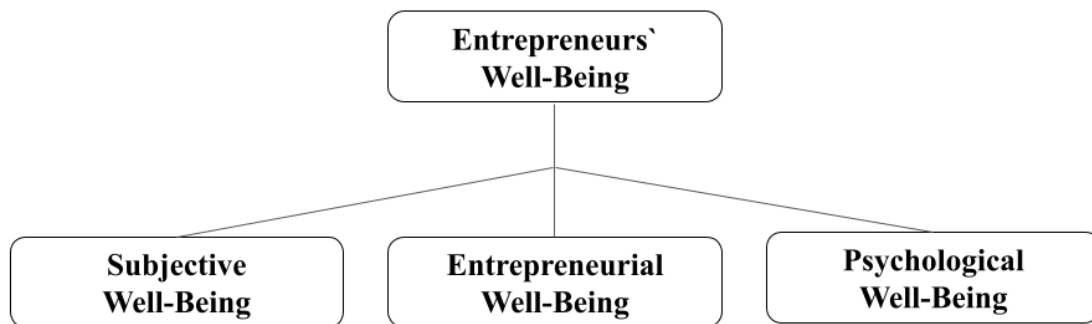
⁶ Optimism is elaborated in 2.2.8 A Hedonic Approach to Well-Being: Optimism.

⁷ Autonomy, competence, and relatedness.

2.2.3 The Novel Definition And Inconsistency

In the special issue “Entrepreneurship and Well-Being”, Wiklund and colleagues (2019) present, to the author’s knowledge the first definition of entrepreneurial well-being. “The experience of satisfaction, positive affect, infrequent negative affect, and psychological functioning in relation to developing, starting, growing, and running an entrepreneurial venture (p.579). The authors do not elaborate on the theoretical background behind their definition, but the definition draws on both well-being approaches. Therefore, it is interesting that Nadav Shir is one of the authors behind the article. This interest is because Shir uses the following model to describe entrepreneurs’ well-being.

Figure 3
Entrepreneurs’ Well-Being (Shir, 2015, p. 73)



Shir’s model displays that entrepreneurs’ overall well-being consists of three core components: subjective well-being (hedonic), psychological well-being (eudaimonia), and entrepreneurial well-being. Despite the component’s interrelatedness, each of these three dimensions is conceptually and empirically separate, and each explains important and unique portions of the entrepreneurs’ well-being (Shir, 2015). Shir (2015) explains that although entrepreneurial well-being is an important component of the overall concept of entrepreneurs’ well-being, it constitutes a context-specific measure of well-being in entrepreneurship and thus differs conceptually from the general construct. Although Shir (2015) clearly states these dimensions are separate. Researchers and literature on entrepreneurs’ well-being and entrepreneurial well-being, the underlying construct, use different, diffuse, and often overlapping concepts to describe the various phenomena. Noteworthy is that it seems Wiklund et al. (2019) definition of entrepreneurial well-being actually refers to *entrepreneurs’* well-being. This thesis finds support in Wiklund et al. (2019) and use entrepreneurial well-being synonymous with entrepreneurs’ overall well-being.

2.2.4 Why Entrepreneurial Well-Being Matter

The origin and reasons for the increased interest in entrepreneurial well-being are several. In general, the literature linking entrepreneurship and well-being originate from three main themes: intentions, motivation, and source of well-being and have both theoretical and practical implications.

Individuals choose to become entrepreneurs for various reasons – other than financial considerations (Wiklund et al., 2019; Wiklund & Shepard, 2003). The literature highlights other deeply personal idiosyncratic reasons, such as the role of psychological income, job satisfaction and independence (Abreu et al., 2019). Not only do individuals start their entrepreneurial venture based on a large variety of reasons, but also engage in and leave entrepreneurship for a variety of different reasons (Carter et al., 2003).

Well-being can also function as an engine in the life of the entrepreneur. To achieve sustainability for a longer time, entrepreneurs must recognize the benefits of entrepreneurial activity. These benefits can be classified according to the motivations of the entrepreneur. However, it all comes down to the idea that humans want to obtain maximum well-being (Sanchez-Garcia et al., 2018). Entrepreneurship, by nature, can be a potential source of personal development, growth, and well-being (Shir, 2015; Stephan, 2018). This could energize entrepreneurs to persist in improbable tasks that can become a force for a positive change in society (Wiklund et al., 2019).

Theoretical Implications

Entrepreneurial well-being advances research in the understanding of entrepreneurial motivation, decision-making, and action (Stephan, 2018). Knowing how, when, where, and why entrepreneurship influences entrepreneurs in terms of their well-being will take research closer to unpacking the drives and motivations of individuals pursuing entrepreneurial activities (Shir, 2015). There is also research, stating that subjective measures, such as well-being, are often more predictive of entrepreneurs' decision making and behavior than objective indicators e.g., financial parameters (Dijkhuizen et al., 2018).

Practical Implications

A theory that has been implemented in businesses for over 70 years is “the happy-productive worker theory” (Zelenski et al., 2008). The theory state that when people are happy, they are

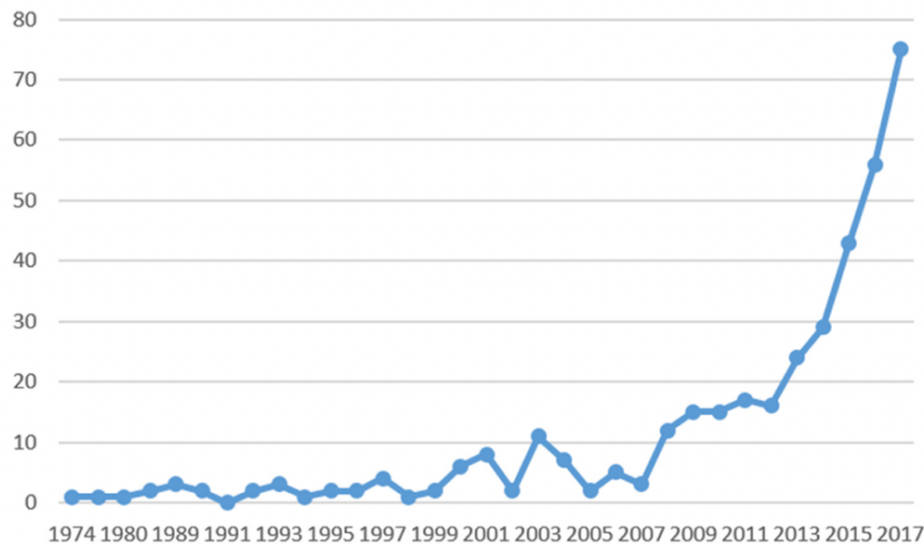
more productive, provide assistance to coworkers and others in their communities and develop strong social relationships (Diener & Seligman, 2004). Although the theory has been around for decades it still remains a source for debate.

For the entrepreneur, there is research showing that happy entrepreneurs are more likely to persist and perform better (Wincent et al., 2008).⁸ Happier entrepreneurs also lead firms to higher performing, whether the performance measured business growth, innovative behavior, perceived success, fewer perceived financial problems, or customer service quality perceptions (Stephan, 2018). Moving from happiness to entrepreneurial well-being, research shows that individuals with high EWB have broader thoughts and action repertoire – facilitating creativity and opportunity recognition, and in turn helps the building of future resources (Stephan, 2018). High levels of well-being can recharge entrepreneurs’ psychological resources – which can energize them to continue persisting in challenging tasks (Foo et al., 2009). Some individuals with high EWB in innovative firms might even engage in unethical behavior because they feel unique or above the law (Vincent et al., 2013). In contrast, there is also research stating that individuals also can drive and act because of low EWB. Negative affect, especially when experienced for prolonged periods, may encourage entrepreneurial actions. Those with high dispositional negative affectivity are more likely to pursue a risky career move such as starting a new business (Shir et al., 2019). Lastly, some research states that university students who have high psychological well-being are more likely to start a business (Zhang et al., 2015).

Although there are multiple implications, theoretical and practical alike research on well-being is still considered nascent in entrepreneurship literature (Abreu et al., 2019; Wiklund et al., 2019). The research and publications on EWB are, however, rapidly growing.

⁸ The distinction between happiness and well-being is sometimes unclear in the literature. The hedonic well-being approach (i.e. happy, happiness, satisfaction, emotions, mood) is most represented in entrepreneurship theory. One reason for this is how it is easier to measure.

Figure 4
Publications on Entrepreneurial Well-Being (Sanchez-Garcia et al., 2018, p. 8)



Unfortunately, the rapid growth brings inconsistency – in definitions, measurements, and theoretical framework. This inconsistency is a crucial challenge in entrepreneurial well-being research (Wiklund et al., 2019). Since the Stiglitz Commission concluded that well-being measures offer essential information on individuals’ well-being and socioeconomic progress (Noll, 2010), many measurement instruments have been developed (Wiklund et al., 2019). Linton et al. (2016) found 99 self-reported measures for assessing well-being, ranging from subjective measures of affect, life satisfaction, and psychological functioning to objective physical health and social well-being measures. These measures draw on a variety of perspectives from different disciplines and schools of thought.⁹

2.2.5 Measuring Entrepreneurial Well-Being

To fully grasp the multidimensional construct of well-being – i.e., *feeling good* and *functioning well* differences and developments need to be taken together (Wiklund et al., 2019). Well-being should be considered an umbrella term that reflects multiple dimensions instead of capturing something unidimensional. Theories and measures of well-being differ regarding their emphasis on external and internal individual conditions (e.g., having material conditions and having friends vs. being satisfied and experiencing vitality). These differences also depend on

⁹ Measurements draw from clinical psychology, philosophy, economics, medical sociology, etc.

whether the dimensions are objective measures set a priori by researchers or subjective evaluations of the individual respondent (Shir, 2015).

Searching for literature on entrepreneurial well-being within the research fields of Business, Management, Accounting, Economics, Econometrics, Finance, and Psychology. Specifically, eyeing the literature for research done with the eudaimonic well-being approach and, or psychological well-being and in the educational context, the number of papers found on Scopus was 12.¹⁰ To construct an overview of theories and measurement, the articles were sorted on a hedonic-eudaimonic continuum.

Table 1
The Hedonic-Eudaimonic Continuum

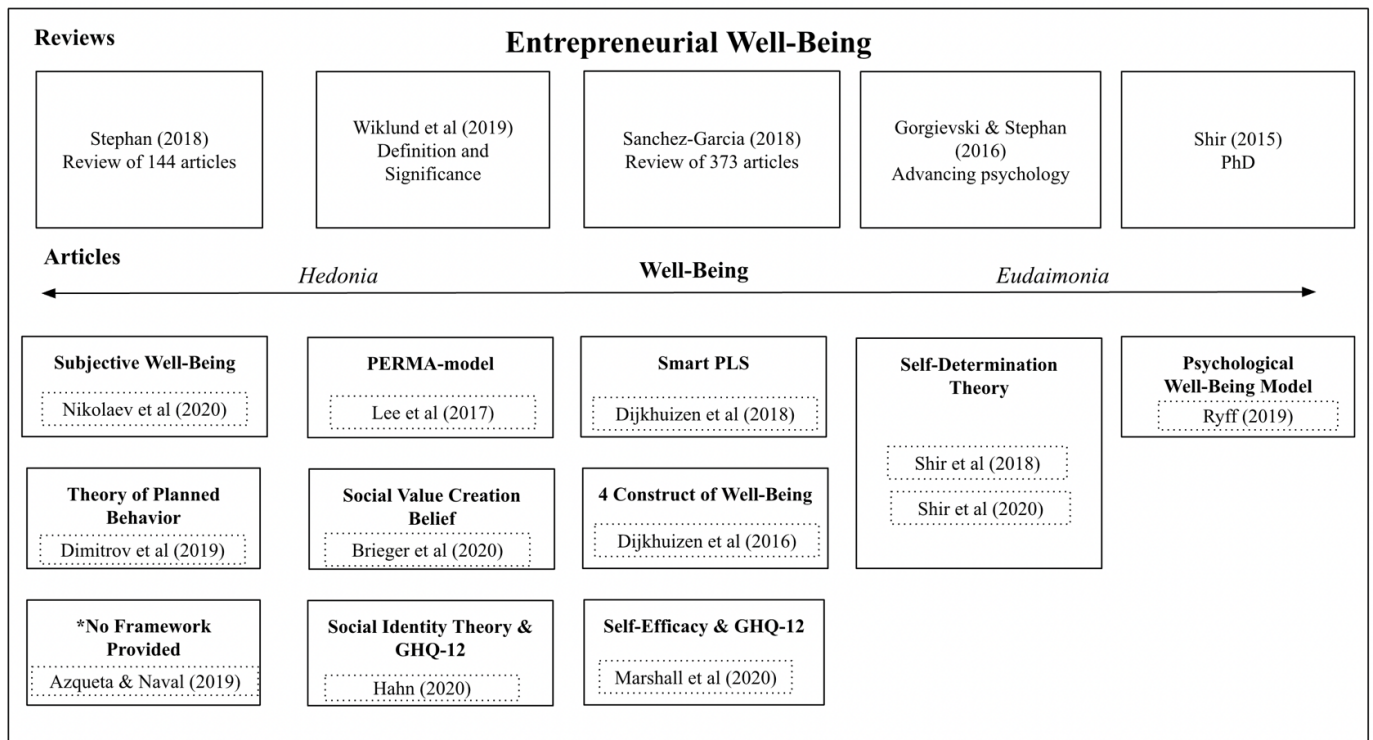
Hedonic Well-Being	Eudaimonic Well-Being
Relationships*	Relationships*
Accomplishments*	Accomplishments*
Life Satisfaction	Engagement
Work Satisfaction	Work Engagement
Exhaustion	Purposeful
Workaholism	Realization
Burnout	Fulfillment
Positive Emotions	Autonomy
	Meaning
	Self-Efficacy

Note. * Relationship and accomplishment are placed in both well-being approaches in entrepreneurial well-being literature.

