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Master thesis

Work Stress and Coping Behavior of High-Tech Start-Up Entrepreneurs

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Executive summary

Entrepreneurship is associated with individual, organizational and societal benefits as it provides entrepreneurs with decision authority, creates employment and produces high-quality innovations. However, starting a business also involves high job demands. Entrepreneurs are often confronted with work overload, long working hours and many risks and uncertainties. These demands could lead to work stress or burnout as a consequence of chronic stress.

Even though entrepreneurs experience these great job demands, several studies have claimed that entrepreneurs are able to deal with these demands through their control, social support and associated coping behavior. This thesis aims to provide nuanced insights into the interplay of job demands, control, social support, work stress and coping behavior of entrepreneurs. The study focuses specifically on high-tech entrepreneurs in the start-up process.

The study uses the validated Job Demand Control Support (JDCS) model as a theoretical basis to explore entrepreneurs' job demands, control and social support, individual-level and performance-related consequences of stress, and coping behaviors. Furthermore, the study considers entrepreneurs' personal characteristics, such as identity type and personality traits, as recent studies have shown that these personal characteristics could influence entrepreneurial work stress and coping behavior.

An explorative qualitative approach was used in the course of individual face-to-face sessions with 16 high-tech IT start-up entrepreneurs from the region of Twente in the Netherlands. In the sessions, a grid, storytelling technique and semi-structured interview were performed. Furthermore, objective information about the entrepreneurs was collected and an established scale for measuring burnout (Maslach's Burnout Inventory) was used. The qualitative data were analyzed using the adaptive theory.

The findings show that the high-tech start-up entrepreneurs experienced a great amount and variety of job demands in their work life. Most often-mentioned entrepreneurial job demands were the many responsibilities, work quantity and the business immersion in their private life. In turn, the entrepreneurs claimed to be in control in their work life as they experienced great decision authority and skill discretion. However, while they were the ones to make all decisions regarding their ventures, their choices were limited by co-workers, rules, regulations and business partners. The entrepreneurs were able to receive social support from co-founders, employees, family, friends and start-up communities. Family and friends could often only provide instrumental help if they had prior entrepreneurial and/or high-tech experience. Entrepreneurs used their control and social support to deal with high job demands.

The entrepreneurs claimed that stress experiences could negatively impact their individual and business-related performance as it could block creativity, innovation and decision-making. They used problem-focused and emotion-focused coping strategies to deal with stress and its negative consequences. For example, they focused on dealing with the (source of the) stress and on finding a suitable solution, or

they tried to deal with their emotions as they engaged in distracting activities such as sports or meditation. In the coping behavior, they used diverse coping resources to lower stress and enhance well-being. They used their high control to change a stressful situation as a form of problem-focused coping. Furthermore, they utilized social support, work breaks, leisure time and vacation in both problem-focused and emotion-focused coping. These resources could help them to find instrumental aid, advice or new perspectives to deal with (the source of the) stress and could help them to deal with their negative emotions. Experienced entrepreneurs were able to use a greater variety of coping strategies and resources, compared to entrepreneurs without prior experience.

Interestingly, in the findings, the entrepreneurs without prior experience or co-founders experienced stronger burnouts symptoms. Also entrepreneurial identity types and personality traits seemed to play a role in the work stress and coping behavior of entrepreneurs. For example, compared to Darwinians, Communitarians had moderate burnout scores, which could be explained by their high social support and lower control. Furthermore, the coping behavior of experienced entrepreneurs seemed to depend on personality traits. For example, experienced entrepreneurs with an innovative personality used innovative ways of coping with stress.

Based on the findings, the study presents an extension of the JDCS model: the Job Demand Control Support Plus (JDCS+) model. This JDCS+ model provides enrichments relevant to the entrepreneurial context as it encompasses a greater diversity of job demands, provides a more nuanced overview of control and includes social support outside the work environment. Furthermore, besides control and social support, it extends the model to also include time outs from work as a third coping resource. At last, the model enriches the JDCS model's focus on job design to include entrepreneurial personal characteristics, such as identity type and personality traits.

This study contributes to both theory and practice. First, the study contributes to theory on entrepreneurial health and well-being by applying the JDCS model to the entrepreneurial context. Specifically, this study provides nuanced insights in the job demands, control and social support of high-tech entrepreneurs in the start-up process. Second, the study contributes to research on work environment and health as it enriches the JDCS model to consider personal characteristics, such as identity types and personality traits. The original JDCS model only involves job characteristics, even though personal characteristics also play a role in work stress and coping behavior. Finally, the findings contribute to practice by showing entrepreneurs that, even though stress is a part of entrepreneurship, they are able to deal with it when they use the appropriate coping resources. The study provides an overview of entrepreneurial coping strategies and resources and how these can be used to deal with entrepreneurial stress. Furthermore, it shows how organizations could create a healthy job design to stimulate entrepreneurial behavior among employees.

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List of abbreviations

- ERI: Effort Reward Imbalance

- JDCS: Job Demand Control Support

- JDCS+: Job Demand Control Support Plus

- JDR: Job Demand Resources

- MBI: Maslach's Burnout Inventory

- PE: Person-Environment

1. Introduction

Entrepreneurship is considered to be an attractive career choice, since it is associated with decision authority (Patzelt & Shepherd, 2011) and variety in work tasks (Dijkhuizen, Gorgievski, van Veldhoven, & Schalk, 2016; Sevä, Vinberg, Nordenmark, & Strandh, 2016). Furthermore, entrepreneurship is linked to individual, organizational and societal benefits (Bosma, 2013; Van Praag & Versloot, 2008). For example, entrepreneurs experience more positive emotions (Cardon, Wincent, Singh, & Drnovsek, 2009), have higher job satisfaction (Hytti, Kautonen, & Akola, 2013; Prottas & Thompson, 2006) and are more personally committed to the organization (Felfe, Schmook, Schyns, & Six, 2008). On a general level, entrepreneurs create employment and high-quality innovations (Bosma, 2013; Van Praag & Versloot, 2008). As such, entrepreneurship contributes to collective wealth and stimulates a dynamic economy (Lorrain & Laferté, 2006; Stewart & Hoell, 2016).

The popularity of entrepreneurship is visible. The number of business ventures in the Netherlands is steadily growing (CBS, 2015, 2016) and increasing amounts of programs are developed to encourage and support entrepreneurial activities (see e.g. Google For Entrepreneurs, 2017; Rockstart, 2016). However, despite its popularity and benefits, entrepreneurship also has its downsides.

Starting a business is associated with high job demands. Entrepreneurs are usually confronted with work overload (Baron, Franklin, & Hmieleski, 2016), role conflicts (Wincent & Örtqvist, 2009), scarcities of resources (Baron, 2010; Paternoster, Giardino, Unterkalmsteiner, Gorschek, & Abrahamsson, 2014) and high levels of risk and uncertainty (Dijkhuizen, Van Veldhoven, & Schalk, 2014; Patzelt & Shepherd, 2011). These demands can lead to work stress or burnout as an outcome of chronic stress (Jamal, 2007). In fact, entrepreneurship is argued to be one of the most stressful occupational choices (Uy, Foo, & Song, 2013). According to Buttner (1992), entrepreneurs experience more stress because they work alone, lack support from colleagues and must deal with the consequences of their mistakes while fulling different roles simultaneously (e.g., recruiter, spokesperson and boss). Work stress can lower entrepreneurs' productivity and performance (Shepherd, Marchisio, Morrish, Deacon, & Miles, 2010; Tennant, 2001) and it exposes them to physical and mental health risks (Cardon & Patel, 2015). For example, stress can cause illness (Stephan & Roesler, 2010), exhaustion and fatigue (Shepherd et al., 2010; Van Yperen & Janssen, 2002) and behavioral problems such as absence (Darr & Johns, 2008).

Interestingly, however, there are also contradicting findings on entrepreneurial stress. Some scholars claim that entrepreneurs experience less work stress as they are able to tolerate or effectively manage stress (Baron et al., 2016). Entrepreneurs are able to effectively use coping strategies in dealing with work stress, as they have the decision authority to change their work context (Patzelt & Shepherd, 2011). Hence, even though entrepreneurs experience many job demands, they may be able to deal with these

demands through coping behavior. As a response to calls of recent studies (Cardon & Patel, 2015; Uy et al., 2013), this study aims to provide nuanced insight into the work stress and coping behavior of entrepreneurs.

Specifically, this study focuses on the work stress and coping behavior of high-tech entrepreneurs in the start-up process. High-tech firms are of importance as they are necessary to foster general economic growth. Technology start-ups and technology clusters can transform and revitalize regional economies as they create economic competitiveness, wealth and employment (Delgado, Porter, & Stern, 2010; Feldman, Francis, & Bercovitz, 2005; Hospers, Sautet, & Desrochers, 2008; Saxenian, 2006). However, as the high-tech industry is a dynamic and uncertain environment (Rauch & Hatak, 2016), high-tech entrepreneurs encounter many risks and uncertainties (Kunda, 2009; Malakh-Pines & Èzbilgin, 2010). Furthermore, the entrepreneurial start-up phase specifically involves great demands as failure rates are up to sixty percent within the first five years of a venture (Carree & Verheul, 2012; Trimi & Berbegal-Mirabent, 2012). Hence, high-tech start-ups form an interesting context to study entrepreneurial stress and coping behavior.

To provide a better understanding of the stress and coping behavior of high-tech start-up entrepreneurs, the validated Job Demand Control Support (JDCS) model by Karasek (1979) is used as the theoretical basis for this study. The JDCS model focuses on the balance between workers' job demands and the amount of control and social support they have to deal with these demands. According to this model, stress arises from high job demands, low control and low support (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010). Even though the model is validated across a variety of populations (Mark & Smith, 2008; Van der Doef & Maes, 1999), it has not yet been applied in the entrepreneurial high-tech start-up context.

The JDCS model explains work stress based on a job design of demands, control and social support. Interestingly, however, recent studies also emphasize the role of entrepreneurs' personal characteristics in work stress and coping behavior (Berglund, Johansson Sevä, & Strandh, 2016; Grant & Ferris, 2012; Hatak, Rauch, Fink, & Baranyi, 2015). Therefore, this study also considers entrepreneurs' personal characteristics. Three types of entrepreneurs are distinguished, based on the social categorizations that they create in the start-up process and the meaning they associate with being entrepreneurs (Fauchart & Gruber, 2011; Sieger, Gruber, Fauchart, & Zellweger, 2016). Furthermore, six entrepreneurial personality traits are considered as they could also influence entrepreneurial experiences and behaviors (Rauch & Frese, 2007, 2014).

With the JDCS model as a theoretical basis, the goal of this research is to provide nuanced insights into the work stress of high-tech entrepreneurs in the start-up context by exploring their work-related demands, control and social support, the individual-level and performance-related consequences of stress, and their coping behaviors.

The central research question is as follows:

How do entrepreneurs of high-tech start-ups experience work stress in the start-up process?

The sub questions are as follows:

1. *What job demands do high-tech entrepreneurs experience in the start-up process?*
2. *How do high-tech entrepreneurs experience control in the start-up process?*
3. *How do high-tech entrepreneurs experience social support in the start-up process?*
4. *What are the individual and performance-related consequences of stress for high-tech entrepreneurs in the start-up process?*
5. *How do high-tech entrepreneurs cope with stress in the start-up process?*

In this research, individual face-to-face sessions took place with 16 high-tech IT start-up entrepreneurs from the region of Twente (the Netherlands). The study adopted an explorative qualitative approach to go into depth about the job demands, control, social support, stress, consequences and coping behavior of the entrepreneurs. Specifically, a grid, storytelling technique and semi-structured interview were used. The qualitative data were analyzed using the adaptive theory by Layder (1998). The adaptive theory incorporates both inductive and deductive theory in the coding process (Timmermans & Tavory, 2012). To complement these qualitative findings, objective information about the entrepreneurs was collected and an established scale for measuring burnout (Maslach's Burnout Inventory) was used. This data triangulation provided the opportunity to compare findings from different sources of information (Bryman & Bell, 2015).

This research contributes to research and practice in several ways. First, the study contributes to literature on entrepreneurial health and well-being by applying the JDCS model to the entrepreneurial context. Specifically, the study provides nuanced insights in the job demands, control and social support of high-tech entrepreneurs in the start-up process. Second, the study contributes to the literature on work environment and health as it enriches the JDCS model to consider personal characteristics, such as identity types and personality traits. Finally, the findings contribute to practice by helping entrepreneurs understand that, even though stress is a part of entrepreneurship, they are able to deal with it when they use the appropriate coping resources (Cardon & Patel, 2015; Patzelt & Shepherd, 2011). The study provides insights into how coping strategies and resources can be used to deal with entrepreneurial stress. For example, it shows how entrepreneurs could profit from joining an entrepreneurial network as other entrepreneurs with experience are able to provide useful social support in stressful situations.

This thesis consists of six chapters. Chapter 2 provides the theoretical framework. The theoretical framework focuses on work stress and burnout, entrepreneurial stress and entrepreneurial characteristics. Chapter 3 describes the research design. It discusses the unit of analysis, research methods, procedures and analysis. Chapter 4 presents the findings of the study, structured along the five

sub questions. In Chapter 5, the findings are discussed against prior literature and an extension of the JDCS model is presented: the JDCS+ model. Chapter 6 discusses theoretical contributions, practical and policy contributions, limitations of the study and suggestions for future research.

2. Theoretical framework

This theoretical framework provides an overview of theory to establish a coherent understanding of entrepreneurial stress and coping behavior. First, work stress and burnout are explained. Second, several stress models are discussed, after which the Job Demand Control Support model is described in more detail. Entrepreneurial stress is discussed based on earlier literature on entrepreneurial job demands, control, social support, consequences and coping behavior. Finally, entrepreneurial characteristics, social identity types and personality traits, are elaborated upon.

2.1 Work stress

2.1.1 Work stress and job burnout

In the life of an adult, work is one of the most common sources for stressful experiences. The working environment is continuously changing due to globalization, job restructuring and extensive workloads. At the same time, people deal with higher job insecurities (Landsbergis, Grzywacz, & LaMontagne, 2014; Tennant, 2001). Work-related stress can affect job satisfaction and productivity, mental and physical health and absenteeism (Rothmann, 2008; Stephan & Roesler, 2010; Tennant, 2001) and it could lead to chronic fatigue, alcohol abuse, unexplained physical symptoms and, ultimately, job burnout (Cardon & Patel, 2015; Hotopf & Wessely, 1997; Jamal, 2007).

A job burnout can be described as "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, 2003, p. 189). The concept of burnout is based upon three core dimensions: 1) exhaustion, 2) cynicism and 3) reduced professional efficacy. The component of exhaustion represents the basic individual stress dimension of burnout. It concerns feelings of being overextended and depleted of one's emotional and physical resources. The cynicism component is the interpersonal context dimension of burnout. It refers to a negative, insensitive, or excessively detached response to job aspects. The component of reduced professional efficacy represents the self-evaluation dimension of burnout. It concerns feelings of incompetence and a lack of achievement and productivity at work (Maslach, Schaufeli, & Leiter, 2001). A job burnout can have disastrous effects on work performance (Shepherd et al., 2010; Tennant, 2001) and health, among which anxiety, lower self-esteem and depression (Maslach et al., 2001; Örtqvist, Drnovsek, & Wincent, 2007; Shepherd et al., 2010).

2.1.2 Stress models

Several models have been developed to explain work stress (see Mark & Smith, 2008). The most influential models are the Person-Environment fit model (French, Caplan, & Van Harrison, 1982), the Effort-Reward-Imbalance model (Siegrist, 1996) and the Job Demand Control Support model (Karasek, 1979).

The Person-Environment (PE) fit model suggests that an individual's behavior and health depend upon the interaction between his or her personal characteristics and work environment. To ensure healthy conditions, workers' attitudes, skills, abilities and resources need to match the demands of the job, as the work environment should consider the person's needs, knowledge and skill potential. Misfits between the person and the work environment can lead to several health related issues and other work problems (French et al., 1982; Su, Murdock, & Rounds, 2015). This match concept of the PE fit approach has formed the basis for two of the most predominant stress models: 1) the Effort Reward Imbalance (ERI) model and 2) the Job Demand Control Support Model (JDCS) model. Both models claim that work stress arises as a consequence of an imbalance between the individual and the work environment (Lewig & Dollard, 2003).

The ERI model focuses on the perceived balance between the efforts that workers devote to their work and the reward they receive in return. According to the model, a stressful work environment consist of prolonged high effort and low rewards (Peter & Siegrist, 1999). Rewards are defined as money, esteem, career opportunities and security. Efforts on the other hand, have two components: intrinsic efforts, from the personal motivations such as need for control and overcommitment, and extrinsic motivations or external pressures such as workload (Mark & Smith, 2008).[1]

The JDCS model focuses on the balance between workers' job demands and the amount of control and support they have to deal with these demands. According to this model, stress arises from high demands, low control and low support (Karasek & Theorell, 1992). It is considered to be the most influential model of stress in the workplace (Ganster & Rosen, 2013; Kompier, 2003; Luchman & González-Morales, 2013) and it is validated across a variety of populations (Mark & Smith, 2008; Van der Doef & Maes, 1999). However, the model is not yet used in an entrepreneurial high-tech start-up context. Therefore, this study uses the JDCS model as a theoretical basis.

2.1.3 Job Demand Control Support model

The original model, developed by Karasek (1979), focuses on the work stress of employees. It identifies job demands and job control as the most crucial job characteristics in a work situation (Häusser et al., 2010; Van der Doef & Maes, 1999). The job demands often refer to the concept of workload, which is a combination of work quantity and work pace (Baillien, De Cuyper, & De Witte, 2011). In some cases, time pressure and work quantity are measured as separate job demands. Another often-mentioned job demand is role conflict, in which multiple roles are present that involve conflicting demands (Fernet, Guay, & Senécal, 2004).

Job control, or decision latitude, refers to the ability to control work activities. It includes two components: decision authority and skill discretion (Van der Doef & Maes, 1998). Decision authority is

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[1] For a comparable research on the ERI model, see the work by Wolf (2016) .

the extent to which one is autonomous in work-related decisions, such as timing and approach. A person with high decision authority can decide what to do, when to do it and how to do it. Skill discretion, on the other hand, is the level and variety of skills and creativity required in a job and the flexibility that one has in deciding what skills to use (Häusser et al., 2010; Karasek, 1985).

Johnson and Hall (1988) have expanded the model by including social support as an additional factor. Social support can be defined as "overall levels of helpful social interaction available on the job from both co-workers and supervisors" (Karasek & Theorell, 1992, p. 69). Two forms of social support are distinguished: 1) instrumental support and 2) emotional support (Karasek, Triantis, & Chaudhry, 1982). Instrumental support, also referred to as task support, focuses on help in the performance of tasks. It refers to the provision of needed resources like information, advice, money, materials or services (Malecki & Demaray, 2003; Näswall, Sverke, & Hellgren, 2005; Thoits, 2011). Emotional support on the other hand, is focused on dealing with the negative consequences of stressful situations. This aid is often in the form of trust, love and encouragement (Thoits, 2011). Both forms of social support are considered to be beneficial to the worker's health (Karasek & Theorell, 1992; Kirrane & Buckley, 2004; Thoits, 2011).

According to the JDCS model, work stress can be defined as the combination of heavy job demands with low control and social support at work (Pelfrene et al., 2001). Specifically, the model claims that control and social support could reduce an employee's stress while job demands increase stress (Häusser et al., 2010; Van der Doef & Maes, 1999). In describing the relationship between job demands, control and social support, prior studies have called for a distinction in additive and interactive (buffering) effects (Häusser et al., 2010), also displayed in Figure 1:

1. **Additive effects:** employees that have high job demands, low control and low social support experience the lowest levels of psychological well-being.

2. **Interactive (buffering) effects:** employees that have high job demands, high control and social support can buffer the negative consequences of the high job demands by control and/or social support.