Based on the table above the following figure was made. Notice that this inconsistency is after eyeing the literature for research done with the eudaimonic well-being approach or the psychological well-being perspective.

¹⁰ The author conducted a literature review in the autumn of 2020. A note is how well-being is used differently in literature. In psychology, well-being is used on individuals (e.g., Subjective Well-Being, Mental Well-Being, Psychological Well-Being). In entrepreneurship literature, the concept is often used in a firm context (e.g. Financial Well-Being, Economic Well-Being, and Sustainable Well-Being). On a political level, the concept is associated with Sustainable Well-Being, Environmental Well-Being, and Societal Well-Being.

Figure 5
Theoretical Frameworks and Measurements on Entrepreneurial Well-Being.



The figure above presents that all authors use different frameworks and methods for defining and measuring well-being. Azqueta and Naval (2019) do not even provide a definition, approach, or framework on how they operate with the concept of well-being. Instead, they give a generic statement “higher the satisfaction, the greater the well-being” (p.520-521). The figure shows that self-determination theory¹¹ and the psychological well-being model are furthest up on the Hedonic-Eudaimonic Continuum.

2.2.6 Conceptual Foundation: The Psychological Well-being Model

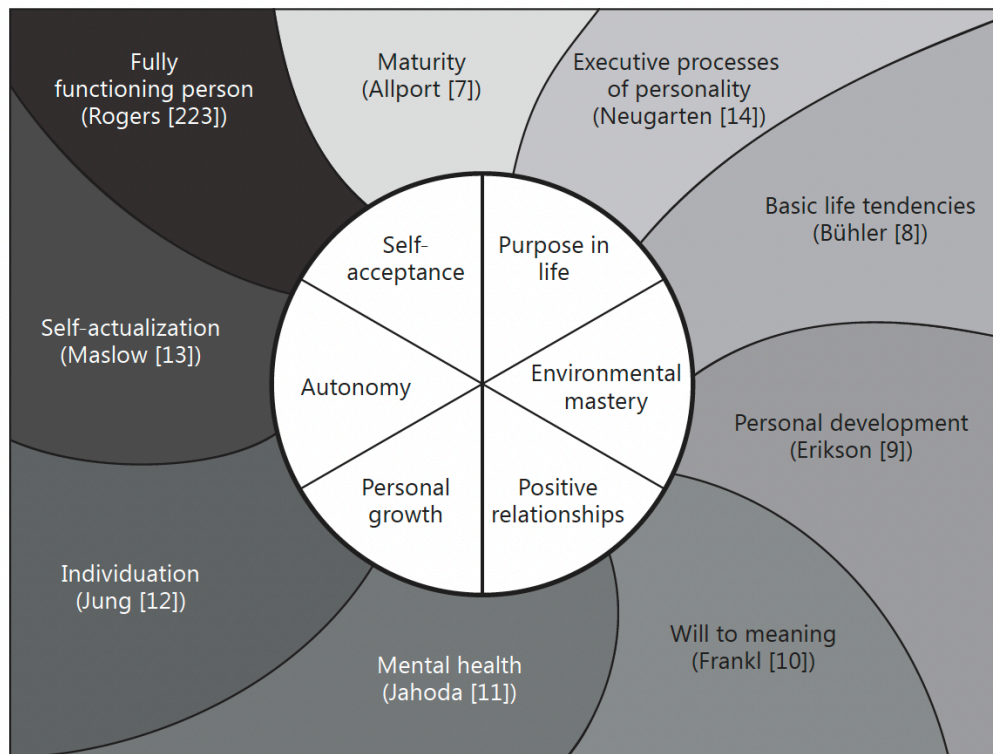
Over 30 years ago, a model of psychological well-being was put forth by Carol Ryff.¹² Since 1989 lessons have been learned from the extensive research that proliferated around this model of well-being (Ryff, 2014). With deep philosophical roots dating back to the ancient Greeks, well-being was deconstructed to include six key components. Taken together, these dimensions offered a notable contrast to existing indicators focusing on feeling good, happy, positive, or satisfied with life. The psychological well-being model addresses the neglected aspect of

¹¹ The author had a meeting with Nadav Shir in January concerning co-operation with this thesis. He gave some advice (e.g., need to conduct a study for a longer time than 19 days to capture well-being). Shir was clear. “I don’t work in teams.”

¹² Ryff CD: Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *J Pers Soc Psychol* 1989; 57: 1069–1081. The article has over 16.800 citations (10.05.2021).

positive functioning, such as purposeful engagement in life and realization of personal talents. In brief, while early studies reflected a largely hedonic approach, the six-factor model reflects the eudaimonic well-being approach. The psychological well-being model consists of core dimensions, supports by theoretical foundations, overlapping but distinct.

Figure 6
The Six-Factor Model of Psychological Well-Being (Ryff, 2014, p. 11).



With the multidimensional construct of well-being being complex and unassailably in its entirety this thesis focus on the dimension of *Purpose in life*.

2.2.7 A Eudaimonic Approach to Well-Being: Engagement and Meaning

The dimension of *Purpose in life* is the existential core of eudaimonic well-being, with its emphasis on viewing one's life as having meaning, direction, and goals (Ryff, 2019). These qualities comprise a kind of intentionality that involves having aims and objectives for living. Ryff (2019) states that a life-span perspective emphasizes creative or productive endeavors in

the journey across the decades of adult life. The capacity to find meaning in the face of adversity, as emphasized by Victor Frankl¹³, is vital.

2.2.8 A Hedonic Approach to Well-Being: Optimism

A critical dimension in the hedonic well-being approach is the ability to look on the bright side of things, not ruminate excessively about bad events, and possess adequate resources to make progress toward valued goals (Diener et al., 1999). Optimism, by definition, is “ an individual difference variable that reflects the extent to which people hold generalized favorable expectancies for their future (Carver et al., 2010, p. 879). Research on optimism and its effects has been studied for decades in psychology, and research links optimism to desirable outcomes. Table 2 presents the benefits and drawbacks of being an optimist.

Table 2
Benefits and Drawbacks of Being an Optimist

Outcome	Increase / Decrease	Source
Physical and mental	Optimistic individuals have better physical and mental health than others.	(Carver & Scheier, 2014)
	... cope with stressful situations by remaining engaged in the goals and activities	(Carver et al., 2010)
	... engage in problem-focused coping when there is something to be done.	(Carver et al., 2010)
Emotional	... experience less distress when they encounter adversity.	(Carver et al., 2010)
	... have better social connections, both broadly and in intimate relationships.	(Carver et al., 2010)
	... has less distress at the end of the semester.	(Brissette et al., 2002)
Behavioral	... are more willing to persist in tasks.	(Taylor & Brown, 1988)
	... improves work performance.	(Scheier & Carver, 1993)
	... are more successful students.	(Solberg Nes et al., 2009)
	... display accommodative coping when adversity has to be endured.	(Carver et al., 2010)
Drawbacks	... are more successful entrepreneurs	(Crane & Crane, 2007)
	Gambling is a context in which positive expectancies and persistence might be counterproductive. Perhaps optimists don't know when to quit.	(Carver et al., 2010) (Carver et al., 2010)

¹³ Victor Frankl is the founder of logotherapy. A school of psychotherapy that describes the central human motivational force is the search for meaning. Logotherapy is part of existential and humanistic psychology theories.

Table 2 presents research done outside of the field of entrepreneurship, but there is research studying optimism in the field of entrepreneurship. In their article “Dispositional Optimism and Entrepreneurial Success,” Crane and Crane (2007) examined entrepreneurial literature over 25 years. Their conclusion was that optimism, along with goal orientation, was characteristics all successful entrepreneurs had.¹⁴ Moreover, optimism is often listed among other characteristics of entrepreneurs: high achievement drive, action-oriented, internal locus of control, tolerance for ambiguity, moderate risk-taking, and commitment (Fraser & Greene, 2006; Hmieleski & Baron, 2009; Liang & Dunn, 2008). What makes optimism interesting for scholars, policymakers, and researchers within entrepreneurship is how research shows that an optimistic mindset can be thought (Carver & Scheier, 2014; Meevissen et al., 2011; Peterson, 2000; Seligman, 2006).

2.2.9 Venture Creation Programs - A Part of The Entrepreneurial Journey

As mentioned in the introduction, leading researchers on well-being came together to explore the topic of entrepreneurial well-being in 2017.¹⁵ One of those researchers was the previously mentioned well-being researcher Carol D. Ryff. In her article “Entrepreneurship and eudaimonic well-being: Five venues for new science”¹⁶ she presents five venues to extend entrepreneurship. With the overall aim to be generative regarding the interplay between entrepreneurial experience and eudaimonic well-being. The venue “entrepreneurial journey” explores if and how eudaimonic well-being might be relevant in the different stages of the entrepreneurial process. In the beginning, eudaimonic well-being may be useful identifying those who choose the entrepreneurial path and what they predict for the tasks ahead. Once into the endeavor, eudaimonic well-being may be an essential psychological resource vis-à-vis the challenges and stresses of entrepreneurship (Ryff, 2019).

In 2018 entrepreneurship scholars Sanchez-Garcia et al. (2018) clustered “entrepreneurship” and “well-being.” In a distance-based bibliometric map with 273 articles linking

¹⁴ Entrepreneurial success is not defined in the article.

¹⁵ Resulting in the special issue “Entrepreneurship and Well-being” published in the Journal of Business Venturing in 2019. Other top peer-reviewed journals shedding light on the association between well-being and entrepreneurship is Entrepreneurship Theory and Practice (a special issue in 2012) and The Academy of Management (annual meeting in 2018).

¹⁶ The five venues are (1) entrepreneurship and autonomy, (2) varieties between types of entrepreneurship, (3) eudaimonia in the entrepreneurial journey, (4) entrepreneurship, well-being and health, and (5) entrepreneurs and the eudaimonia of others.

entrepreneurship to well-being none research entrepreneurial well-being on student entrepreneurs at venture creation programs. However, there are some articles closely related.

Table 3
Six Articles on Student Entrepreneurs Well-Being.

Author	Title	Key Takeaways
(Hahn, 2020)	The psychological well-being of student entrepreneurs: a social identity perspective	Student Entrepreneurs. Social identity theory.
(Dimitrov et al., 2019)	Comparative study of environmental determinants of entrepreneurship intentions of business students	Student Entrepreneurs. Theory of planned behavior.
(Stephan et al., 2020)	Self-Employment and Eudaimonic Well-Being: Energized by meaning, enabled by societal legitimacy	International sample. Self-determination theory.
(Shir et al., 2019)	Entrepreneurship and Well-Being: The role of psychological autonomy, competence, and relatedness	Early-stage entrepreneurs. Self-determination theory.
(Nikolaev et al., 2020)	Entrepreneurship and Subjective Well-Being: The Mediating Role of Psychological Functioning	A new model for PWB Self-determination theory.
(Dijkhuizen et al., 2018)	Well-Being, Personal Success and Business Performance Among Entrepreneurs: A Two-Wave Study	Business owners. Smart PLS analysis.

Note. It is only Stephan et al. (2020) which was not found in the literature review.

Of the six articles, there are two articles done in a university context. A third article focuses on early-stage self-employed entrepreneurs. The following three articles are more generic and focus on entrepreneurship as a source of well-being and well-being as a personal resource for entrepreneurial activity. This leaves the conclusion that the literature linking the eudaimonic well-being approach to entrepreneurial well-being in general, appears weak. The literature linking entrepreneurial well-being with a eudaimonic well-being approach to student entrepreneurs¹⁷ in venture creation programs appears to be undiscovered.

¹⁷ From a psychological perspective, entrepreneurs are a relatively under-researched sample, and much remains to be uncovered in terms of explanatory mechanisms (Gorgievski & Stephan, 2016).

3 Methodology

This chapter provides information on the choice of research design, methods, sample, and procedures, containing how the data was collected, measured, and analyzed. The chapter ends with an overview of limitations considered as part of selecting the methods.