Job Demand Control Support Model

Control
- Decision authority
- Skill discretion

Job demands
- Time pressure
- Work quantity
- Role conflict

Social support
- Supervisors and co-workers

+

-

-

Stress / Burnout

Legend

Demands

Control / social support

Additive effects

Interactive (buffering) effects
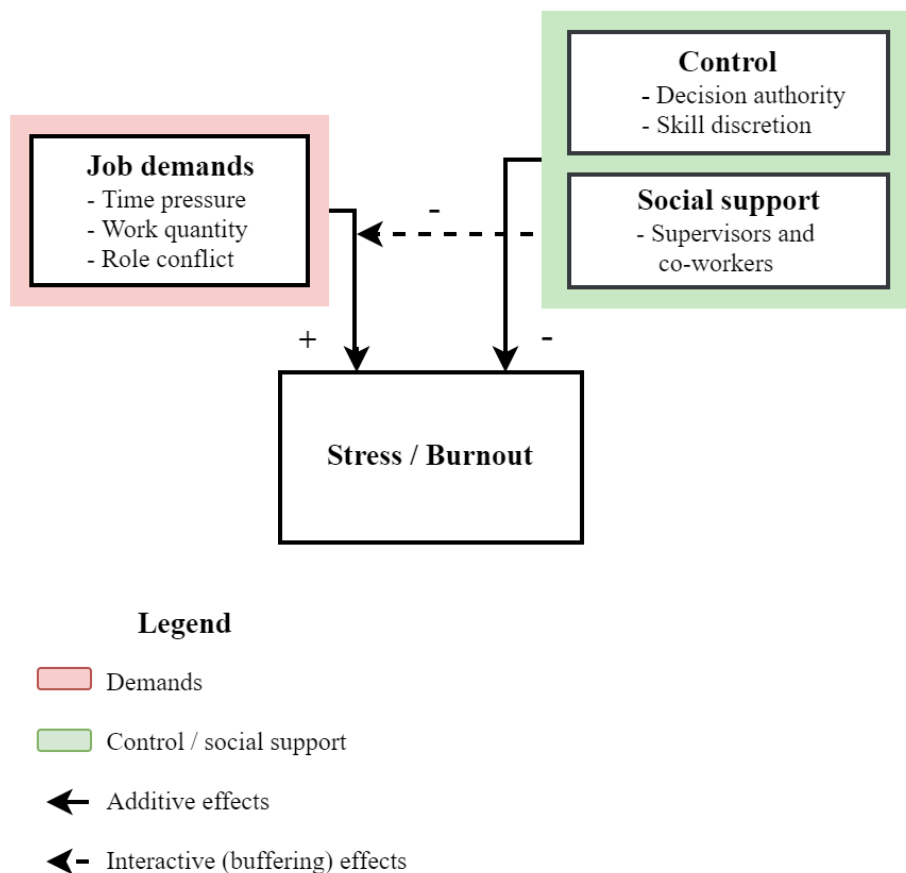
Figure 1. Job Demand Control Support model, based on Karasek (1979)

The additive effects are supported in most studies (e.o. Calnan, Wadsworth, May, Smith, & Wainwright, 2004; Janssen & Nijhuis, 2004; Macklin, Smith, & Dollard, 2006). Jobs with high demands, low control and low social support are associated with lower general psychological well-being, lower job satisfaction, more burnout and more job-related psychological distress (Häusser et al., 2010; Van der Doef & Maes, 1999). Most support is found in studies that only include demands and control, the role of social support is not confirmed in all studies (e.o. McClenahan, Giles, & Mallett, 2007; Pisanti, Gagliardi, Razzino, & Bertini, 2003; Totterdell, Wood, & Wall, 2006).

The interactive (buffering) effects on the other hand, do not find support in all studies (e.o. Pelfrene et al., 2002; Sanne, Mykletun, Dahl, Moen, & Tell, 2005; Van der Doef & Maes, 2002). Jobs with high control and high social support do not necessarily provide the opportunity to lower the negative consequences of high job demands. The buffering effects are only expected when job control and social support match the demands of the job (Häusser et al., 2010; Van der Doef & Maes, 1999).

The JDCS model also included theories on learning and motivation (Van der Doef & Maes, 1999). However, as this thesis focuses on stress and not learning, the learning component is not further elaborated upon.

The JDCS model is described as the "leading work stress model in occupational health psychology since the 1980s" (De Lange, Taris, Kompier, Houtman, & Bongers, 2003, p. 282). The model is regarded to be popular, influential and it ensures good predictive validity (Ganster & Rosen, 2013; Mark & Smith, 2008). However, the model also has several limitations that need to be considered. Generally, the model is criticized for neglecting individual differences and for oversimplifying matters (such as the concepts of job demands, control and work circumstances) (Carayon, 1993; Cox, Griffiths, & Rial-González, 2000; Mark & Smith, 2008; Perrewé & Zellars, 1999). Interestingly, the model's simplicity is also considered to be an advantage, because the model is clear and easy to comprehend, and it provides the opportunity to study stress in a variety of contexts (De Boevere, 2002). It hereby also provides the opportunity to study stress in an entrepreneurial high-tech start-up context. Therefore, the validated JDCS model forms the theoretical basis for this study. The study's entrepreneurial context is explained in the next subchapter.

2.2 Entrepreneurial stress

2.2.1 Definition of entrepreneurship

Entrepreneurs create ventures, in other words, they organize new organizations (Acs & Audretsch, 2010; Gartner, 1985). They set up new businesses that they will (partly) own and/or manage (Reynolds et al., 2005; Schaper, Volery, Weber, & Gibson, 2014). In the start-up process, entrepreneurs are responsible for all decisions that affect the new firms' location, form and use of goods, resources or institutions (Hébert & Link, 1989; Stephan & Roesler, 2010). The start-up process involves actions such as 1) locating a business opportunity, 2) accumulating resources, 3) marketing products and services, 4) producing the product, 5) building an organization and 6) responding to government and society (Gartner, 1985). These actions can be divided into more concrete entrepreneurial activities, such as saving money to invest, hiring employees and buying facilities (see Carter, Gartner, & Reynolds, 1996).

It is evident that entrepreneurs bear great responsibilities within their ventures. They have to make important decisions, deal with risks and uncertainties, invest intense work efforts and work long hours (Aldrich & Martinez, 2001; Boyd & Gumpert, 1983; Covin & Slevin, 1991; Wiklund, 2006). As one can imagine, stress is a major aspect of being an entrepreneur (Alstete, 2008).

The JDCS model provides insight into the stress of employees. However, the stress of entrepreneurs is expected to differ from employees' stress. For example, entrepreneurs have higher stress levels because they deal with more obstacles and high demands (Cardon & Patel, 2015). Compared to employees, their decisions are more important, their work contexts more diverse and they bear greater responsibilities (Buttner, 1992). The following subchapters provide an overview of the job demands, control and social support in the entrepreneurial context.

2.2.2 Entrepreneurial job demands

According to the JDCS model, time pressure, work amount and role conflict are the main job demands for employees (Karasek, 1985). However, entrepreneurs generally deal with a greater set of job demands than employees (Cardon & Patel, 2015). Dijkhuizen et al. (2014) state that entrepreneurs deal with an enhanced set of job demands, due to the entrepreneurs' tasks and responsibilities and high levels of uncertainty and change (see also Boyd & Gumpert, 1983; Douglas & Shepherd, 2000). In addition to the more regular job demands such as emotional load, work amount and task complexity, Dijkhuizen et al. (2014) have identified three specific entrepreneurial job demands: 1) time demands, 2) uncertainty and risk and 3) responsibility. Time demands refers to the experience of a '24/7' job in which work life and private life are more intertwined. For example, the entrepreneur is constantly thinking about the company or he feels like he has to be available for the company 24 hours per day. This concept is often referred to as 'immersion of the business' (see Volery & Pullich, 2010), and it is most typical for entrepreneurs because they identify personally with the venture and feel responsible for its successes and failures (Shepherd, 2003). The job demand of uncertainty and risk refers to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur himself, and risks that are involved in the business life. The uncertainty and risks are partly related to the scarcities of job resources that new entrepreneurs face, such as economic, human and physical resources (Baron, 2010; Paternoster et al., 2014). The third dimension of job demand refers to the great responsibility that an entrepreneur has over the functioning of the company (Dijkhuizen et al., 2014).

The entrepreneurial job demands are related to negative outcomes, such as stress and work-family conflicts (Cardon & Patel, 2015; Prottas & Thompson, 2006). The JDCS model states that the mechanisms of control and social support may potentially counteract these negative consequences (Karasek & Theorell, 1992).

2.2.3 Entrepreneurial control

Entrepreneur are expected to have more autonomy and control than employees (Hundley, 2001; Hytti et al., 2013; Prottas & Thompson, 2006). They have higher degrees of influence and control over decisions than employees (Tetrick, Slack, Da Silva, & Sinclair, 2000). Furthermore, in the context of skill discretion, they have greater variety and flexibility in work tasks (Dijkhuizen et al., 2016; Sevä et al., 2016) and their work contexts are more diverse (Buttner, 1992; Cardon & Patel, 2015). The large amount of control in the entrepreneurial work life is strongly related to lower stress levels and higher job satisfaction (Hytti et al., 2013; Prottas & Thompson, 2006).

However, when entrepreneurs have co-founders, they need to share their ownership and control and have to consider their co-founders in their decision-making process (Ucbasaran et al., 2003). Tasks and responsibilities are often divided amongst co-founders which also limits the variety in work tasks. When entrepreneurs split tasks and responsibilities with their co-founders, they often have a specific

entrepreneurial role in the start-up. Cardon et al. (2009) have distinguished three entrepreneurial roles that are linked to entrepreneurial activities:

1) **Inventor role:** Entrepreneur involved in activities of identifying, inventing and exploring new opportunities (e.g. product development).
2) **Founder role:** Entrepreneur involved in activities to establish a venture for commercializing and exploiting new opportunities (e.g. assembling financial and human resources).
3) **Developer role:** Entrepreneur involved in activities related to nurturing, growing and expanding the venture once it is created (e.g. value creation and appropriation). As this role relates to more mature companies, it is not further elaborated upon in this thesis.

The inventor role and founder role can also be distinguished in high-tech start-ups. Co-founders of high-tech firms often focus on either product development and explore new high-technology opportunities, or they focus on business management activities, such as assembling financial and human resources, to establish the business venture (see Spiegel et al., 2013). High-tech entrepreneurs tend to divide these two roles and responsibilities as they often collaborate with co-founders who have different talents or backgrounds (Matlay et al., 2006; Wasserman, 2012). However, some high-tech entrepreneurs combine both roles, which is especially common for entrepreneurs without co-founders (Spiegel et al., 2013).

Hence, entrepreneurs may divide roles and responsibilities with their co-founders and hereby share their decision authority and skill discretion. As such, even though they have large control, they have to share their control with co-founders.

2.2.4 Entrepreneurial social support

Entrepreneurs experience decision authority largely because they have no supervisor. At the same time, supervisors are able to provide critical support in dealing with the negative effects of high job demands (Karasek & Theorell, 1992; Tetrick et al., 2000). Support from supervisors is more influential than the support from co-workers (Monnot & Beehr, 2014; van der Doef, Maes, & Diekstra, 2000). Supervisors are more inclined to help, they are generally more skilled to provide the needed support, and their support is more stable than that of co-workers (Ng & Sorensen, 2008). As entrepreneurs have no supervisor, the social support they receive from work sources is limited (Baron, 2010). The question is raised whether the large work control of an entrepreneur compensates for the lack of social support at work (Tetrick et al., 2000).

Even though entrepreneurs lack the support from supervisors, they may enjoy support from co-workers, such as co-founders and employees (Forster & Jansen, 2010; Luchman & González-Morales, 2013). These co-workers are generally able to provide both instrumental and emotional support (Semerci, 2016). Especially the support from co-founders is valuable as entrepreneurs often form teams with co-founders whose talents complement their own (O'Connor, Hamouda, McKeon, Henry, & Johnston,

2006). Employees are also able to provide social support as they can provide a variety of resources, for example work-related information (Hayton, Carnabuci, & Eisenberger, 2012). Entrepreneurs with employees report higher job satisfaction, and lower fatigue or muscular pains than entrepreneurs without employees (Benavides, Benach, Diez-Roux, & Roman, 2000; Sevä et al., 2016). However, entrepreneurs are not always able to hire employees in the start-up process. They generally work in isolation, making them more susceptible to burnout (Perry, Penney, & Witt, 2008).

Interestingly, entrepreneurs often receive social support from outside of the work environment, for example from friends or family (Arregle et al., 2015; Byron, 2005; Lapierre & Allen, 2006). According to the 'family embeddedness perspective', family composition and family members' roles and relationships can influence the entrepreneurial venture creation process (Aldrich & Cliff, 2003). For example, strong ties with family members could facilitate access to (financial) resources (Sieger & Minola, 2016). Other studies claim that family and friends are poorly positioned to provide work-related resources and that their help is often limited to emotional support (Abendroth & Den Dulk, 2011; Tetrick, Slack, Da Silva, & Sinclair, 2000). Overall, social support from both work and non-work sources lowers entrepreneurial work stress (Semerci, 2016).

2.2.5 Entrepreneurial stress and consequences

The JDCS model claims that employees experience stress when they have high job demands, low control and low social support (Karasek & Theorell, 1992). Studies on entrepreneurial stress have presented similar findings: high entrepreneurial job demands are positively related to stress (Cardon & Patel, 2015; Prottas & Thompson, 2006), whereas entrepreneurial control and social support are both negatively related to stress (Prottas & Thompson, 2006; Semerci, 2016). Interestingly, the studies claim that entrepreneurs have greater job demands, but have more control and lower social support than employees (Cardon & Patel, 2015; Prottas & Thompson, 2006; Tetrick et al., 2000). More insights are needed to clarify work stress in the entrepreneurial start-up process (Cardon & Patel, 2015).

Entrepreneurial stress can influence job performance, business performance, health and well-being. With regard to job performance, stress can force entrepreneurs to work harder, longer, or better (Akande, 1994), and under difficult conditions, it can lead to the best performances (Schindehutte, Morris, & Allen, 2006). Stress stirs people to take action and it stimulates motivation and achievement (Akande, 1994; Goodman, 2008). However, stress can also negatively impact entrepreneur's performance when it distracts him or her from regular tasks (Dolbier, Smith, & Steinhardt, 2007; Tennant, 2001).

The entrepreneur's job performance and functioning is closely linked to the business performance, since an entrepreneur's decisions influence the company. Consequently, stress that improves the job performance of the entrepreneur can also improve the company's results (Cardon & Patel, 2015), while stress that causes inferior job performance of the entrepreneur can easily deteriorate the firm´s results (Shepherd et al., 2010; Tennant, 2001).

Stress also impacts the entrepreneur's personal health and well-being. Stressful work situations can lead to illness (Stephan & Roesler, 2010) and exhaustion and fatigue (Van Yperen & Janssen, 2002). These negative consequences of stress are more severe for entrepreneurs than for employees, as entrepreneurs feel more involved in their business. They strongly identify with the venture and therefore it is more difficult to separate their work selves from their personal selves (Cardon, Zietsma, Saparito, Matherne, & Davis, 2005). Consequently, also their work-life balance can easily be disrupted when stress comes along (Kuratko, 2016; Parasuraman, Purohit, Godshalk, & Beutell, 1996). Family relations, social activities and leisure time often suffer from entrepreneurial work stress (Carree & Verheul, 2012; Parasuraman et al., 1996). Thus, while stress may positively influence job performance, it may also bring several hazards to health, work-life balance and performance. Entrepreneurs could use coping mechanisms to counteract these negative consequences of stress.

2.2.6 Coping with entrepreneurial stress

Coping refers to "the thoughts and behaviors used to manage the internal and external demands of situations that are appraised as stressful" (Folkman & Moskowitz, 2004, p. 745). Coping mechanisms enable individuals to deal with negative emotions that arise in stressful events (Patzelt & Shepherd, 2011). Entrepreneurs cope with stress in different ways. In general, there are two coping strategies: problem-focused and emotion-focused coping (Folkman & Lazarus, 1980; Schut, 1999). Problem-focused coping, also referred to as active coping, approach coping and task-oriented coping (Uy et al., 2013), involves dealing with the source(s) of the stress. Examples are making a plan of action or focusing on the next steps (Patzelt & Shepherd, 2011). Problem-focused coping facilitates entrepreneurs' well-being and firm performance (Drnovsek, Örtqvist, & Wincent, 2010). Emotion-focused coping, also referred to as avoidance coping (Uy et al., 2013), refers to dealing with the experience of feeling stressed. Examples are engaging in distractive activities, seeking emotional support, or consuming drugs and alcohol (Folkman & Moskowitz, 2004). Entrepreneurs who use both problem-focused and emotion-focused coping are more able to cope with stressful situations and reduce negative emotions (Blonk, Brenninkmeijer, Lagerveld, & Houtman, 2006; Patzelt & Shepherd, 2011). Furthermore, entrepreneurs can use problem-focused and emotion-focused coping more effectively than employees, as they can use their high decision authority to change a stressful work context (Patzelt & Shepherd, 2011). For example, they can choose to avoid stressful projects or can provide distraction at work.

Entrepreneurs can utilize several coping resources in their coping behaviors. A coping resource is a source that the entrepreneur can draw upon in stressful events and that is already present before the stressors occur (Pearlin & Schooler, 1978; Thoits, 2010). These resources may directly enhance mental health but they may also indirectly improve well-being, for example by enabling effective coping behavior or by broadening the range of potential coping behaviors available for entrepreneurs (Heaney, Price, & Rafferty, 1995). According to the JDCS model, control and social support are the two main coping resources (Joudrey & Wallace, 2009; Van der Doef & Maes, 1999).

The coping resource of control directly influences well-being. For example, one's control over the amount of hours that are worked reduces depression (Joudrey & Wallace, 2009). As entrepreneurs create their own venture, they have high control in decision-making and can also use this control to deal with stressful events. In coping with stress, their decision authority provides them opportunities to change a stressful work context (Patzelt & Shepherd, 2011). For example, they can decide to avoid risky projects or they can try to gain access to essential information. As such, the coping resource also indirectly provides the entrepreneur with greater opportunities to deal with stressful events.

Social support also directly influences well-being. For example, social support from work increases job and life satisfaction (Harris, Winskowski, & Engdahl, 2007; Hombrados-Mendieta & Cosano-Rivas, 2013) and decreases burnout experiences (Hombrados-Mendieta & Cosano-Rivas, 2013; Wang, Cai, Qian, & Peng, 2014). On a longer term, the coping resource of social support can provide the needed instrumental aid or advice to deal with the situation, or it can divert attention away from the stressors (Heaney et al., 1995; Joudrey & Wallace, 2009). As such, the coping resource of social support can also indirectly provide the entrepreneur with other options on how to overcome the work stress.

The JDCS model explains work stress based on a job design of demands, control and social support. Interestingly, not only the entrepreneurial job design, but also entrepreneurs' characteristics could play a role in work stress and coping behavior for entrepreneurs (Berglund et al., 2016; Grant & Ferris, 2012; Hatak et al., 2015). Therefore, these characteristics need to be considered as well. The next subchapter discusses the role of entrepreneurial characteristics.

2.3 Entrepreneurial characteristics

2.3.1 The role of entrepreneurial characteristics

Entrepreneurs together form a heterogeneous group of individuals (Shepherd, Williams, & Patzelt, 2015). They generally have different understandings of what it means to be an entrepreneur (Fauchart & Gruber, 2011) and have a varied set of personality traits (Berglund et al., 2016; Segal, Borgia, & Schoenfeld, 2005). The diversity in personal characteristics could influence the entrepreneurs' stress and coping behavior (Berglund et al., 2016; Grant & Ferris, 2012; Hatak et al., 2015). Therefore, personal characteristics need to be considered in this study.

To account for the diversity of entrepreneurs, three types of entrepreneurs are distinguished, based on the social categorizations that they create in the start-up process and the meaning they associate with being entrepreneurs (Fauchart & Gruber, 2011; Sieger et al., 2016). Furthermore, six entrepreneurial personality traits are discussed as they could also influence entrepreneurial experiences and behaviors (Rauch & Frese, 2007, 2014).

2.3.2 Entrepreneurial identity types

Because entrepreneurs bear the responsibility for many firm decisions and entrepreneurial activities, they have a personal influence on the characteristics of the venture (Whetten & Mackey, 2002). They have the opportunity to pursue their own personal goals and desires in the firm creation. As such, entrepreneurial activities are often considered to be an expression of the own identity (Cardon et al., 2009; Hoang & Gimeno, 2010). Fauchart and Gruber (2011) emphasize the importance of the entrepreneurs' 'social identity' as firm creation is a social activity and organizations themselves are social constructions (Whetten & Mackey, 2002).