3.1 Research Design

Since the objective of the thesis is explorative, the empirical study is chosen to gather information on the association between student entrepreneurs' well-being and their entrepreneurial activity. Not in a static manner – but over time, providing depth and bringing out nuances. Therefore this thesis relies on the experience sampling method (ESM).¹⁸ A research method for studying what people do, feel, and think in their daily life, either at randomly selected moments or at predetermined times (Larson & Csikszentmihalyi, 2014; Napa Scollon et al., 2009). The method has been used in the field of psychology since the 1970s and has enjoyed increasing popularity in psychological research (Napa Scollon et al., 2009). Much of its popularity can be attributed to its ability to examine phenomena beyond single-time self-report measurement. ESM enables a process-oriented view and the investigation of more complex questions. In entrepreneurship research, ESM is seen as an innovative methodological approach (Uy et al., 2010).¹⁹

The experience sampling method was chosen for multiple reasons. Firstly, Ryff (2014) operationalize the dimensions of well-being, and state that the dimensions are possible to measure with self-reports. Secondly, ESM enables detailed accounts of participants' daily experiences over time and captures the variation of these experiences as they occur in the natural environment, providing high ecological validity (Uy et al., 2010). Thirdly, the ESM enables researchers to move beyond simple questions about who is and who is not to more detailed questions about when, why, and how (Napa Scollon et al., 2009). Additionally, advancements in technology and available smartphones increase the strengths, and decrease

¹⁸ Also referred to as Ecological Momentary Assessment or Daily Diary Method.

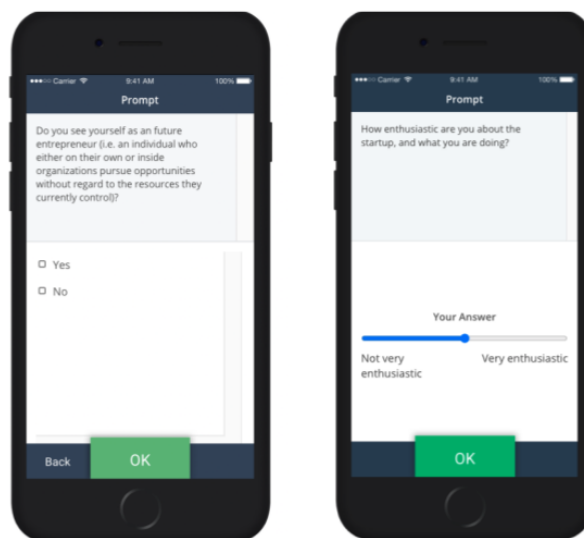
¹⁹ A search on Scopus (25.05.2021) with the string (“experience sampling method” OR “ESM” AND “entrepren*”) resulted in 56 document results, most research within the last ten years.

some of the method's limitations.²⁰ And lastly, to the author's knowledge, ESM has never been used in the context of venture creation programs.

3.2 Applying the Design

Constructing the study's design and how to implement it successfully – the step-by-step description of Uy et al. (2010, p. 38) was used. The first step addresses the sample size, the second step concerns the development of the survey. Step three to six is respectively, recruitment, data collection, debriefing, and data analysis, and are elaborated later in the chapter. Concerning the sample size, most ESM studies are considered modest in size by social science research standards. Still, because participants respond multiple times, the total number of data points can be sufficient in statistical analysis (Napa Scollon et al., 2009). The second step is to develop the survey and installation of software. There are three types of ESM protocols, where this study used the most common protocol: *signal contingent*.²¹ In this protocol, participants are beeped and complete self-reports when prompted by a pre-arranged signal (Napa Scollon et al., 2009). Participants fill out a short questionnaire (1-2 min) including multiple-choice, range slider, and open-ended items – in real-time. Below two examples of prompts in the study are presented – one from the start-up session and one from the notification-initiated sessions (NIS).

Figure 7
The Smartphone Application «RealLifeExp»



²⁰ In the early days, ESM studies were conducted using paper and pencils. Then specially made phones were used. Nowadays, apps can be downloaded on participant's smartphones. The software Uy et al. (2010) example in their article "Using Experience Sampling Methodology to Advance Entrepreneurship Theory and Research" is outdated.

²¹ The three types of ESM protocols are (a) interval contingent, (b) event contingent, and (c) signal contingent.

Constructing the study, a balance between obtaining enough information and not overburdening participants is essential. Usually, ESM surveys completed in two minutes or less are considered reasonable (Uy et al., 2010). The following table displays a complete overview of the questionnaire topic and the estimated time for completing the study. For a complete overview of dates and times of prompts (see Appendix 3: Full Overview of The Study).

Table 4
The Topic of Questionnaire in The Study

Topic of questionnaire	# Times	# Minutes	Total
Downloading & Background Information	1	6	6
Well-Being (Optimism)	1	2	2
Well-Being (Psychological Health)	2	2	4
Well-Being (Engagement)	6	1	6
Well-Being (Meaning)	4	1	4
Well-Being (Burnout)	6	1	6
Covid-19	1	1	1
Health	3	1	3
Faculty Members	1	2	2
Cocktail*	3	1	3
Total**	28	18	37

Note. * The battery “Cocktail” consists of three questions: Venture Progress, Work-Life Balance, and Entrepreneurial Optimism. **The total amount of time was based on the pilot project completed by family and supervisor. Since their intention with the study was to give feedback concerning content and user interface the amount of time was decreased in promoting the study.

3.3 Sample and Procedure

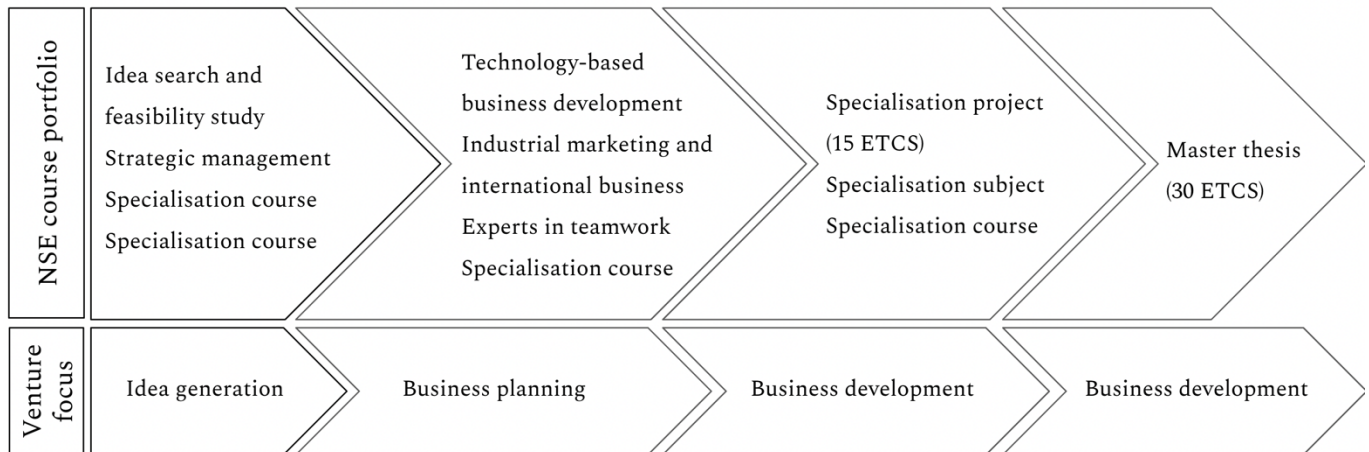
Participants were recruited from The NTNU School of Entrepreneurship (NSE) in Trondheim, Norway. NSE is a two-year 120 ECTS²² master program open to all students from different disciplines with a Bachelor’s degree or similar (Kaloudis et al., 2019). The program’s objective is to develop students with entrepreneurial skills and mindset such that they become business developers.²³ To achieve this objective, the program facilitates venture creation as the primary learning vessel (Lackéus & Williams Middleton, 2015). This means that students establish and develop a startup, in addition to a full academic workload focused on business development

²² European Credit Transfer and Accumulation System.

²³ Business developers are defined here as individuals who can work in private or public industry and in small or big organizations, where the graduates further develop these businesses.

(Warhuus & Basaiawmoit, 2014). In the program, students also choose specialization courses based on their prior study background.²⁴

Figure 8
Overview of the NSE Master Program (Kaloudis et al., 2019, p. 93).



Note. First-year students are in the second column, second-year students are writing their master thesis.

NSE is recognized as one of the leading environments for action-based entrepreneurship education programs in Norway (NIFU, 2015). The program promotes itself with the fact that on average, each year, 50% of the students start working full-time in their ventures upon graduation (Kaloudis et al., 2019). The program also promotes that its Norway's most inspiring master program and that NSE wants to educate the best business developers in the world. Every year hundreds of students apply to the program, though approximately 35 students are accepted (Haneberg & Aadland, 2019). The selection process is based on an application letter, grades, and an interview with faculty. All students, currently in NSE were approached for the study. The experimental group is student entrepreneurs with a startup. Students without startup worked as a control group.²⁵

To the best of the author's knowledge, no study has been conducted using ESM in a venture creation program. Therefore, the procedure was based on a suspicion that recruitment for a study of this magnitude might be difficult. Hence, a recruitment strategy was made. First, a recruitment video was made, where essentially the same content as the recruitment flyer

²⁴ All courses are 7.5 ETCS unless stated otherwise.

²⁵ Respective studies have asked for the use of a control group in future research on the effect of entrepreneurship education (Rauch & Hulsink, 2015).

(Appendix 2: The Recruitment Flyer) was presented. The third element of the recruitment strategy was to approach participants in person. Uy et al. (2010) encourage researchers to act professionally and personally to make participants feel an integral part of the research endeavor. The personal touch motivates participants to remain engaged until the end of the study, boost responses, and ensure data quality.

Constructing the study, some participants would likely feel overloaded and leave the study because of the continuous prompting. Hence, variation in the topic of the questionnaire, questions within the topic, the time required to complete the session, and the time of the day of the prompting. For instance, the question battery engagement consisted of six questions, and three of the six questions were randomly selected for each prompt. This variation would hopefully increase the motivation of the participants to remain in the study.

3.4 Data Collection

All participants downloaded LifeDataCorp's app "RealLifeExp"²⁶ on their smartphones to collect data. LifeDataCorp was selected because of their free consultation, their reviews on customer service, their own pricing for students, and their well-designed user interface – for both researcher and participants.

After creating a user profile, participants answered the start-up session consisting of 20 questions concerning background information. After completing the startup, session participants were prompted with notification-initiated sessions (NIS) once or twice a day for 19 days. Participants were prompted 27 times, between 09:00 and 17:00, and asked 62 different questions, leading to the collection of 2,855 data points.

3.5 Debriefing

Following Uy et al. (2010) step five, the author arranged a debriefing on May 31st. All students at NSE were invited, and approximately 20 individuals showed up. In the sequence, the science of well-being was briefly explained, and some of the main findings from the study. A token of appreciation was given verbally and on the NSE community webpage.

²⁶ This software solution had a price tag of 11.500NOK and was only possible to obtain because of Spark* NTNU acceptance of re-budgeting the funding initially to Lyngen Folkehøgskole. The re-budgeting was a consequence of Covid-19.

3.6 Variables

Since well-being is a multidimensional construct, the construct was deconstructed into four underlying elements. Engagement and meaning represent key aspects within the eudaimonic well-being approach. Optimism represents the hedonic well-being approach. Psychological health complements these elements as a general dimension in well-being. Entrepreneurial optimism is a simple variable, enabling the hierarchical multiple regression. All variables are measured directly.

Engagement

Student entrepreneurs' level of engagement was measured six times in the study. The question battery consisted of six questions, whereas three of them were randomly chosen at each prompt. Three of the questions were generic questions concerning well-being and engagement, acquired from SSB's Report about well-being in Norway (Støren et al., 2020). The additional three questions were directed towards the experimental group and their level of engagement in their startup. These questions were acquired from Mind and were reframed to fit a startup context.²⁷.

Meaning

Student entrepreneurs' level of meaning was measured four times in the study. The question battery consisted of four questions, whereas two of them were randomly chosen at each prompt. Two of the questions were generic questions concerning well-being and meaning, acquired from SSB's Report about well-being in Norway (Støren et al., 2020). The third questions were assembled from J. Vittersø (professor in psychology, personal communication, February 2021), measuring well-being in a short version. The fourth question is based on the theory of meaningfulness (Dik et al., 2013; Stephan et al., 2020).

Optimism

Optimism was measured using the revised life orientation test (LOT-R). LOT-R is a direct way to measure how individuals think about generalized expectancies about the future. It is one of the most commonly used measures of dispositional optimism across both research and practice

²⁷ Originally the questions are meant for large organizations. For instance, "At my job, I feel strong and energetic" was modified to "In my startup, I feel strong and energetic. Mind's questions are grounded in positive psychology, strength-based leadership, and the statement that using your own strengths in your daily work enhances well-being and performance. See for instance Lavy & Littman-Ovadia (2017) or Harzner & Ruch (2012).

(Carver & Scheier, 2014; Carver et al., 2010). The test consists of 10 items e.g., “I'm always optimistic about my future,” “I rarely count on good things happening to me” [reversed]) to which people indicate their agreement or disagreement on a 5-point scale (0 = strongly disagree; 4 = strongly agree. Four items are “filler” statements that are not scored. Three items are reverse-coded. Finally, you calculate a score by adding the ratings of all the items for a total score from 0 to 24. High scores indicate a generalized tendency of optimism, and low scores indicated a more pessimistic outlook. The scale possesses good stability across time, which evidences its reliability (ibid).

Psychological Health

Psychological health was measured using the General Health Questionnaire (GHQ-12).²⁸ The GHQ-12 is used in entrepreneurship research (Uy et al., 2013; Uy et al., 2017) and is a widely validated and reliable model (Hankins, 2008).²⁹ The GHQ-12 is a unidimensional measure useful as a screening tool for assessing mental distress (Romppel et al., 2013). Examples of the items include “Have you recently felt constantly under pressure?” and “Have you recently been able to enjoy your normal day-to-day activities? Items were evaluated on a scale ranging from 1 (not at all) to 5 (more than usual). Because of its brevity, the 12-item General Health Questionnaire (GHQ-12) has become one of the most popular and used measures for detecting psychological distress (Hystad & Johnsen, 2020).

Entrepreneurial Optimism

The entrepreneurial optimism was measured three times with one question. Participants were asked to range the following question from 0-100. “I really hope I will work with this startup one year from now”.

²⁸ GHQ-12 derives from the original 60-item version and additionally exists in 30-, 28-, and 20-items versions (for more, see Goldberg and Williams (1988).

²⁹ Although its dimensionality, reliability, and validity have been questioned and is still under debate in test theory and for clinical practices, the model has consensus if used for exploratory analysis.

Table 5

Summary of Questions to Measure Well-Being and Entrepreneurial Optimism

Variable	Questions
Engagement	“How interested are you in what you are doing?” “... absorbed are you in what you do?” “... enthusiastic are you about what you are doing?” “In my startup, I feel strong and energetic” “I am enthusiastic about my startup” “I am engaged in my startup”
Meaning	“All in all, to what extent do you find what you do in life meaningful?” “Do you think that your life is mostly rich and rewarding, or do you think it is mostly empty and boring?” “To what extent do you experience that what you do in life is meaningful?” “I find my startup meaningful”
Optimism	“In uncertain times, I usually expect the best.” “It’s easy for me to relax.” “If something can go wrong for me, it will.” “I’m always optimistic about my future.” “I enjoy my friends a lot. “ “It’s important for me to keep busy.” “I hardly ever expect things to go my way.” “I don’t get upset too easily.” “I rarely count on good things happening to me.” “Overall, I expect more good things to happen to me than bad.”
Psychological Health	“Been able to concentrate on what you’re doing?” “Lost much sleep over worry?” “Felt you were playing a useful part in things?” “... capable of making decisions about things?” “... constantly under pressure?” “... you couldn’t overcome your difficulties?” “Been able to enjoy your normal day-to-day activities?” “... able to face up to your problems?” “... feeling unhappy and depressed?” “... losing confidence in yourself?” “... thinking of yourself as a worthless person?” “... feeling reasonably happy, all things considered”
Entrepreneurial Optimism	“I really hope I will work with this startup one year from now”

All questions in the study can be found in Appendix 4: Full Overview of Questions in the Study.

3.7 Data Analysis

The first step in the analysis was to conduct a visual inspection of the data, looking for patterns or easily seen correlations. The startup session provided descriptive statistics about the sample, and simply by counting and averaging the responses in an excel-sheet the descriptive statistics were made. Beyond the startup session, screening the data for patterns and correlations was complexed. Therefore, SPSS Statistics, version 27 was chosen to investigate other associations. As a support tool, I used Laerd Statistics.³⁰ Laerd Statistics is a tool that assists in using SPSS and selecting the adequate regression analysis method to be used.

Laerd recommended the hierarchical multiple regression (HMR) to explore regressions analysis and find associations, patterns, and possible correlations. HMR has two main objectives. The first objective is to predict the dependent variable based on multiple independent variables. Secondly, HMR provides information on how much the dependent variable changes if one unit change in the independent variables. Furthermore, Laerd (2015) recommends three stages for interpreting and reporting the results. The first stage is to evaluate the regression models that you are comparing. Then, the second step is to determine whether the hierarchical multiple regression model is a good fit for the data. Lastly, the third step sheds light on how to understand the coefficients of the regression model. The results from these steps are elaborated in the next chapter.

3.8 Considerations and Limitations

The experience sampling method is an demanding and for some participants an intrusive method (Napa Scollon et al., 2009). Therefore, awareness of the considerations and limitations when conducting the method is crucial.

Firstly, a formal consideration should be noted. All empirical studies in Norway need to report their project to the Norwegian Centre for Research Data (NSD). NSD is the national center and archive for research data. Knowing that this process could take time, I reported my project on the 17th of December. At the beginning of February NSD responded that complex projects take time and gave me some corrections concerning psychological health and ESM and Life Data's App "RealLifeExp". One consideration NSD pointed out was concerning studying well-being and psychological health. Providing additional information on the research objective and

³⁰ <https://statistics.laerd.com/>

resolving corrections related to the actual application, I received confirmation that NSD approves the study. An ethical consideration I early settled was that the study would not focus on gender- or privacy issues.

The first note concerning limitations is who volunteers for such demanding studies and who completes them. The interfering nature of ESM might lead certain types of individuals to be over-or underrepresented in ESM studies. Some individuals will refuse to participate outright. The less motivated participants may drop out after a few days of being interrupted during their daily activities. The remaining participants may show greater motivation, conscientiousness, agreeableness, or other characteristics that may not make them a representative sample (Napa Scollon et al., 2009). Participants might exaggerate, over-report and, or attribute personality statements with socially desirable values (Kormos & Gifford, 2014). Since ESM-studies require participants to report their thoughts and feelings repeatedly for a longer time. There is also the risk that these self-reports could again affect their feelings for some participants act as self-fulfilling prophecies (Napa Scollon et al., 2009).

Based on the demanding nature of ESM, Uy et al. (2010) recommend a personal touch from the researcher. The recommendation is based on the fact that it will make participants feel as an integral part of the study. The personal touch, however, also brings limitations. It might be accurate that a personal touch leads to higher recruitment of participants, because of participants finding it difficult to decline the request when the researcher ask in person. Moreover, participants might feel uncomfortable or embarrassed responding, personally knowing the researcher (ibid).

Furthermore, two limitations are noteworthy. The very essence of ESM is to capture a thought, a feeling, or behavior in the moment. When there is a time lag between the prompt and the response, this is considered a limitation (Napa Scollon et al., 2009). Lastly, the study was completed in English, knowing that the sample is used to English literature. Still, there might be participants finding some questions difficult to understand and responding less accurately.

4 Results

This chapter presents the results. First, the descriptive statistic from the sample is presented. Secondly, the average level of optimism and the psychological health between student entrepreneurs with and without startup is displayed. Thirdly a process-oriented view on engagement and meaning is displayed. The chapter ends with results from the hierarchical multiple regression.

4.1 Descriptive Statistics

The sample initially comprised 44 students (59%), 32 males and 12 females.³¹ 24 of the participants were first-year students, and 20 were second-year students. Of the 44 students, 37 were in a startup. Their age was between 23-33, with a majority between 23-25. 13 had an educational background in business, 7 in social science, and 24 in STEM³². Additional statistics are presented in the table below.

Table 6
Descriptive Statistics

Theme	In a startup	Not in startup	All Students
One parent has higher education	31 (84%)	7 (100%)	38 (86%)
Both parents have higher education	19 (52%)	5 (71%)	24 (55%)
Part-time job	21 (57%)	6 (86%)	27 (61%)
Entrepreneurs in family	21 (57%)	2 (29%)	23 (52%)
See themselves as future entrepreneurs	36 (97%)	6 (86%)	42 (96%)
What work await after graduation*			
Entrepreneur	36 (97%)	2 (29%)	38 (86%)
Manager / Consultant	12 (33%)	6 (86%)	18 (41%)
Employee / Other	3 (8%)	4 (57%)	7 (16%)
Entrepreneurial experience before NSE**	44.5	17.8	40.2

Note. * Multiple choice. ** The scores presented are the average of all responses, on a range from 0-100. Responses in both groups varied from 1-100.

³¹ In the study, males are overrepresented (72% in contrast to 60%).

³² STEM: Science, technology, engineering, and math.

Student entrepreneurs at NSE with a startup had on average, parents with less education, fewer had part-time jobs, and had a higher probability of having entrepreneurs in their family. 96% of the student entrepreneurs, both with a startup and without, reported that they see themselves as a future entrepreneur (i.e., an individual who either on their own or inside organizations pursue opportunities without regard to the resources they currently control). In the same session, the respondents were asked, “What do you see yourself becoming after graduation?” 18 reported that they see themselves as a consultant or manager. Additionally, seven reported they see themselves as an employee or other. Lastly, there is a noteworthy difference in the average score of entrepreneurial experience before NSE for student entrepreneurs with and without a startup.

4.2 Level of Optimism and Psychological Health

The revised life orientation test (LOT-R) conducted in the study indicated that student entrepreneurs with a startup have a higher level of optimism. On average, student entrepreneurs with a startup (28 participants) had 17,71. Student entrepreneurs without startup (6 participants) had 15,8. ³³

Student entrepreneurs’ psychological health was measured twice, with a week in between. Of the student entrepreneurs with a startup, 21 out of 26 answered both prompts. Four student entrepreneurs without a startup responded, all completing both prompts. The following table presents a comparison between the experimental group and the control group by averaging 12 items of the GHQ-12. A general note is that the liker scale goes from 0-3, whereas the closer to zero, the better the psychological health.

³³ This is the second time the author completes a study to measure the level of optimism on student entrepreneurs at NSE. The first time was in September 2020, where 30 participants (23 with a startup and 7 without) completed the test. Their average score was similar; 16,69 for students with a startup and 15, 57 for students without a startup.

Table 7
The Psychological Health of Student Entrepreneurs at NSE

Dimensions	Item	In a startup	Not in startup
Social Dysfunction	GHQ:1 Able to concentrate	1	1.13
	GHQ:3 Felt playing a useful part in things	.73	1.13
	GHQ:4 Felt capable of making decisions	.75	1.25
	GHQ:7 Able to enjoy day-to-day activities	1.23	1.5
	GHQ:8 Been able to face problems	1.08	1
	GHQ:12 Been feeling reasonably happy	.92	1.13
	GHQ:2 Lost sleep over worry	.96	.75
Anxiety & Depression	GHQ:5 Felt constantly under pressure	1.6	1.25
	GHQ:6 Felt couldn't overcome difficulties	1.08	.63
	GHQ:9 Been feeling unhappy and depressed	1	.88
	GHQ:10 Been losing confidence in self	.85	.88
Loss of Confidence	GHQ:11 Been thinking of self as worthless	.27	.88
	Total Average Score	.96	1.03

The average GHQ-12 score for all student entrepreneurs with a startup was 0.96, and for all student entrepreneurs without a startup, the average GHQ-12 score was 1.03.³⁴ This concludes that student entrepreneurs at NSE had good psychological health, and there is no difference between the experimental and control group concerning their psychological health. However, three items worth noticing indicating a difference between the experimental group and the control group. Item 5 “Have you recently felt constantly under pressure?” (1.6 vs. 1.25), item 6 “Have you recently felt you couldn't overcome difficulties” (1.08 vs 0.63), and item 11 “Have you recently been thinking of yourself as worthless” (0.27 vs. 0.88).

4.3 A Process-Oriented View on Engagement and Meaning

Participants were prompt with the battery “Startup Today (Engagement)” six times and the battery “Startup Today 2 (Meaning)” four times. The engagement-battery consisted of six questions, whereas three questions from the battery were randomly selected for each prompt.

³⁴ Because of missing values on one or more of the GHQ items at either time-points, the standard variation (SD) was impossible to maintain.

To create the figures below, all the results were averaged. First, each question and then the average of all six questions of the chosen day. In total, 32 participants answered at least one of the six prompts. The meaning-battery consisted of four questions regarding how meaningful they found their startup, whereas two of the questions from the battery were randomly selected for each prompt. Similar procedure as the engagement scoring was conducted. In total, 35 participants answered at least one of the four prompts. The figures below display the evolution of engagement and meaning.

Figure 9
Student Entrepreneurs With a Startup:
Level of Engagement

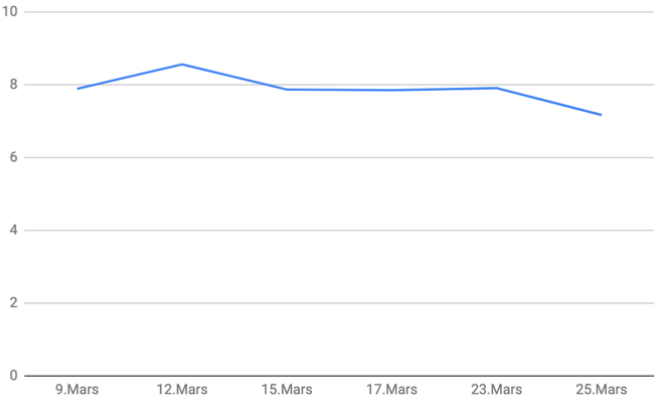
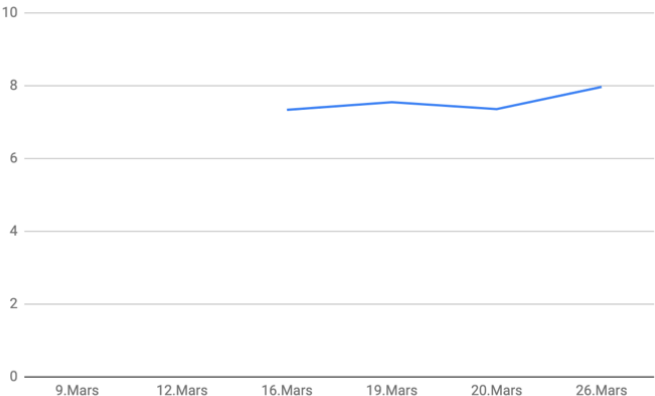


Figure 10
Student Entrepreneurs With a Startup:
Level of Meaning



Note. The minimum value for engagement varied from one to three. By visual inspection, it was easy to see that there was a large sample of participants who steadily reported between 8-10, while some participants varied between 1-5 and some between 3-8. The meaning was measured from 0-100. To fit this model the total level of meaning was divided by ten.