Social identity theory "deals with the structure and function of identity as it relates to an individual's social relationships and, in particular, to his or her membership in groups or social categories" (Fauchart & Gruber, 2011, p. 936). Social identification impacts behavior as one acts and behaves in ways that confirm their identity (Hogg & Terry, 2000; Tajfel & Turner, 1979). Based on the social identity theory, Fauchart and Gruber (2011) have developed a typology of social identities that explains the critical social categorizations that entrepreneurs create in the start-up process and the meaning they associate with being entrepreneurs. The following three social identity types are distinguished:

1. **Darwinians** are highly self-interested in the firm creation process. Monetary satisfaction often plays a great role. Darwinians stress the importance of being a competent professional and as such, act in congruence with the professional 'business school' approach to management. Competitors form the main frame reference as they are considered to be a threat to the development of the ventures.

2. **Communitarians** on the other hand, aim to support and be supported by their personal social community. They aim for a mutual benefit of their group and therefore intend to provide products and services that could advance their social community. This community forms the basic reference frame.

3. **Missionaries** look beyond their own community, the society-at-large is their primary social reference. They aim to advance a particular cause (e.g. environment, social justice). They act in a responsible manner that allows them to pursue their political vision and create a better world.

The three primary types do not necessarily exclude each other. They can co-exist in all possible hybrid forms. An example would be an entrepreneur that has a background of both business experience (Darwinian) and community experience (Communitarian). Another example would be a Missionary who has to compromise with investors that demand certain levels of financial performance (Darwinian). These hybrid identities evolve in many different and unpredictable directions. The hybridity could complicate the entrepreneurial process because hybrid entrepreneurs could easily experience conflicting demands (e.g. choosing the cheapest or most environmental friendly production method) (Fauchart & Gruber, 2011).

The type of social identity may affect entrepreneurs' work stress. Darwinians focus on an established market to avoid uncertainty and risks, as they aim for secure and high profits (Fauchart & Gruber, 2011; Sieger et al., 2016). Lower uncertainties and risks are related to lower stress (Dijkhuizen et al., 2014). However, as Darwinians are highly self-interested and do not involve social groups (such as communities) in their venture creation process, they may receiver lower social support (Haslam, Jetten, Postmes, & Haslam, 2009; Peredo & Chrisman, 2006). Lower social support may increase stress and lower satisfaction (Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005; Van Dick, Ketturat, Häusser, & Mojzisch, 2017). In turn, as the Darwinians are not involved in social groups, they do not have to consider the groups' interests in their decision-making processes, which increases decision authority. These large amounts of control are strongly related to lower stress levels and higher job satisfaction (Hytti et al., 2013; Prottas & Thompson, 2006).

Communitarians' community membership could provide great amounts of social support that help them to deal with stressful situations (Haslam et al., 2009). Because Communitarians strongly identify with a social group, they are more likely to receive support, make use of it and understand the manner in which the support is intended (Gallagher, Meaney, & Muldoon, 2014; Haslam et al., 2005; Reicher, Cassidy, Wolpert, Hopkins, & Levine, 2006). These great amounts of social support from their community could reduce stress and improve satisfaction (Haslam et al., 2005; Van Dick et al., 2017).

Missionaries, who aim to advance a cause and create a better world, receive help from individuals who support their mission (Bornstein, 2007) and from networks and support structures that have been built to help such initiatives (Gibbs, 2008; Smith, 2003). According to Bornstein (2007, p. 11), "today individuals seeking meaningful work frequently opt to build, join, advocate for, or support organizations that are more innovative, more responsive, and operationally superior to the traditional social structures". These forms of social support could improve the business performance and reduce entrepreneurial stress (Bornstein, 2007; Luria & Torjman, 2009).

2.3.3 Entrepreneurial personality traits

As a heterogenous group, entrepreneurs also have diverse sets of personality traits. Personality traits are defined as "enduring, predictable characteristics of individual behavior that explain differences in individual actions in similar situations" (Nga & Shamuganathan, 2010, p. 266). Whereas social identity types refer to entrepreneurs' social categorizations and their meaning with being entrepreneurs (Fauchart & Gruber, 2011), personality traits are personal dispositions to have a certain type of response to situations (Caprara & Cervone, 2000; Rauch & Frese, 2007). According to Rauch and Frese (2007), personality traits may facilitate or impede entrepreneur's experiences and behaviors. They emphasize the importance of entrepreneurial personality traits in their call to "put the person back into entrepreneurship research" (Rauch & Frese, 2007, p. 353). Scholars have claimed that personality traits could influence stress (Berglund et al., 2016; Brandstätter, 2011; Ebstrup, Eplov, Pisinger, & Jørgensen,

2011; Wincent & Örtqvist, 2009) and coping behavior (Connor-Smith & Flachsbart, 2007; Perry et al., 2008).

Rauch and Frese (2007) have distinguished six general personality traits that are related to entrepreneurial behavior: 1) need for achievement, 2) generalized self-efficacy, 3) innovativeness, 4) stress-tolerance, 5) need for autonomy and 6) pro-active personality. These personality traits can be matched to entrepreneurial work roles and challenges, such as exploiting business opportunities, making important decisions in uncertain circumstances, dealing with a lack of resources and using a variety of skills, knowledge and abilities (such as leadership, management, marketing and innovation) (Sarasvathy, 2001; Shane, 2003).

Need for achievement implies that "one chooses tasks of moderate difficulty, accepts responsibility for results, and seeks feedback on action outcomes" (Rauch & Frese, 2007, p. 358). McClelland (1961) showed that entrepreneurs have a higher need for achievement than managers. As entrepreneurship involves rather difficult tasks and connected responsibilities, need for achievement is essential for entrepreneurs in order to enjoy the work and perform well (Rauch & Frese, 2007). Need for achievement is suggested to prevent burnout as it fosters positive emotions and resilience when individuals are confronted with strong work demands (Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; Moneta, 2011).

Generalized self-efficacy can be defined as "one's estimate of one's fundamental ability to cope, perform, and be successful" (Judge, Jackson, Shaw, Scott, & Rich, 2007). Self-efficacy is important for entrepreneurs as they must be confident in their capabilities to perform tasks in uncertain situations (Baum & Locke, 2004). When entrepreneurs feel capable, they are more likely to persist when problems arise and look for challenging opportunities (Bandura, 1997). Hence, generalized self-efficacy is related to business creation and success (Poon, Ainuddin, & Junit, 2006; Utsch, Rauch, Rothfufs, & Frese, 1999). Furthermore, self-efficacy lowers feeling of stress (Lu, Siu, & Cooper, 2005; Siu, Lu, & Spector, 2007). Self-efficacy helps to reduce the negative effects of stress as individuals feel more able to control a stressor (Roddenberry & Renk, 2010). Furthermore, individuals with high self-efficacy tend to use problem-focused coping, whereas individuals with low self-efficacy often use emotion-focused coping and have more worries about job-related stressors (Lu et al., 2005).

Innovativeness refers to one's willingness and interest to look for new ways of actions. Entrepreneurs can use their innovativeness to establish and foster innovations in their start-ups (Rauch & Frese, 2007). The personality trait can enhance the firm's innovation performance and it is of great importance to entrepreneurs specifically: innovation is not only considered to be one of the core concepts of

entrepreneurship (Drucker & Brentano, 2014)[2], it is also related to business success (Hult, Hurley, & Knight, 2004). On a short term, innovativeness often increases workload as it involves an intensive process of generating, promoting and realizing innovative ideas (Janssen, 2004). On a long term, innovativeness could help individuals to cope with job demands (Fay, Bagotyriute, Urbach, West, & Dawson, 2017; Hakanen, Bakker, & Demerouti, 2005; Huhtala & Parzefall, 2007). Janssen (2004, p. 289) explains that "innovative work behavior may help the individual to improve his or her fit with higher job demands by generating, promoting, and realizing ideas for modifying oneself or the work environment". This **'innovative coping'** (Bunce & West, 1996) is considered to be a form of problem-focused coping that helps people to actively change any stressful aspect of a situation (Fay et al., 2017; Woodward & Hendry, 2004). Coping through innovativeness could hereby help to reduce stressful feelings (Janssen, 2004; Woodward & Hendry, 2004).

Need for autonomy implies that one desires to be in control and therefore avoids restrictions and rules of established organizations (Rauch & Frese, 2007). The entrepreneurial work life offers opportunities as one can make decisions independent of supervisors, set his or her own goals and develop his or her own plan of actions. As such, entrepreneurship is an appealing career choice when one identifies as in need for autonomy (Brandstätter, 1997; Stephan & Roesler, 2010). The need for autonomy motivates individuals to increase their control, which may lower stress (Cardon & Patel, 2015). However, need for autonomy may hamper social support and effective cooperation with others (Bowling, Beehr, & Swader, 2005; Rauch & Frese, 2014; Swickert, 2009) as it lowers agreeableness (Brandstätter, 2011). The lower social support subsequently may increase stress (Bowling et al., 2005; Cardon & Patel, 2015).

Stress tolerance refers to the ability to preserve one's self-control and performance under stressful situations (Morales & Feldman, 2013). Stress tolerance is important for entrepreneurs as they typically encounter stressful situations: they deal with a heavy workload, take high risks in uncertain situations and lack resources. Because stress is considered to be a major aspect of being an entrepreneur (Alstete, 2008), entrepreneurs need tolerance for stress to preserve their self-control and performance (Rauch & Frese, 2007). As stress tolerance helps individuals to persist in stressful situations, it buffers the negative effects of stress (Bullough, Renko, & Myatt, 2014).

Proactive personality captures a behavior tendency towards changing one's environment. Proactive people look for opportunities, show initiative and persist to bring a meaningful change to their environment. They are the opposite of passive people who are more likely to adapt to circumstances (Bateman & Crant, 1993; Fuller & Marler, 2009). Being proactive is an important aspect of entrepreneurship as entrepreneurs look for and act upon new opportunities. They create new ventures

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[2] To illustrate, see following quotation from Drucker and Brentano (2014, p. 30): *"Entrepreneurs innovate. Innovation is the specific instrument of entrepreneurship. It is the act that endows resources with a new capacity to create wealth."*

and hereby also influence their environment (e.g. they act upon business opportunities, hire new people and involve business partners) (De Jong, Parker, Wennekers, & Wu, 2015; Rauch & Frese, 2007). Proactive behavior is positively related to well-being (Sohl & Moyer, 2009) and negatively related to stress (Monsen & Boss, 2009) as it helps individuals to cope with stressful situations. **'Proactive coping'** (Aspinwall & Taylor, 1997) refers to "making an effort to prepare for stressful events that could in the future" (Allen & Leary, 2010, p. 114). If proactive coping is successfully used and one is well prepared for stressful situations, other coping styles may not be necessary (Hambrick & McCord, 2010).