4.4 Predicting Student Entrepreneurs’ Entrepreneurial Optimism

A hierarchical multiple regression was run to determine to which degree engagement, meaning, optimism, and psychological health are related to entrepreneurial optimism (i.e., student entrepreneurs’ anticipation to continue in their startup one year from now). Table 8 illustrates the coefficients and p-values of each variable in the four hierarchical models.

Table 8
Hierarchical Multiple Regression Predicting Entrepreneurial Optimism

Variable	Entrepreneurial Optimism							
	Model 1		Model 2		Model 3		Model 4	
	B	β	B	β	B	β	B	β
Constant	27.383		-2.150		-11.875		32.609	
Engagement	7.004	.574	2.052	.168	2.810	.230	.922	.076
Meaning			.845	.529	.731	.458	.719	.451
Optimism					.727	.105	.325	.047
Psych Health							-22.130	-.290
R ²	.330		.445		.454		.510	
Adjusted R ²	.299		.392		.372		.407	
ΔR^2	.330		.115		.009		.056	
F	10.827		8.421		5.539		4.943	
ΔF	10.827		4.360		.321		2.177	
Sig. F Change	.03		.049		.577		.156	

For the interpretation of Table 8, there are four rows of particular importance; R², Adjusted R², ΔR^2 , and Sig. F change. R-square represents the variation in the dependent variable explained by the independent variables. Model 1 has an R-square value of .330, which can be interpreted that engagement scores account for 32.8% of the variance in entrepreneurial optimism scores. When meaning is added in Model 2, the value for R-square increased to .445 or 44.5%, i.e., the variance in entrepreneurial optimism scores, accounted for by two variables. The adjusted R-square adjusts for a bias in R-square, because R-square tends to overestimate the variance accounted for compared to an estimate that would be obtained from the population. There are two reasons for this overestimation. A large number of predictors and small sample size (Laerd, 2015).

ΔR^2 is a simple calculation of the change in R-square when adding a variable. For instance, when Model 2 is added ΔR^2 calculates this difference (i.e., .330 – .445 = .115). This can be interpreted that the addition of the variable *meaning* scores contributes 11.5% additional variance in the accounted score of entrepreneurial optimism. Sig. F change display whether the models are statistically significant. Using the following significance separation: Sig. < 0.1 weak evidence to suggest. Sig. < 0.05 some evidence suggesting that. And Sig. < 0.01 we have strong evidence to suggest, the models can be explained as follows.

Model 1 is the starting model and reflects the variable engagement compared to a model with no independent variables. With a p-value = .03. there is some evidence suggesting engagement

is correlated to entrepreneurial optimism. When adding the variable *Meaning* (Model 2) $R^2 = .330$ increased to $R^2 = .445$. The addition of meaning to the prediction of entrepreneurial optimism increase R^2 of .115, $F(1,21) = 4.360$, $p = .049$. This states there is some evidence suggesting that adding meaning to the model increases the prediction of entrepreneurial optimism. Furthermore, the addition of *Optimism* (Model 3) to the prediction of entrepreneurial optimism led to a slight increase in R^2 of .009, $F(1,20) = .321$, $p = .577$ and the addition of psychological health to the prediction of entrepreneurial optimism (Model 4) led to an increase in R^2 of .056, $F(1,19) = 2.177$, $p = .156$.

Due to the explorative objective of the thesis, the covariance between the variables has not been investigated in depth. Although, it makes sense that the variables covariates. The statistics are used as a base for discussion and conceptual development, not statistical reliance.³⁵

This concludes Model 4 has weak evidence to suggest. Nevertheless, the full model of engagement, meaning, optimism, and psychological health to predict entrepreneurial optimism (Model 4), $R^2 = .510$, $F(4,19) = 4.943$, $p < .007$ has weak evidence to suggest (see Appendix 5: ANOVA Table).

³⁵ Finalizing the thesis the author found out that the order in the hierarchical multiple regression could have been entered in a different order, as the variables may be correlated. Engagement as the most prominent and most interesting independent variable could have been entered last. Meaning could have been entered as number three. The question of the correlation of the variables is further commented in the discussion part of the thesis.

5 Discussion

This chapter discusses student entrepreneurs' well-being and its interplay with entrepreneurial activity. The discussion aims for suggesting a best practice in venture creation programs. A best practice is defined as a practice where student entrepreneurs experience optimal feelings and personal functioning – energized to persist in improbable tasks and positively change society. To motivate the field of entrepreneurship, and furthermore venture creation programs in a eudaimonic direction the chapter is written in a proposition-based style (Cornelissen, 2017). This implies that propositions are presented at the end of each subchapter. The propositions introduce possible new cause-effects and constructs. Doing so, multiple questions arise, and knowing where to draw the line and set scope constraints is challenging. Particularly, this is the case with a multidimensional construct such as well-being. Consequently, this chapter focus on three subjects. First, and foremost, the discussion sheds light on the subject that if student entrepreneurs find their startup as a source for well-being, they will get energized to persist in entrepreneurial activity. Secondly, it is discussed if there is a need for the construct; *entrepreneurial optimism* and if venture creation programs should teach student entrepreneurs an optimistic mindset. The third subject summarizes lessons learned using ESM and discusses if the method is a valuable method for advancing process-oriented research.

5.1 Energized by Well-Being

Viktor E. Frankl was a psychiatrist, Holocaust survivor, and the founder of logotherapy,³⁶ a school of psychotherapy that focus on meaning as the human driving force. At the core of logotherapy is the statement that those who have a *why* to live can bear with almost any *how*.

This section discusses the responses from the experience sampling method in the light of logotherapy, and the existential dimension *purpose in life*. The discussion is inspired by the statement that “entrepreneurship can be a source of personal fulfillment and satisfaction, which, in turn, can energize entrepreneurs to persist in improbable tasks that can become a force for a positive change in society” (Wiklund et al., 2019, p. 579).

³⁶ <https://www.britannica.com/biography/Viktor-Frankl>

5.1.1 Experience, Opportunity, and The Search

Students at NSE reports considerable variation of entrepreneurial experience before entering the program. The collected data reveals that students in a startup had on average more entrepreneurial experience than those without a startup (44.5 vs. 17.8).³⁷ These figures support existing literature stating that entrepreneurs who have been involved in starting up a new venture also seem to be more effective in starting up and managing their second and third venture (Wright et al., 1998). For most student entrepreneurs' their venture creation at NSE, will assumably be the first endeavor to create a venture.

All students at NSE can be categorized as opportunity entrepreneurs – i.e. wanting to start a business in order to pursue an opportunity (Block & Wagner, 2010). In contrast, necessity entrepreneurs pursue entrepreneurship because they need to. This distinction is essential as opportunity entrepreneurs have higher socioeconomic characteristics, pursue more profitable opportunities and determine success differently than necessity entrepreneurs (ibid).

In Table 4: Descriptive Statistics About the Sample, data show that a majority (88%) of all students at NSE have one parent with higher education. Approximately half report that both parents with higher education. In general, student entrepreneurs without a startup have parents with higher education. Student entrepreneurs with a startup have a higher percentage of entrepreneurs in their families. This may indicate that students find support and motivation in their parents' occupational choices. Nonetheless, almost all students in the sample (96%) report that they see themselves as future entrepreneurs. At the same time, numerous see themselves as a consultant or a manager (18 individuals) and an employee or other (7 individuals). This result sheds light on how Stevenson and Jarillo (1990, p. 23) definition is wide, process-oriented, and includes both self-employment and intrapreneurship. If entrepreneurs would be defined as “individuals creating innovative organizations that grow and create value, either for the purpose of profit or not.” (Gartner, 1990, p. 16), the response would probably be different (see Appendix 1: Entrepreneurship Definitions for more definitions).³⁸ Further on, there is the notion that the sample knew the author and might over-report, or attribute personality statements with socially desirable values. Being a part of NSE, it is natural that the students attending the study had the

³⁷ Entrepreneurial experience is measured simply by asking the question “How will you categorize your own level of entrepreneurial experience before entering the NTNU School of Entrepreneurship?”

³⁸ Reading literature on entrepreneurial well-being, it is crucial to investigate which definition the authors use both on entrepreneurship and well-being.

intention to be become an entrepreneur. On the other hand, the high percentage may also reflect that the title “entrepreneur” is popular among young individuals.

Knowing there are many “dark sides” of conducting entrepreneurial activity i.e., stress, challenges, long working hours, failure, and even grief (Shir et al., 2019), why do almost all student entrepreneurs want to pursue the journey? From the lens of eudaimonia, it might be because they know that the entrepreneurial journey can be a potential source of personal development and growth. Furthermore, entrepreneurial activity can lead to self-realization through purposeful, authentic, and self-organized activities (Ryff, 2019; Shir, 2015; Stephan, 2018), through autonomy and meaningful work (Shir et al., 2019). These benefits will ultimately affect student entrepreneurs’ well-being. In conclusion, the idea of eudaimonia is that student entrepreneurs pursue entrepreneurship, intentionally or unintentionally to achieve the best within themselves.

Figure 6 (Conceptual Foundation: The Psychological Well-being Model) comprises the existential dimension *purpose in life*. This dimension emphasizes the importance of having meaning, direction, and goals (Ryff, 2019). For non-entrepreneurs meaning, directions, and goals can be found in for example relations, children, activities, hobbies, and work. For the energized entrepreneur, there are reasons to believe that they find meaning, direction, and goals in their entrepreneurial activity as well. For some entrepreneurs, their work is an expression of their identity, shaped by their values, skills, and needs. The fortunate entrepreneurs find their work deeply meaningful, i.e., as ‘a calling’ rather than ‘just a job’ (Stephan et al., 2020). In the dimension of *purpose in life*, meaning is particularly highlighted. Those finding meaning, and furthermore goal and purpose in their entrepreneurial journey – get energized by purposeful engagement and resolves challenges and difficulties, during short or more extended periods.

Based on the view from eudaimonia, student entrepreneurs should therefore search for entrepreneurial endeavors that align with their purpose in life. Furthermore, they should choose their entrepreneurial activity from a life-span perspective. Those seeing their activity with this outlook will be more creative and productive in their endeavors (Ryff, 2019). In contrast, it is difficult to imagine an entrepreneur experiencing genuine well-being without seeing their journey aligned with their purpose in life. Assumably, student entrepreneurs’ not seeing their entrepreneurial activity aligned with their purpose in life will likely fail.

With meaning being such a central aspect in the eudaimonic well-being approach, item 11 in the GHQ-12 “Have you recently been thinking of yourself as worthless” is of interest. The response between the experimental group and the control group differs. Student entrepreneurs with a startup report near “Not at all”, while student entrepreneurs without a startup report closer to “No more than usual” (0.27 vs. 0.88). This result may indicate that student entrepreneurs with a startup find their startup meaningful in their present life. The startup may provide a sense of directness and objective for being a part of NSE. At the same time, student entrepreneurs with a startup report a higher feeling of being under constant pressure (1.6 vs. 1.25) and felt more that they “couldn’t overcome difficulties” (1.08 vs 0.63).

The assumption that student entrepreneurs ‘find meaning in being in a startup is based on how research on the dimension *purpose in life* is often separated in high and low. Individuals with high score report they have goals in life and a sense of directedness. They feel there is meaning to present and past life, and they hold beliefs that give life purpose and has objectives for living (Ryff, 2014).³⁹ Although the differences between the experimental group and the control group are small, item 11 shows an indication that being in a startup might give student entrepreneurs purpose in life.

Since meaning is a key aspect in the *purpose in life* dimension, it is interesting that the hierarchical multiple regression shows that the variable *engagement* led to the highest increased prediction of student entrepreneur’s anticipation to continue in their startup. The regression model indicates that student entrepreneurs report their anticipation to continue in the startup more on their current level of engagement, rather than how meaningful they find the startup. Discussions on the philosophy of science and epistemology are outside the scope of this thesis. Meaning is defined as a deep, future-oriented, and long-lasting feeling. Assumably, the level of meaning is more stable and intrinsically based. Engagement is defined as a day-to-day experience. Student entrepreneurs’ level of engagement will likely be affected by for instance peer- and faculty members’ recognition (Hahn, 2020), positive feedback from customers (Lechat & Torrès, 2017). In this sense, meaning is the navigating compass while engagement is the engine to go forward. Both elements increase eudaimonic well-being.

³⁹ Individuals with a low score lacks a sense of meaning in life. They have few goals or aims, lacks a sense of direction, and do not see purpose in a past life. They also have no outlooks or beliefs that give life meaning.

Meaning is a difficult construct to theorize and measure, and scientists are increasingly interested in more advanced measurements and dimensions of well-being, in contrast to mood, happiness, and satisfaction. With the increased interest in well-being, the author assumes meaning will be better assessed and measured in the future. This could moreover lead to better practice for assisting students to find startups that are meaningful.

At the same time, it makes sense that engagement is the variable with the highest prediction, since ESM by nature capture what people do, feel, and think in their daily life in real-time. Respondents answer prompts as soon as they get notified, with little time to reflect on their purpose in life.

A comment worth mentioning is that the result could be very different if the order on the independent variables would be different. The regression analysis is based on a linear relationship between the variables with coefficients as in Table 8. Predicting Student Entrepreneurs' Entrepreneurial Optimism, it could be that the relationship is not linear. For example, *meaning* could be curvilinear or even more like a step function.

Although the study lasted 19 days and student entrepreneurs' levels of engagement and meaning were measured irregularly. Viewing engagement and meaning from process-oriented assessment we can see that the last three days in the study, student entrepreneurs with a startup reported a decrease in engagement and an increase in meaning. There can be multiple reasons for such, particularly since the score of engagement and meaning is the average of all students participating in the study. Nevertheless, this is interesting for future process-oriented research. Are there specific situations between the student entrepreneurs and their surroundings, decreasing or increasing their level of engagement and meaning? Does the level of engagement change during the venture? How does the level of meaning evolve in the venture creation?

5.1.2 Not because it's easy

NSE has an unofficial slogan, *Not because it's easy*. The slogan supports the echo from the ancient Greeks, that the highest of all human good is not happiness, feeling good or satisfying appetites. It is about striving to achieve the best within us. While striving to achieve is related to eudaimonia, *easy* is clearly associated with the hedonic well-being approach. The easy way is to follow a path until challenges arise, continuously seeking pleasure and avoiding pain. When challenges arise, foreseen and unforeseen answers on why to persist and why solve these

challenges rise to the front of the entrepreneurs' agenda. From the existential dimension – *purpose in life*, student entrepreneurs finding their startup meaningful, and in the direction of their own life-span goals, could get energized to find solutions to the challenges. If, student entrepreneurs' find this source they will persist, pivot, bootstrap, and scramble towards sustainability and competitive advantage, as discussed next.

Eudaimonic well-being is associated with energy, vitality and focuses on self-realization and meaning. In contrast, the hedonic well-being is more passive and focuses on attaining pleasure and avoiding pain (Ryan & Deci, 2001). Although the exploration of the role that well-being plays in entrepreneurial management and performance has recently begun (Foo, 2011; Foo et al., 2009; Hahn et al., 2012), there are research showing that individuals profiting with energy uniquely from eudaimonic well-being increase entrepreneurs' personal initiatives i.e., performance, persistence, and innovativeness (Hahn et al., 2012). Such personal initiatives increase proactivity which is key in the face of uncertainty (Frese, 2009). Nevertheless, from a perspective of well-being, greater persistence should be aimed at one or few goals with synergy effects. If not, greater persistence can lead to goal conflict, as a commitment to many goals make people spread their resources thinner (Nes & Segerstrom, 2006). Thus, it is not the satisfied and content, but the energized entrepreneur who takes initiative (Hahn et al., 2012). Student entrepreneurs finding their entrepreneurial activity intrinsically motivating, as a journey that allows self-realization, directness, and a sense of meaning will generate energy and vitality (Stephan et al., 2020). It is the level of engagement and meaning that is at the core of the entrepreneurs' motivation (Shane et al., 2003). If entrepreneurs do find their entrepreneurial activity as a source of well-being, it can energize them to persist in improbable tasks, and become a force for a positive change in society (Wiklund et al., 2019).

5.1.3 Choosing Startup

For student entrepreneurs at venture creation programs starting, growing, and running an entrepreneurial venture is a part of the master program. The creation of a real-life venture is the primary learning vessel in the program. Recalling the overview of the NSE Master Program (Sample and Procedure), first-year students choose their startup in the end of the first semester. In the second semester the curriculum support and accelerate startups. The third and fourth semester NSE continue to provide resources to support and accelerate startups. Nonetheless, alongside a full academic workload.

If their first startup fails, it is the author's understanding that a small percentage of students find a new startup within the time attending NSE.⁴⁰ Not elaborating on the multiple reasons why startups fail, the point is that choosing a startup is difficult and potentially critical for entrepreneurial activity. Knowing from experience, how difficult the process of choosing a startup can be, a template for choosing a startup has been created.

The template is based on theory from entrepreneurial well-being, particularly with the eudaimonic approach, interpretations of the results in this study, previous knowledge in strategic management, and theory gathered from working in Mind. To develop a template that promote student entrepreneurs' finding their startup to be a source of well-being, three theoretical concepts have been integrated into the template. Two of the theoretical concepts has roots in strategic management; *Opportunity Recognition* and *Resource-Based View*. The third theory lies within positive psychology; *Character Strengths*.⁴¹ The template is based on the premise that the highest of all human good is feeling good and functioning well. Although, it is not the student entrepreneur feeling good, but the student entrepreneur functioning well who takes initiative for entrepreneurial activity. This energy comes uniquely from eudaimonic well-being i.e., meaning and engagement (Hahn et al., 2012). A teaching note on the theoretical concepts and a procedure to implement the template can be sent upon request.⁴² The template, similar to the rising field of entrepreneurial well-being, merges entrepreneurship theory and psychology – aiming for best practice.

Proposition: Venture creation programs that assist and promote student entrepreneurs in choosing startups, that are in alignment with their sense of directness, give meaning in the present, and give life a purpose – will increase student entrepreneurs' well-being and energize them to persist and become a positive change in society. Table 9 present a template for the process of selecting a startup.

⁴⁰ Discussing with peers for almost two years, there could be value for both NSE and students if there was a formalized attempt to get students into their second startup. A simple idea is, if faculty members invite for a session, voluntarily for students without a startup in September. There, students can find inspiration from faculty members and peers to try again and use the multiple possibilities of being a part of NSE.

⁴¹ Character strengths are a theory mainly associated with Christopher Peterson and Martin Seligman, two pioneers in positive psychology. The leader- and organizational development company Mind, where the author currently works, base its practice on this theory. The work on the template began last semester in the specialization course (see Figure 8).

⁴² Email: jp.svardahl@gmail.com.

Table 9
Choosing Startup

<p>Task # 1. Define entrepreneurial success <i>(Financial success, self-realization, well-being advancement, status, job satisfaction, innovation, independence, self-employed, etc.)</i></p>	<p>Task # 2. Why do you want to become an entrepreneur?</p>
<p>Task # 3. What is your timescale? <i>(Early exist, five years or a lifelong perspective)</i></p>	<p>Task # 4. Is this startup aligned with your sense of directness and purpose of life?</p>
<p>Task # 5. Which resources and capabilities do you possess?</p>	<p>Task # 6. What are your character strengths? <i>(https://www.viacharacter.org)</i></p>
<p>Task # 7. Compare individual answers with potential team members (similarities? differences?)</p>	<p>Task # 8. To which degree are our resources, competencies, and capabilities diverse?</p>
<p>Task # 9. Will the other team members support and acknowledge the use of your strengths?</p>	<p>Other remarks?</p>

Note. Tasks 1 to 6 are individual, 7 to 9 are with the potential team. To date, two students at NSE have used the template and found the draft valuable. Nevertheless, providing good feedback for iteration and encourage further development.

5.2 Entrepreneurial Optimism

This section discusses the idea framed as *entrepreneurial optimism*. Firstly, the role of an optimistic mindset was grounded in the result that student entrepreneurs with a startup, report on average a higher level of optimism than student entrepreneurs without a startup. This finding is used as a source for discussion. Secondly, there are reasons to believe that entrepreneurial optimism explains a context-specific phenomenon and can contribute to a larger create ontological and epistemological base in the field of entrepreneurship. Thirdly, research shows numerous benefits of being an optimist. Literature suggests that optimism has benefits not only for the student entrepreneurs' level of well-being but also for their entrepreneurial performance and persistence. This actuality is interesting for venture creation programs, as advancements in the field of psychology state that an optimistic mindset can be taught (Carver & Scheier, 2014; Peterson, 2000; Seligman, 2006).

It is important to note that the author relies on the premise that entrepreneurs come in all forms and can be formed by the right experiences, interventions, and contexts. Entrepreneurship is not an inborn trait only some individuals possess. It is the authors' view that entrepreneurial skills and mindset can be taught.⁴³

5.2.1 Creating A Context-Specific Concept

To this date, the literature uses “entrepreneurial optimism” simply when research on optimism is done on entrepreneurs (Fraser & Greene, 2006; Hmieleski & Baron, 2009; Liang & Dunn, 2008). Looking towards the future of entrepreneurial research, there are reasons to believe that entrepreneurial optimism, like entrepreneurial well-being, will develop into a distinct context-specific concept. Landstrom and Benner (2010) call out to entrepreneurship researchers to use theories from other research fields to invent and develop concepts, theories, and models. By doing so, the research field of entrepreneurship can explain distinctive entrepreneurship phenomena that theories from other disciplines simply cannot. Landstrom and Benner (2010) argues that entrepreneurship as a research field needs to establish its ‘own ontological and epistemological base.’ This is to define the boundaries of the field, but also to make theory-

⁴³ Especially, this is the case when the definition is wide and process-oriented such as the one used in this thesis: “A process by which individuals either on their own or inside organizations pursue opportunities without regard to the resources they currently control” (Stevenson & Jarillo, 1990, p.23). Similar to dispositional optimism, it is the authors believe that individuals are born with a dispositional ability to become entrepreneurs, but context and interventions can create entrepreneurs.

building possible and create legitimacy. The construct “entrepreneurial optimism” is a contribution to this call.

Remembering Shir’s model explaining entrepreneurs’ overall well-being (The Definition). Shir deconstructs entrepreneurs’ well-being into three components: subjective well-being (hedonic), psychological well-being (eudaimonia), and entrepreneurial well-being. Furthermore, Shir describes that despite the component’s interrelatedness, each of these three dimensions are conceptually and empirically distinct. Each dimension explains an important and unique portion of the entrepreneurs’ well-being (Shir, 2015).⁴⁴ Shir (2015) explains entrepreneurial well-being in contrast to SWB and PWB to be context-specific. A similar argument can be used on the construct of entrepreneurial optimism. While, the definition of optimism is “an individual difference variable that reflects the extent to which people hold *generalized* favorable expectancies for their future” (Carver et al., 2010, p. 879), entrepreneurial optimism should withhold the context-specific nature of the entrepreneurial activity, and thus it differs from the overall construct of optimism.

The overall construct of optimism has several related constructs, including hope, attributional style, self-efficacy (Carver & Scheier, 2014), trait anxiety, self-mastery, self-esteem (Scheier et al., 1994), passion (Cardon et al., 2009; Shane & Venkataraman, 2000) and probably many more. Not elaborating on differences and similarities between entrepreneurial optimism and other constructs, the following paragraphs point to arguments for why the construct of entrepreneurial optimism can advance research on entrepreneurial well-being.

Firstly, research on entrepreneurial well-being is unclear and fragmented (2.2.5 Measuring Entrepreneurial Well-Being). This inconsistency calls out for a need to collectively decrease the number of definitions, concepts, and theoretical frameworks used to explain entrepreneurs’ well-being and entrepreneurial well-being. Although differences and disagreements are beneficial to advance research, there seems to be too many in current literature and the research. This thesis supports that there is no shared base of knowledge on entrepreneurial well-being

⁴⁴ It’s interesting to think if this model is transferable to other fields and individuals with other life paths. Are entrepreneurs and entrepreneurial activity very different from carpenters and carpentering or managers and managing? Shir et al., (2019) argue that entrepreneurial work task engagement, unlike engagement in non-entrepreneurial work, is uniquely supportive of individuals' basic psychological needs as it allows them to organize their self-motivated behaviors at work, leading to higher well-being.

(Stephan, 2018). Alongside research on entrepreneurial well-being being nascent, nevertheless growing in entrepreneurship, there seem to be only a few researchers with great knowledge in both the field of entrepreneurship and psychology – who might be the researchers best suited to answer questions related to EWB.⁴⁵

The second argument is how this thesis uses entrepreneurial optimism, initially as an abbreviation for the “anticipation to continue in their startup one year from now”.⁴⁶ With the use of the hierarchical multiple regression, the statistical test showed a relation between the four predictor variables and entrepreneurial optimism. Based on the hierarchical multiple regression (Model 4), student entrepreneurs’ level of entrepreneurial optimism can be predicted by engagement, meaning, optimism, and psychological health, although with weak evidence to suggest. Nevertheless, this does provide a first model for future research on entrepreneurial optimism.

The model of entrepreneurial optimism integrates both eudaimonic well-being aspects i.e., meaning, direction, and goal, and the hedonic well-being aspect i.e., optimism. These aspects encompass a kind of intentionality that involves having aims and objectives for living. As proposing a definition might be too ambitious, some key elements are provided: anticipation, intentionality, entrepreneur, venture, future.