In short, both job design (job demands, control and social support) and entrepreneurial characteristics (entrepreneurial identity types and personality traits) may influence entrepreneurial stress and coping behavior. As entrepreneurial stress could endanger a firm's performance and entrepreneurs' well-being (Cardon & Patel, 2015), particularly in the high-tech industry (Collins & Clark, 2003; D'Aveni, 1998; Lien, Hung, & McLean, 2007) and start-up phase (Carree & Verheul, 2012; Shepherd et al., 2010), this study aims to provide nuanced insights in the work stress of high-tech entrepreneurs during the start-up process. The next chapter discusses the research design of the study.

3. Research design

This chapter describes the study's research design. It focuses on the study's research approach, unit of analysis and selection, research methods, procedures and on the analysis of the data.

3.1 Research approach

The goal of the research is to provide nuanced insights into the work stress of high-tech entrepreneurs in the start-up context by exploring their demands, control and social support, individual and performance-related consequences of stress and coping behaviors. The JDCS model is utilized as a guiding framework as it has been validated to predict the stress of employees (see Häusser et al., 2010; Mark & Smith, 2008; Van der Doef & Maes, 1999).

An explorative qualitative approach fits the research goals since it provides the opportunity to go into depth about entrepreneurial work stress. Qualitative research can support the discovery of stressors, strains and coping behaviors that are not yet considered by researchers who use quantitative methods (Schonfeld & Mazzola, 2012). To complement these qualitative findings, objective information about the entrepreneurs is collected and an established scale for measuring burnout is used. This data triangulation provides the opportunity to compare findings from different sources of information (Bryman & Bell, 2015). It enhances the validity, strength and interpretative potential of the study (Golafshani, 2003; Noble & Smith, 2015).

3.2 Unit of analysis and selection

3.2.1 High-tech start-up entrepreneurs in the region of Twente

The high-technology industry is an interesting context to study the stress of entrepreneurs, because high-tech firms play an increasingly important economic role and are established in an environment that is characterized by rapid change, uncertainty and competition (Collins & Clark, 2003; D'Aveni, 1998; Lien, Hung, & McLean, 2007; Rauch & Hatak, 2016). Especially the high-tech firms that focus on the developments of information technologies (IT) are expected to have great impacts on economic performance, as their focus is characterized by "very high rates of technological progress, output and productivity growth" (OECD/OCDE, 2009, p. 33). Considering the importance of IT firms, this study focuses on high-technology IT entrepreneurs. Furthermore, the study focuses specifically on firms in the start-up process, because start-up entrepreneurs experience many demands as failure rates are up to sixty percent within the first five years of a venture (Carree & Verheul, 2012). The start-up phase is suggested to be even more demanding for high-tech firms (Trimi & Berbegal-Mirabent, 2012).

The entrepreneurial high-tech region of the Netherlands is Twente (City of Enschede, 2016; Twente Branding, 2016). Twente is characterized by a large and steadily growing high-tech sector (NRC, 2016; Twente Index, 2015). The city of Enschede has the highest start-up quote in the Netherlands (CBS,

2012), and the number of entrepreneurs in the region is still growing (Tubantia, 2014). The technical, entrepreneurial focus of the university and the region's high-tech know-how make Twente a suitable location for high-tech start-ups (CBS, 2012; Kennispark Twente, 2014; NRC, 2016; Oost NV, 2014). The high-tech sector is important for the regional development of Twente and as such, the well-being of high-tech entrepreneurs is vital for the survival of the region. Consequently, the study focuses on high-tech entrepreneurs in the region of Twente.

3.2.2 Selection

The entrepreneurs from this study were purposively selected through the homogenous sampling method. Homogenous sampling involves selecting a group that fits specified criteria (Kitto, Chesters, & Grbich, 2008; Onwuegbuzie & Leech, 2007), such as having a high-tech firm in the start-up phase. A strong advantage of this sampling method is that the researcher can consciously select those respondents that are most relevant for the research goal and can go into depth with that specific group (Bryman & Bell, 2015). In this study, the relevant respondent group concerned Dutch full-time entrepreneurs who founded a high-tech IT company in the region of Twente in the period of 2011-2016 and were still active in the start-up process of that concerning company (for the start-up process, see Gartner, 1985). The start-up process is more often indicated by a maximum of five years in business (see Carter et al., 1996; Peterson, Walumbwa, Byron, & Myrowitz, 2009). In the study, IT companies are defined as companies that develop computer software, hardware, semiconductors and/or telecommunication equipment (Stiroh, 2002).

The entrepreneurs that possessed these specific characteristics were selected to participate in the research until saturation was reached. As a general guideline, a sample size of 15 respondents is often acceptable (Guest, Bunce, & Johnson, 2006).

3.2.3 Respondent group

Sixteen Dutch high-tech IT entrepreneurs participated in the research. All entrepreneurs fit the target group: they had founded a high-tech IT startup in the region of Twente in the period of 2011-2016 and were still active in the start-up process of that concerning company (for the start-up process, see Gartner, 1985). They devoted themselves full-time to their entrepreneurial activities and their total income was derived from their entrepreneurial work. The entrepreneurs were aged 23 to 53 years and the average age was 34 years. All entrepreneurs in the study were male due to the industry's high male domination of 93 percent in the Netherlands (Kamer van Koophandel, 2015) and the lack of female high-tech entrepreneurs in the region of Twente (Meijer, 2016). More information on the entrepreneurs can be found in Appendix A.

3.3 Research methods

Several research methods were combined to establish triangulation. Specifically, a grid, story-telling technique and semi-structured interview were included in the study. Furthermore, the Maslach's Burnout Inventory was used as an established scale for measuring burnout. Last, objective, demographic information was collected. All research methods were pretested with the help of an entrepreneur who fit the target group (who was not involved in the final interviews) to refine and improve the interview guide (Kallio, Pietilä, Johnson, & Kangasniemi, 2016). Small adjustments were made based on the input from the pretest session. The final interview guide, that includes all research methods, can be found in Appendix B.

3.3.1 Grid

At first, a grid of entrepreneurial activities was used to provide insights into how entrepreneurial start-up activities relate to job demands, control and social support of the JDCS model. The grid of entrepreneurial start-up activities was based upon the work by Carter et al. (1996) and Gartner (1985). An overview of the activities from these articles can be found in Table 1.

Table 1. *Entrepreneurial activities in the process of venture creation, based on Gartner (1985, p. 702) and Carter et al. (1996, p. 158)*

	Gartner (1985)	Carter et al. (1996, p. 156)
Organization/venture building	Locate business opportunity	Prepare a plan
	Build an organization	Devote full-time
		Form legal entity
Resource management	Accumulate resources	Organize team
		Invest own money
		Bought facilities/equipment
		Rented facilities/equipment Looked for facilities/equipment
		Ask for funding
		Get financial support
		Hire employees
		Save money to invest
Marketing	Market product and services	
Production	Produce the product	Develop models
Responding to government and society	Respond to government and society	Apply license/patent

The entrepreneurs were to indicate 1) which activities they engage in, 2) which activities are most demanding, 3) in which activities they have the least control and 4) in which activities they have the least social support. The method could encourage further discussion about the stress in the entrepreneurial activities of the start-up phase. Hereby it could stimulate entrepreneurs to explain the role of concrete entrepreneurial activities in their work stress. Furthermore, the grid could provide

insight into the role and responsibilities of the entrepreneurs: whether they had a founder role and were involved in business management activities, had an inventor role and were involved in technical activities, or whether they combined both roles and activities (see Spiegel et al., 2013).

3.3.2 Story-telling technique

The story-telling technique, a form of projective technique, was utilized to provide more insights into the entrepreneurs' hidden attitudes (Lawless & Heymann, 2010). The technique provides the opportunity to uncover feelings, beliefs, attitudes and motivations that respondents may find difficult to share (Donoghue, 2000; Webb, 2002). In the storytelling technique, respondents are instructed to share their opinion of other people's actions, feelings or attitudes. In sharing their opinion, respondents mirror their own thoughts and feelings on the people in the pictures (Donoghue, 2000). As the respondents have no personal accountability for other people's thoughts, it allows them to respond more freely. They are generally more willing to report otherwise socially undesirable attitudes and beliefs (Bryman & Bell, 2015; Steinman, 2008). The technique could hereby supplement the other methods by eliminating social barriers judgement (Donoghue, 2000; Steinman, 2008). The entrepreneurs from this study were asked to share their opinion of pictures of an entrepreneur. They were shown seven different photos that represent daily activities of an entrepreneur: 1) wake up, 2) run through the day's schedule, 3) make a phone call, 4) have a meeting, 5) give a presentation, 6) administration and 7) go home. They were asked to describe what they saw and how they thought the entrepreneur on the photo would feel throughout accomplishing those activities. The method could stimulate further discussion about entrepreneurial stress throughout the day and the role of daily office matters in their work stress.

3.3.3 Semi-structured interview

A semi-structured face-to-face interview was utilized to go into depth about the subjects and probe questions when needed (Bryman & Bell, 2015; Downs & Adrian, 2012). The structured interview guide contained 13 questions that were based upon earlier literature on stress and/or the entrepreneurial start-up process. The questions focused on entrepreneurial characteristics (Fauchart & Gruber, 2011; Rauch & Frese, 2014), job demands, control and social support mechanisms (Karasek et al., 1998), stress and consequences (Cardon & Patel, 2015) and coping strategies and resources (Joudrey & Wallace, 2009; Patzelt & Shepherd, 2011). This question list provided the interviewer structure during the session, but it also provided the opportunity to go more into depth when needed (Bryman & Bell, 2015).

3.3.4 Maslach's Burnout Inventory

The Maslach's Burnout Inventory, developed by Maslach, Jackson, and Leiter (1997), is considered to be the leading measure of burnout. The questionnaire complemented the other methods by measuring the burnout feelings of the respondents. The questionnaire contained a total of 16 items and it measured burnout symptoms of the entrepreneurs (see Maslach & Jackson, 1981; Maslach et al., 1997).

3.3.5 Demographic information

Objective, demographic information was collected to explain potential differences between the entrepreneurs in this study. It concerned the following information: 1) age, 2) gender, 3) education, 4) entrepreneurial experience, 5) start date of the business, 6) number of employees and 7) industry of operation.

3.4 Procedures in collection of data

The entrepreneurs were individually approached by the researcher directly or via the network of entrepreneurial communities, start-up events and/or other entrepreneurs. They received a phone call or information e-mail that explained all relevant information concerning the research, including the research topic, duration of the session, language and possible dates and times. The research topic was described as 'entrepreneurial well-being'. Words such as 'stress' and 'burnout' were not mentioned, since they could bias the respondents and thereby influence the research (Bryman & Bell, 2015; Downs & Adrian, 2012). The expected duration of a session was one hour and the interview were conducted in English. If the entrepreneurs agreed to participate, individual face-to-face sessions were planned. All sessions were completed in the period between June and October 2016.

The sessions took place at a location that was most convenient and comfortable for the entrepreneurs. Fourteen sessions took place at the work place of the entrepreneur and two sessions took place on the campus of the University of Twente. Since differences between sessions could influence the results (Goodwin, 2009), a clear and strict research protocol was developed. This protocol described the sequence of steps that the researcher had to follow in order to complete the session adequately.

The researcher welcomed the entrepreneurs, introduced the research topic (again described as entrepreneurial well-being), explained them the structure and expected duration of the session and then asked for permission to use the data for the research. The entrepreneurs were assured that the sessions would be processed anonymously. They were given the opportunity to ask questions before starting the session. When the session started, the grid, the storytelling technique, semi-structured interview and Maslach's Burnout Inventory were performed sequentially. At last, the entrepreneurs were asked to fill in their demographic information. After the session, the researcher thanked them for their participation and gave them a small present to express gratitude (a bottle of wine and chocolates). The (hidden) goal of the research was then further on explained and discussed. The entrepreneurs were given the opportunity to register for a copy of the final thesis if they were interested. The duration of the sessions was between 50 and 90 minutes.

3.5 Analysis of data

The sessions were audio-recorded, transcribed and then imported into Atlas.ti (a qualitative data analysis software program) to code and analyze the data.

The adaptive theory by Layder (1998) formed the basis for the analysis process. Adaptive theory revolves around the relation between theory construction and research (Bessant & David, 2005) and as such, is characterized by the integration of extant theories and empirical data. While the importance of extant theory is recognized, empirical data are also included to complement or enhance extant theory. The adaptive theory hereby incorporates both inductive and deductive theory in the coding process (Timmermans & Tavory, 2012). It is considered to be one of the most influential theories in qualitative research (Silver & Lewins, 2014).

In total, four codebooks were developed to analyze the data: 1) codebook grid, 2) codebook storytelling, 3) codebook interview and 4) codebook entrepreneurial characteristics. The first three codebooks were based on the theoretical framework of the JDCS model (Karasek et al., 1998). Furthermore, the grid codebook included the entrepreneurial activities in Table 1 (Carter et al., 1996; Gartner, 1985) and the interview codebook included theories on stress (Maslach, 2003), consequences (Cardon & Patel, 2015; Tennant, 2001) and coping (Karasek & Theorell, 1992; Patzelt & Shepherd, 2011). The entrepreneurial characteristics codebook was based on the framework and established codebooks of social identity types (Fauchart & Gruber, 2011; Sieger et al., 2016) and personality traits (Rauch & Frese, 2007). In accordance with adaptive theory, empirical data from the study was used to complement the theoretical basis of the codebooks. Hence, the theoretical framework formed the basis for the codebooks that were utilized to analyze the qualitative data, while still remaining open to new insights gained in the process of screening the data. In the overall coding process, instructions as described by Bryman and Bell (2015) were strictly followed. The codebooks can be found in Appendices C, D, E, F. More details on the identification of social identity types and personality traits can be found in Appendices G and H.

To establish reliability of the coding, intercoder reliability of the codebooks was measured using Cohen's Kappa (Cohen, 1960, 1968). Approximately 10% of all sessions was used, the pages were selected randomly. Two coders conducted the data analysis independently. In Table 2 the Cohen's Kappa scores are presented. As all scores were above the threshold of 0.7, the intercoder reliability was sufficient for all codebooks (DeCuir-Gunby, Marshall, & McCulloch, 2011; Landis & Koch, 1977).

Table 2. *Cohen's Kappa scores*

Codebook	Cohen's Kappa
Codebook grid	0.84
Codebook storytelling	0.79
Codebook interview	0.78
Codebook entrepreneurial characteristics	0.76

The Maslach's Burnout Inventory was analyzed based on the manual prescribed by Maslach et al. (1997). The scores were to indicate the burnout level of the entrepreneurs. These scores were compared to the outcomes of the qualitative methods to discover comparisons and differences between the described and measured levels of stress.

4. Findings

This chapter presents the main findings. These findings form the basis for the extension of the JDCS model that is presented in Chapter 5. First, the JDCS components of job demands, social support and control are presented in the context of high-tech start-up entrepreneurs. Secondly, the stress levels as measured by Maslach's Burnout Inventory and stress consequences are elaborated upon. Lastly, the coping strategies are discussed. All findings are illustrated by quotes from the entrepreneurs.

4.1 Job demands

In the qualitative analysis, several entrepreneurial job demands were distinguished for the high-tech start-up entrepreneurs. In fact, more demands were identified than the three job demands provided in the JDCS model. To provide a clear overview, the job demands are clustered as follows: 1) individual working conditions, 2) task-related working conditions and 3) task-environment-related conditions.

All job demands are discussed on the general level of the entrepreneurial life, while some job demands are further explained with the illustration of entrepreneurial activities or daily office matters. An overview of how often each entrepreneurial activity was mentioned as 'most demanding' can be found in Appendix I.

Individual working conditions

When asked about the most demanding aspects of the entrepreneurial work life, all high-tech start-up entrepreneurs mentioned their feeling of **responsibility**. *"I think the most stressful is the responsibility that you feel. That's very difficult."* (Respondent 3)

They personally felt responsible for the company's successes and failures. *"In the beginning, you alone are responsible for the success and failure."* (Respondent 14)

The feeling of responsibility was even greater for entrepreneurs who employed personnel, as they were also responsible for their employees. *"The responsibility for your team. Because, of course I do it by my own, but I feel responsible for my employees because they also have a family and a home et cetera."* (Respondent 4)

Next to responsibility, another often-mentioned job demand was **business immersion**. All entrepreneurs experienced the feeling of having a '24/7 job' in which work life and private life were more intertwined. The entrepreneurs were constantly working or thinking about their company, also during the evenings or in weekends, which impacted their private life. *"It's a way of life, to be an entrepreneur. It's always something that is in the back of your mind. For example, this weekend it was nice weather, I was sitting in the garden and I was reading. When I read the newspaper, then I always see some things that are interesting for my new product. You see things that are always related to what you are doing. That never stops. That is different from an employee or a manager of employees in a company, because they work*

from 9 till 5 and then it's over and they have their private lives. My business and my private life are much more strangled." (Respondent 1)

The feeling of business immersion was often combined with the job demand of **emotional load.** A few younger entrepreneurs (20-34 years old) mentioned how emotions could form a load to their job, especially when their work life and private life were more intertwined. *"Because being an entrepreneur isn't only doing business, but it will also get you emotionally. Of course, you spend much time at the office. Your life is work, you know?"* (Respondent 6, age: 27 years old)

A demanding **role conflict** was experienced by specific groups of entrepreneurs. Entrepreneurs who had both a founder and inventor role experienced conflicts between their two entrepreneurial roles. They had both roles because they were involved in both business management and technical activities. *"I do both product development partly as business development. […] These conflict with each other automatically, because technology means that you're involved in a technical brain and it means you're not social at this moment."* (Respondent 8)

A few older entrepreneurs (35-64 years old) emphasized the role conflict in being an entrepreneur and a family member at the same time. The younger entrepreneurs in the group did not mention this role conflict, as most of them were not married or had no children. *"I have to split myself sometimes in a couple of… I have to accept that, even though I want to exhilarate on the start-up, I have to slow down a bit to be there as a father of my children and a good friend for my girlfriend. Sometimes, that's hard."* (Respondent 15, age: 38 years old)

Entrepreneurs with hybrid identities also experienced a role conflict as they encountered contradictory objectives. For example, an entrepreneur with a hybrid identity of Darwinian-Communitarian-Missionary showed conflicts between his Darwinian and Communitarian identities. On one hands, he desired to focus on the development of his community of employees, while on the other hand regarded these same employees as workforces. *"As an entrepreneur, I want to be somebody to my colleagues that always helps developing my colleagues. I want to be talking about the things they can improve. But on the other side, they're colleagues and they're working for you."* (Respondent 3)

The job demand of role conflict played a greater role when two conflicting roles were both present at the same time. For example, in the entrepreneurial activity of building prototypes, both the founder role and inventor role were present. On the one hand, the founder role to see if the prototype would fit the customer's wishes, on the other hand, the inventor role to see if the prototype would technically be feasible. *"Another thing that can give stress is the mismatch between production and customer promises. That's also a thing. We make software and if it delays... I promised customers 'then we have that in place' and then the production says: 'yeah, but it doesn't work that well' and you get this mismatch and then you have to go to the customer: 'ok, I promised you that, but we can deliver half.' That also creates a sort of stress situation, not a good feeling."* (Respondent 1 on building prototypes)

Task-related working conditions

In the performance of entrepreneurial tasks, all entrepreneurs mentioned **work quantity** as one of their most prevalent job demands. They often described their job as "time-consuming" with "great work quantities". *"Demanding is that the work is never done but I'm now in a situation: 'Why should I work hard? The work is never finished'. I can also work less, there's no difference."* (Respondent 10)

The entrepreneurial activities with high work quantity were business opportunity development, finances, human resources, social networking, customer outreach, establishing partnerships, building prototypes, developing models/services, dealing with outsourcing/production process and applying for patents/licenses. Some of these activities involved large work quantity as they continuously asked for attention (business opportunity development, finances). *"Funding, savings, investing money, it's always something which causes attention."* (Respondent 3 on finances)

Other activities were considered high work quantity when they involved extensive procedures (applying for patents/licenses). *"We're going for a patent just merely to have some kind of back-up, but it takes so much time. You have to go through all these procedures and you need to search."* (Respondent 11)