5.2.2 Teaching Entrepreneurial Optimism?

If optimistic individuals are more willing to persist in tasks, cope with stressful situations by remaining engaged in the goals and display accommodative coping when the adversity has to be endured – in general aspects of life. Isn’t an optimistic mindset therefore exceedingly important for student entrepreneurs’ trying to develop, start, grow and run a venture? Venture creation programs, such as NSE, have the objective to teach students entrepreneurial skills and mindset and use the ongoing creation of a real-life venture as the primary learning vessel. With contemporary research on optimism stating multiple benefits of being an optimist and easy and reliable measurement tools (LOT-R). Not to mention, the growing evidence supporting

⁴⁵ Although, there are some researchers rising to the task. Nadal Shir, Ute Stephan, Johan Wiklund, Marjan Gorgievski, Josette Dijkhuizen, Marc van Veldhoven and Boris Nikolaev to mention some.

⁴⁶ The timeframe of one year was chosen because first-year students will continue at NSE the upcoming year and many second-year students apply and receive a grant on 1MNok from FORNY StudENT. Many students will continue to work from campus. The application is due March 17th, which means the study in this thesis captured students while finishing the application.

optimism can be thought, the link between an optimistic mindset and student entrepreneurs is interesting.

Arguably, an optimistic mindset can function as an important resource for student entrepreneurs. Not the unrealistic kind of optimism which can increase harmful risk-taking behavior (Peters et al., 2010), ignore warning signs, and take unnecessary risks (Hmieleski & Baron, 2009). Neither, the kind of optimism which makes entrepreneurs overestimate the odds that they will succeed, and lead entrepreneurs to act against their best interest (Liang & Dunn, 2008). The type of optimism highlighted is the kind of optimism that is based on realism and leads to achievement. For those engaging in entrepreneurial activity entrepreneurs, optimism, yet realism about the future and expected performance of the venture is key (Crane & Crane, 2007; Liang & Dunn, 2008).

To change a person's overall outlook on life can be done, but it is not a simple matter (Carver & Scheier, 2014). Studies show that by writing 15 minutes about their best possible self, followed by five minutes of mental imagery participants were manipulated to positively think about the future, which leads to a significantly increased expectancies for a positive future (Peters et al., 2010). Meevissen et al. (2011) increased the timeframe of the study to last two weeks, and participants were asked to write about their best possible self in five minutes every day. These results indicate that the best possible self-imagery led to significantly larger increases in optimism as compared to daily activity imagery, after one session and over a two-week period. Meevissen et al. (2011) conclude the study with the remark that individuals can grow, at least temporarily, an optimistic mindset.

Maybe temporary is enough for student entrepreneurs to increase their experience level so they can be more effective in starting up and managing their second and third venture. In this way, maybe venture creation programs are exactly the context where manipulations on an optimistic mindset can be systematically structured and implemented. Teaching student entrepreneurs to have an optimistic mindset, or better yet have high entrepreneurial optimism, can in the worst case be interesting for research on entrepreneurial well-being. In the best case provide behavioral and physiological outcomes such as persistence and stress recovery and lead to more entrepreneurial activity.

Proposition: The context-specific construct of entrepreneurial optimism enhances the ontological and epistemological base of entrepreneurial well-being – and provides more common ground for the fragmented and rising field of research. The construct will have practical implications when researched alongside teaching student entrepreneurs an optimistic mindset. By doing so student entrepreneurs will increase their well-being and entrepreneurial activity.

5.3 The Use of The Experience Sampling Method

This section begins with lessons learned, using the innovative experience sampling method in the context of a venture creation program?⁴⁷ Followed, by a section highlighting the use of ESM in process-oriented research and in the context of a venture creation program.

5.3.1 Lessons Learned

ESM is a recent addition to entrepreneurship research (Uy et al., 2010), and to this date there seem to be few studies using the ESM on student entrepreneurs in the context of VCP's. Therefore, the current study is of particular interest to both researchers and educators. Nearly, ten years ago a typical ESM study lasted 1-2 weeks, during which participants responded 2-12 prompts per day (Napa Scollon et al., 2009). The study in this thesis expanded the timeframe to last 19 days, containing, no more than 2 prompts and 15 questions each day. Although one of ESM's strengths is to enable within-person processes, such as engagement and meaning to be investigated over time and in-depth, 19 days showed to be too short to see differences in the population.

The sample size in the study is considered modest (Uy et al., 2010). 44 participants in the startup session and between 24-36 participants in the notification-initiated sessions. The reason the size is considered to be modest is because of the amount of effort from participants. Since participants are required to respond multiple times during the study the total number of data points, is usually sufficient in statistical analyses. Depending on the size of the question battery and the number of repeatedly asked questions, the total number of data points also provides the possibility to note variations in participants within-person processes. 19 days proved to be enough time to inspect the level of engagement and meaning, on an individual level, although

⁴⁷ If ESM is still considered to be innovative is debatable, but there seems to be a modest amount of entrepreneurship literature using this method.

too short to identify triggers between person and situations. These variations are easily seen in the data gathered; however, they are more difficult to present.

The ESM enables to continuously gather dense data, which can show intricacies between persons and situations (Napa Scollon et al., 2009). For educators in venture creation programs, this is interesting because it can identify and isolate potential triggers for student entrepreneurs' feelings and behavior. Such triggers can be exemplified by feedback from faculty members, one startup receiving an immense grant, and internal competitions.

In addition, to investigate engagement and meaning from a process-oriented view, the study also asked numerous of different scientifically supported questions once or twice. Combining question batteries from various sources the study is innovative and explore entrepreneurial well-being in depth. Furthermore, the research aims for a better understanding of the interplay between entrepreneurship and well-being and to explores entrepreneurial well-being the ESM study showed to be rewarding. ESM, being a mixed method combining quantitative and qualitative research, finding the right statistical test was challenging. Based on Laerd Statistics⁴⁸ recommendation, the study relied on a hierarchical multiple regression. This regression model provided insight on relations between engagement, meaning, optimism and showed that these could work as a base for predicting entrepreneurial optimism.

Future researchers using the ESM in the context of VCP' s should note that even though Napa Scollon et al. (2009) highly recommend researchers to have a personal touch, there are limitations with this personal involvement. Indeed, the researcher will likely motivate participants to participate and complete the study. In contrast, the personal touch might also be the reason why four participants dropped out immediately after completing the startup-session. Addressing that participants might find it difficult to decline to be a part of the study when asked in person.

Another remark concerning the personal touch is how participants already in the startup-session had the possibility to enter their e-mail. The initial thought behind this possibility was to be able to trace participants' ID to their names and provide insight to individuals and teams

⁴⁸ <https://statistics.laerd.com/>

interested in well-being.⁴⁹ Of the 44 participants, 32 wrote their e-mail addresses. If replicated the author suggests excluding this e-mail option and keep the study completely anonymous. The reason being the fact that the personal touch combined with participants knowing their answers can be backtracked may lead participants to exaggerate and, or attribute personal statements with socially desirable values.

Napa Scollon et al. (2009) furthermore recommend researchers to be a part of the study, not necessarily included in the final data.⁵⁰ Researchers who are a part of the study will feel how the number of prompts affects the daily routine and can modify the study, to increase responses. Seeing real-time that the answer percentage was above 72, and personally not feeling the number of prompts demanding the author did not modify questions, content, order, or number of prompts. During the study no student reached out, commenting on the timespan or the demanding nature of the prompts.

When the study was finished LifeData provides the data to be easily downloaded to an excel-sheet. Surprisingly LifeData had collected coordinates i.e., GPS latitude and GPS longitude. Finding this geolocation disturbing and unethical the data was shredded immediately.⁵¹ This is a consideration to be aware of for future researchers using ESM – as this information was never asked for.

5.3.2 Process-Oriented Research in Venture Creation Programs

Almost ten years ago McMullen and Dimov (2013) proposed that alongside longitudinal methods being a hallmark in entrepreneurship research, a process-oriented approach should be an equal distinctive hallmark. They argued that process-oriented research is especially suited to collect ecologically valid data, on momentary and daily experiences whilst maintaining high internal validity. Process-oriented research offers a qualitatively different view on entrepreneurial phenomena's and there are two ways to do so: backward-looking⁵² and real-time longitudinal studies (McMullen & Dimov, 2013).

⁴⁹ Scanning the data collected, I first removed the email from the study, leaving a separate and possible backtrack if needed in the future. This backtrack has not been done.

⁵⁰ As the author is a student at NSE and has a startup being a part of the study was natural.

⁵¹ NSD and LifeData have been noticed.

⁵² Backward-looking involves selecting entrepreneurial journeys that have already been completed. Using extensive retrospective narratives and a variety of data sources historical methods are constructed. This requires a distinct set of skills and vast patience, but such studies can play a vital role in building a vibrant research ecosystem around entrepreneurial journeys. For more see e.g., McMullen and Dimov (2013).

To date, process-oriented research is surprisingly limited in volume (Davidsson & Gruenhagen, 2020), and examining the earliest stages of venture creation is an important but challenging task for entrepreneurship research (Davidsson & Gordon, 2011). Research applying real-time longitudinal approaches, in combination with the systematic, large-scale studies of the ongoing venture creation process – will contribute to important breakthroughs in the field of entrepreneurship (ibid).

The ESM study in this thesis conducted with assistance from LifeData. LifeData’s application “RealLifeExp” shows that today’s technology enables student entrepreneurs to simply implement the software in their smartphones.⁵³ Student entrepreneurs have few barriers to download the app, and never expressed the demanding nature of ESM to the author. This indicates that future ESM studies in the context of VCP’s can exceed 19 days, facilitating a fuller understanding of the interplay between student entrepreneurs’ well-being, performance, and anticipation to continue.⁵⁴ Although the findings on engagement and meaning only display simple graphs of engagement and meaning, the variation is interesting and calls out for more profound research. It is with process-oriented research we can advance our understanding concerning if there are variables or events which can lead student entrepreneurs to develop, start, grow, and run an entrepreneurial venture. With a fuller understanding of student entrepreneurs’ well-being and their anticipation to continue, gained by measuring multiple times, the venture creation program can facilitate better outcomes. A better outcome can for instance be measured in funding received, number of employees in the startup, number of startups developing to scale-ups, or student entrepreneurs’ level of well-being.

Proposition: The experience sampling method combined with advancements in technology enables an improved understanding of within-person processes such as well-being. The method also empowers the prospect of identifying triggers between persons and situations, making the method attractive for researchers to better advise educators and policymakers.

⁵³ The software solution “RealLifeExp” and costs 11.500 NOK for one year. A handful of participants commented that they thought the user interface was easy and elegant and that they thought the process of downloading and using the app was convenient. None of the student entrepreneurs in this study questioned implementing new technology and no participant reported that they were bothered by the prompts.

⁵⁴ Variables of interest should spread out over the entire study. In the current study, *meaning* was asked the second week, weakening the process-oriented view.

6 Conclusion

This thesis advances the nascent, fragmented and growing field of entrepreneurial well-being. To date, there is a modest amount of research linking well-being to student entrepreneurs in venture creation programs. Research in the context of venture creation programs using a eudaimonic well-being approach is nonexistent. This thesis answer researchers' call for investigating the interplay between well-being and entrepreneurial activity, particularly with the eudaimonic well-being approach, and in the earliest stages of venture creation.

Using the experience sampling method, provided by LifeData, and their smartphone application "RealLifeExp," the results indicate several associations, thus answering the first research question. The LOT-R test indicates that student entrepreneurs with a startup has a higher level of optimism than student entrepreneurs without. Furthermore, the GHQ-12 displays that student entrepreneurs with a startup, report that they feel more pressure and have felt more that they could not overcome difficulties than student entrepreneurs without a startup. At the same time student entrepreneurs with a startup report lower, when asked if they feel worthless, compared to student entrepreneurs without a startup. From the existential dimension *purpose in life*, this is understood as student entrepreneurs seeing their startup as meaningful in the present life, a sense of directness, and an objective of being a part of NSE.

From the process-oriented view on engagement and meaning, we see that the aspects are closely associated. With meaning being a key aspect in the *purpose in life* dimension, it is interesting that the hierarchical multiple regression shows that the variable *engagement* led to the highest increased prediction of student entrepreneur's anticipation to continue in their startup, not *meaning*. Additionally, the hierarchical multiple regression model answers the second research question if we can "predict student entrepreneurs' anticipation to continue in their startup one year from now, based on their level of well-being." The full model (Model 4) of engagement, meaning, optimism, and psychological health to predict *entrepreneurial optimism* has weak evidence to suggest. Hence, we cannot conclude that the variables are strongly related to the responses, but for the purpose of prediction, we have evidence to suggest that the models are better than no model.

6.1 Contributions and Implications

Recalling, that best practice is defined as a practice where student entrepreneurs experience optimal feelings and functioning in their entrepreneurial activity, the thesis concludes with four contributions to the field of entrepreneurship: two practical and two theoretical.

6.1.1 Practical Implications

The six-factor model for psychological well-being and the existential dimension *purpose in life* creates the overall conceptual framework for the template “Choosing Startup”. The template is based on theory from entrepreneurial well-being, where it is not the satisfied and content, but the energized entrepreneur who takes initiative. Moreover, the theoretical concepts supporting the template lies within strategic management and positive psychology.

This thesis also sheds light on contemporary research on optimism stating multiple benefits of being an optimist and the growing evidence supporting optimism can be thought. With venture creation programs such as NSE, having the objective to teach student entrepreneurs skills and mindset, an optimistic mindset can function as a resource to persist in entrepreneurial activity. Although changing a person’s overall outlook on life is not a simple matter, temporary change can be done by mental imagery for not more than five minutes a day. Teaching student entrepreneurs’ an optimistic mindset will increase their well-being and entrepreneurial activity.

6.1.2 Theoretical Implications

This thesis demonstrates the need for an ontological and epistemological base for research within entrepreneurial well-being. The field of entrepreneurial well-being is fragmented, nevertheless growing and researchers must create more common ground to advance the field further. The context-specific construct of *entrepreneurial optimism* explains the distinctive entrepreneurship phenomena of anticipation, intentionality, venture, and future.

Finally, the thesis provides insight using the ESM in the context of VCPs. The ESM enables process-oriented research in real-life settings and offers high ecological validity. Advancements in technology facilitate an improved understanding of within-person processes and enable the possibility to identify triggers between persons and situations. Therefore, venture creation programs are encouraged to use the ESM to facilitate better outcomes, either measured in funding received, number of employees in the startup, company growth or student entrepreneurs’ level of well-being, or other.

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Appendix 1: Entrepreneurship Definitions

The field of entrepreneurship lacks a well-accepted definition (Landstrom & Benner, 2010; Shane & Venkataraman, 2000). Landström and Bounfour (2008) divide entrepreneurship definitions in two main streams: The emergence of new organizations (i.e., entrepreneurship starts when the entrepreneur makes the decision to start a company and ends when the entrepreneur has obtained external resources and created a market niche) and the emergence of opportunities.⁵⁵ The table below presents other definitions than Stevenson and Jarillo, used in the thesis. With entrepreneurial well-being being a highly inconsistent terminology in literature it is the author conclusion that a clear definition both concerning entrepreneurship, the entrepreneurs and entrepreneurial well-being should be presented clearly in research.

Table 10
Definitions on Entrepreneurship

Definition	Source
Entrepreneurship as an occupational choice of individuals to work for themselves on 'their own account and risk'.	(Hébert & Link, 1982 in Gorgievski and Stephan (2016).
Entrepreneurship is about entrepreneurial individuals creating innovative organizations that grow and create value, either for the purpose of profit or not.	(Gartner, 1990, p. 16).
Entrepreneurship as a scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated and exploited.	(Shane & Venkataraman, 2000, p. 218).
Entrepreneurial people in large companies, in the public sector, in academia and, of course, those who launch and grow new companies.	(Wilson et al., 2009, p. 7)
Entrepreneurship is defined as the application of enterprise skills specifically to creating and growing organizations in order to identify and build on opportunities.	(Lockyer & Adams, 2014, p. 3)

⁵⁵ Stevenson and Jarillo (1990) divide the research streams in entrepreneurship in three; what happens when entrepreneurs act: why they act; and how they act. I prefer the simplification done by Landström.

Appendix 2: The Recruitment Flyer

Jean Philip Svartdahl

Thursday, 4 March 2021

TODAY NEWS

Want to maintain or achieve higher well-being?


Why?

- Insight, knowledge og strategies for accelerate well-being.
- Tools to develop the teams well-being and performance.
- Improve the School of Entrepreneurship.

When?

The study starts 8. Mars and last 19 days.

How?

1. Download the App: Real Life Expo
2. Allow notification
3. Search for Life Pak:  NTNUs School of Entrepreneurship
4. Download the Life Pak
5. Sign Up
6. Type in the code: ES2021
7. Reply to the questions for 19 days.
8. Attend the seminar

Well-being is about optimal experience and function. Research uses the following distribution:

50% of your well-being is due to your genes.

40% is due to your thoughts and actions.

10% is due to the real events happening in your life.

You can accelerate the 40%

A valuable master's thesis

The master's thesis is written in collaboration with MIND and the data collection tool is financed by TrønderEnergi Bidraget. MIND contributes with competence in positive psychology. TEB enables an unusual choice of method.

The examination takes a **total of 25 min**. The first day, downloading the app and introductory questions takes **5-7 minutes**. Then you will be notified on the phone once or twice a day. A notice contains some questions about well-being, commitment and startup and takes 1-2 min.

When the survey is finished and Easter break has helped to charge the batteries, you will be offered to participate in the seminar "The Science of Well-Being" which takes place at the end of April.

The seminar focuses on "What elements really increase quality of life" and "How to put strategies into practice".

Appendix 3: Full Overview of The Study

Date	6.3*	7.3*	8.3	9.3	10.3	11.3
Topic / Time	Promotion Video (11:00) Recruitment Flyer (11:05)	Reminder (13:00)	Health (15:00)	Faculty Members (10:00) Engagement (15:00)	Covid-19 (09:00)	Burnout (10:30) Cocktail (17:00)
	12.3	13.3	14.3	15.3	16.3	17.3
	Optimism (11:00) Engagement (15:00)	Burnout (13:30)	GHQ-12 (12:30)	Engagement (09:00) Health (15:00)	Burnout (10:30) Meaning (14:00)	Engagement (09:00)
	18.3	19.3	20.3	21.3	22.3	23.3
	Burnout (13:30)	Meaning (10:40) Cocktail (17:00)	Meaning (14:00)	GHQ-12 (12:30)	Burnout (09:30) Health (15:00)	Engagement (11:30)
	24.3	25.3	26.3			
	Burnout (09:30)	Engagement (11:30)	Meaning (10:40) Cocktail (17:00)			

* The study began the 8th of March. The days in advance show that the promotion video and the recruitment flyer was posted on internal communication channels (i.e., Facebook and Slack). The 7th was a reminder to re-post the information on how to download the app.

Appendix 4: Full Overview of Questions in the Study

Session	Construct	Construct Description (Question)	Measurement
Background Information	Gender	Which gender are you?	Male / Female / Other (3)
	Age	How old are you?	Number wheel (20-40)
	Status	What is your relational status?	Single / Other (2)
	Education Background	What have you previously studied?	Business / Social Science / Engineering (3)
	Education Year	Which year are you currently studying at the School of Entrepreneurship?	4th year / 5th year (2)
	Definition Entrepreneur	Do you see yourself as a future entrepreneur (i.e., an individual who either on their own or inside organizations pursue opportunities without regard to the resources they currently control)?	Yes / No (2)
	Parents with higher education	Does one of your parents have a higher education? (Higher education is defined as at least having a bachelor's degree).	Yes / No (2)
		Does both of your parents have a higher education (Higher education is defined as at least having a bachelor's degree).	Yes / No (2)
	Entrepreneurs in family	Do you have entrepreneurs (individuals who either on their own or inside organizations pursue opportunities without regard to the resources they currently control) in your family (grandparents, parents, siblings, uncle or aunts)?	Yes / No (2)
	Entrepreneurs in family	Who in your family are entrepreneurs?	Grandmother / Grandfather / Mother / Father / Brother / Sister / Uncles / Aunts (Multiple box)
	Financial Safety	In which category do you see your own family?	Upper Class / Upper Middle Class / Lower Middle Class / Working Class / Poor (5)
	Emotional Safety	If you fail your startup, now or in the future - will your family support you financially?	1=to a very small extent... 5 = to a very large extent
	Startup	Are you in a startup?	Yes / No (2)
Startup	What is the name of your startup? (If you don't have one, write a short comment on why)	Free text	

	Startup	How many individuals work in your startup? (Founders, part time employees and apprentices included)	Number wheel (1-50)
	Part time job	Do you have a part time job, next to your startup and/or school?	Yes / No (2)
	Part time job	How many hours a week do you work in your part-time job?	Number wheel (1-50)
	Entrepreneurial Experience	How will you categorize your own level of entrepreneurial experience before entering the School of Entrepreneurship?	1=to a very small extent, 2=to a small extent, 3=somewhat, 4=to a large extent 5=to a very large extent
	Future Entrepreneur	What do you see yourself becoming?	Business Consultant / Manager / Entrepreneur / Other (4)
	Email	This survey is anonymous. However, the survey might give you valuable insight about you as an individual and your team. If you find well-being interesting and would like further follow-up to leave your email. If not - press skip.	Free text
Optimism	LOT-R	In uncertain times, I usually expect the best.	0 = Strongly disagree/ 1 = Disagree 2= Neutral/ 3= Agree / 4 = Strongly agree
		It's easy for me to relax.	(“)
		If something can go wrong for me, it will.	(“)
		I'm always optimistic about my future.	(“)
		I enjoy my friends a lot.	(“)
		It's important for me to keep busy.	(“)
		I hardly ever expect things to go my way.	(“)
		I don't get upset too easily.	(“)
		I rarely count on good things happening to me.	(“)
		Overall, I expect more good things to happen to me than bad.	(“)
Covid-19	Covid-19 and Optimism	Covid-19 has influenced my startup in a beneficial way	1=completely disagree, 2=disagree, 3=neither agree, nor disagree, 4=agree, 5=completely agree
	Covid-19 and Optimism	Covid-19 create more opportunities than obstacles for my startup	(“)
Faculty Members	Empowering leadership	The faculty members value each individual	1=completely disagree, 5=completely agree
	Connecting leadership	The faculty members ensures that all teams receive the same amount of help	(“)

	Connecting leadership	The faculty members promote a strong team spirit	(“)
	Inspiring leadership	The faculty members make us feel that we contribute to something important	(“)
	Inspiring leadership	The faculty members are able to provide relevant tips for my startup	(“)
Psychological Health	GHQ-12	Have you recently been able to concentrate on what you're doing?	0 = Better than usual... 3 = Much less than usual
		Have you recently lost much sleep over worry?	0 = Not at all... 3 = Much more than usual
		Have you recently felt you were playing a useful part in things?	0 = More so than usual... 3 = Much less useful
		Have you recently felt capable of making decisions about things?	(“)
		Have you recently felt constantly under pressure?	0 = Not at all... 3 = Much more than usual
		Have you recently felt you couldn't overcome your difficulties?	(“)
		Have you recently been able to enjoy your normal day-to-day activities?	0 = More so than usual... 3 = Much less useful
		Have you recently been able to face up to your problems?	(“)
		Have you recently been feeling unhappy and depressed?	0 = Not at all... 3 = Much more than usual
		Have you recently been losing confidence in yourself?	(“)
		Have you recently been thinking of yourself as a worthless person?	(“)
		Have you recently been feeling reasonably happy, all things considered?	0 = More so than usual... 3 = Much less useful
Health	Sleep	The last week I have had trouble sleeping	0 = Not at all... 3 = Much more than usual
	Stress	Did you during the past week suffer from stress symptoms such as headache, dizziness, muscle pain, palpitations or nausea?	(“)
Engagement	Engagement	How interested are you in what you are doing?	Number wheel (10)
		How absorbed are you in what you do?	(“)

		How enthusiastic are you about the startup, and what you are doing?	(“)
		In my startup, I feel strong and energetic	1= Strongly Disagree... 5 = Strongly Agree
		I am enthusiastic about my startup	(“)
		I am engaged in my startup	(“)
Meaning	Meaning	All in all, to what extent do you find that what you do in life meaningful?	Number wheel (0-10) (Not meaningful - Very Meaningful)
		Do you think that your life is mostly rich and rewarding, or do you think it is mostly empty and boring?	(“)
		To what extent do you experience that what you do in life is meaningful?	(“)
		I find my startup meaningful	(“)
Burnout	Burnout	I doubt the significance of my startup	1=never... 5=always
		I feel burned out from my startup	(“)
		I feel used up at the end of the day	(“)
	Boredom	I feel bored in my startup	(“)
Cocktail	Venture Progress	How will you evaluate the progress of your startup the last week?	Number wheel (1-10) Very Dissatisfied – Very Satisfied
	Work-Life Conflict	Do you have trouble balancing startup and private life?	1=never... 5=always
	Entrepreneurial Optimism	I really hope I will work with this startup one year from now.	Number wheel (1-10) Definitely Not - Definitely

Appendix 5: ANOVA Table

In the hierarchical multiple regression model, each model is simply a standard multiple regression with the specific variables that have been entered into the model. As such, each model can be evaluated as to whether it statistically significantly predicts the dependent variable. This information is contained in the ANOVA table, as shown below.

Table 11
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	3511.184	1	3511.184	10.827	.003 ^b
	Residual	7134.555	22	324.298		
	Total	10645.740	23			
2	Regression	4737.872	2	2368.936	8.421	.002 ^c
	Residual	5907.868	21	281.327		
	Total	10645.740	23			
3	Regression	4831.192	3	1610.397	5.539	.006 ^d
	Residual	5814.547	20	290.727		
	Total	10645.740	23			
4	Regression	5428.877	4	1357.219	4.943	.007 ^e
	Residual	5216.862	19	274.572		
	Total	10645.740	23			

a. Dependent Variable: Entrepreneurial Optimism.

b. Predictors: (Constant), Engagement

c. Predictors: (Constant), Engagement, Meaning

d. Predictors: (Constant), Engagement, Meaning, Optimism

e. Predictors: (Constant), Engagement, Meaning, Optimism, Psychological Health

From the ANOVA table that all models are significant, and the full model of engagement, meaning, optimism and psychological health to predict entrepreneurial optimism (Model 4), $R^2 = .510$, $F(4,19) = 4.943$, $p < .007$ has weak evidence to suggest. Hence, we cannot conclude that the variables are strongly related to the responses, but for the purpose of prediction we have evidence to suggest that the models are better than no model.