Furthermore, entrepreneurs spent most time and/or experienced high work quantity in their personal role, tasks and responsibilities of the start-up (e.g. building prototypes, human resources, developing models/services, outsourcing/production). *"We make a high-tech software product and my role is on the front-end to develop. [...] That's why I spend my time on prototyping."* (Respondent 9 on building prototypes)

Entrepreneurs with a founder role also mentioned the job demand of **time pressure**. As they were engaged in business management activities, their work often involved important deadlines in meeting with external parties (such as customers or partners). *"One of them can be the deadline, for example. You have to meet up with the potential client the next week, you need to set up your business plans, all the proposals, get all the formalities right. That takes some time."* (Respondent 11)

The job demands of time pressure and work quantity were sometimes combined. Hence, entrepreneurs with a founder role sometimes experienced that a large amount of work needed to be finished in a limited time frame. This combination is also referred to as 'workload'. *"Sometimes I feel stressed out when I have a lot of things to do in a short period of time."* (Respondent 15)

Interestingly, the entrepreneurs' work life was not only demanding because it involved work quantity and time demands, but also because it comprised many important and complex tasks. In fact, the majority of entrepreneurs claimed that their entrepreneurial work life involved the demands of **task importance**. They explained that, as they were engaged in all aspects of the company, they constantly deal with important tasks. *"You can't say every time: 'This one is so important'."* (Respondent 16)

The most important entrepreneurial activities were business opportunity development, finances, social networking, customer outreach, establishing partnerships, building prototypes, developing models/services and outsourcing/production. Finances was most often mentioned as being important as every activity that entrepreneurs engaged in eventually had financial consequences. *"Everything rolls back into finance. If you decide rather to hire new people or do something with your office building or other stuff, it's always also a financial question."* (Respondent 2)

Darwinians, who are generally focused on financial prosperity, also emphasized the importance of entrepreneurial activities that they claimed could lead to income (customer outreach, building prototypes, developing models/services, outsourcing/production) or possible future growth (business opportunity development, social networking, establishing partnerships). *"For our service, it's very important that you build a network. The most clients come via your network, so social networking is very important."* (Respondent 7 on social networking)

Next to task importance, the majority of entrepreneurs claimed that their entrepreneurial work life involved **task complexity**. They mentioned how entrepreneurship in general comprised a diverse and complex set of tasks that they could not prepare for. *"An entrepreneur takes a little bit more than only the one thing you learned for or at least you prepared for. Then suddenly you have project management, finances, taxes, all kinds of extra stuff. That's the demanding part."* (Respondent 5)

Entrepreneurs without prior experience in the high-tech business emphasized that their task complexity could also be explained by the high-tech IT industry. *"You're going to speak to a lot of high-tech and software companies and everybody will say that software development or product development is more difficult than you think it is."* (Respondent 8)

The most complex activities were forming a legal entity, finances, human resources, social networking, customer outreach, establishing partnerships, outsourcing and applying for patents/licenses. Activities were considered complex when they involved other parties to consider (finances, human resourcing, customer outreach establishing partnerships, outsourcing/production process). *"It's difficult to search for your right partners to work with and keep the relation good and manage the production process, because it's all about expectations."* (Respondent 3 on establishing partnerships)

Activities were also considered to be complex when they involved complicated or outdated procedures (forming a legal entity, applying for patents/licenses). *"Difficult thing, that's sometimes the legacy. Here, we all know that the law is outdated but this kind of sourcing is almost twenty years old and not robust or suitable for the current time."* (Respondent 11 on forming a legal entity)

Last, the entrepreneurial activities were also considered complex when the task environment involved difficult business challenges, such as how to adequately reach the customer (in the case of customer outreach). *"The market thing aspect will be most demanding for us. We also set goals for that. How we*

are going to reach the customer is a big issue. That's the most important issue we have, because that's the most difficult part of our business. How are you going to reach them?" (Respondent 13)

Interestingly, the company's task environment was more often mentioned to influence which tasks were considered complex or important, or which tasks could create the most workloads or time pressure. All entrepreneurs explained that their job demands had depended upon the task environment. *"The thing that is most mentally demanding is what's going wrong at that specific moment. And that can be anything. That can be competition which releases a new device that is right up in your alley and is a direct competitor. It can be a patent issue or a license deal."* (Respondent 2)

While some entrepreneurial activities were described as important or complex, the entrepreneurs also encountered **boredom and routines** in their entrepreneurial work life. Especially in the beginning of the start-up, the entrepreneurs had to be involved in all entrepreneurial tasks, including the boring and routine ones that they strongly disliked. They claimed that these tasks were "energy taking" or "demotivating". Experienced entrepreneurs who hired personnel were often able to delegate some of these tasks to their employees. *"When I started my company the first time, you have to do everything. You have to do the administration, you have to post your own mail, you do everything. Later on, you delegate especially the tasks that don't give you a flow, that don't give you energy. Like administration or writing reports, bureaucratic stuff, applying for patents."* (Respondent 1)

The entrepreneurs described several activities as "boring" or "energy taking": preparing a business plan, forming a legal entity, finances, social networking, building prototypes and applying for patents/licenses. In general, administration activities (forming a legal entity, finances, applying for patents/licenses) were often disliked. *"When you form a legal entity or apply for a patent or a license, that's pain in the ass work."* (Respondent 1)

Besides administration, also other activities (preparing a business plan, social networking, building prototypes) were considered "boring". *"I don't like writing stuff. I like to do stuff more. We have the technology, we have the prototype. I would rather just develop on my computers and make the software and hardware with my partner rather than preparing a paper for an investor."* (Respondent 11 on preparing a business plan)

Task-environment related conditions

When discussing their entrepreneurial work environment, all entrepreneurs emphasized the demanding aspects of **resource scarcities**. Compared to larger companies, their start-ups had great deficiencies. Especially the younger entrepreneurs (20-34 years old) encountered challenges due to scarcities at work. *"But again, in a start-up you will always be missing everything. You will be always be in lack of something or everything."* (Respondent 9, age: 28 years old)

Several scarcities were experienced, as entrepreneurs mentioned shortages of finances, human resources, knowledge and skills. Darwinians mainly focused on the financial deficiencies. *"Most [start-up] companies don't have an abundance of money."* (Respondent 10)

Scarcities were often experienced in the activities of preparing a business plan, finances, human resources, social networking, customer outreach and dealing with environmental impact and sustainability. In most of these activities, the entrepreneurs lacked knowledge, skills, or human resources (in preparing a business plan, human resources, social networking and customer outreach). *"It's a continuous struggle within a small team, with limited resources to find the right people."* (Respondent 14 on human resources)

In turn, in other activities (dealing with environmental impact and sustainability), financial and time resources were missed. *"Since we're relatively small, even though we want to do a lot with environmental impact and sustainability, sometimes it's just impossible. It can be impossible for various reasons. It can be just simply a financial reason, it can be time dependent, but we cannot always do something about our environmental impact."* (Respondent 14)

Another environment-related entrepreneurial job demand was **uncertainty and risk.** Most of the entrepreneurs mentioned that they felt vulnerable to changes in the environment that could influence their company. They mentioned changes in the economy, industry, but also changes in behavior of other parties, such as customers, partners and competitors. *"Stress is a little bit about uncertainty as well. [...] There are too many uncertainties and you cannot say where it ends at all when you become dependent on other people."* (Respondent 12)

Especially the older entrepreneurs (35-64 years old) opposed job demands of uncertainty and risks. They felt less capable of taking risks and dealing with uncertainties as they now, growing older, had to consider family life, mortgages and other "adult obligations". *"They're young, the risk is less. A part depends on the phase in life that you are. When you have a mortgage, you do different things than when you just graduated."* (Respondent 16, age: 53 years old)

In contrast, entrepreneurs from the young age group (20-34 years old) claimed to be "free" from obligations in taking risks and dealing with uncertainties. *"No one has a family, no one has bought a house. We're all free to do whatever we want."* (Respondent 5, age: 27 years old)

The entrepreneurial activities that were uncertain and risky were business opportunity development, preparing a business plan, finances, developing partnerships, building prototypes and developing models/services. These activities were uncertain because the entrepreneurs depended upon the earlier mentioned changes in the high-tech environment (in business opportunity development, preparing a business plan). *"The world is rapidly changing, also in the technology sphere."* (Respondent 4 on business opportunity development)

The entrepreneurs also experienced uncertainty and risks when they depended upon behavior of external parties such as partners or investors (in establishing partnerships, building prototypes, developing models/services). *"Partnerships are unpredictable. People suddenly require stuff that you were like: 'why are you requiring this kind of services from us? This wasn't the deal.' Just a lot of headaches."* (Respondent 5 on establishing partnerships)

The entrepreneurial path also brought forth an uncertainty about employees' and one's own personal income (in finances). These uncertainties especially worried Darwinians, who generally focus on financial prosperity. *"Especially in the beginning of your business, when it's very difficult to keep the revenue streams flowing, when you're sometimes not sure whether or not you can pay everybody a salary at the end of the month. In the complete beginning, when you're with two or three founders, you have no idea whether you can pay yourself a salary, that is incredibly difficult."* (Respondent 14)

In summary, the entrepreneurs experienced job demands related to individual working conditions, task-related working conditions and task-environment related conditions. Some of the job demands were mentioned by all entrepreneurs, while other job demands only played a role for a selection of entrepreneurs. The next subchapter discusses control in the entrepreneurial high-tech start-up context.

4.2 Control

In the qualitative analysis, it was found that the high-tech start-up entrepreneurs experienced large amounts of control. However, they still experienced dependencies on other parties that lowered their autonomy. The advantages and limitations to their control are explained in this subchapter, with a focus on: 1) decision authority, 2) skill discretion, 3) (in)dependence on sources from immediate task environment, 4) (in)dependence on sources from non-task environment.

Job control was discussed on the general level of the entrepreneurial life, while sometimes further explained with the illustration of entrepreneurial activities or daily office matters. An overview of how often each entrepreneurial activity was mentioned as 'least control' can be found in Appendix I.

Decision authority

Decision authority played an important role in the entrepreneurial work life, as all entrepreneurs described their jobs as full of "freedom" and "decision making". *"I have got more freedom because I can make every decision by myself."* (Respondent 3)

In fact, the entrepreneurs were closely involved in all decisions of the start-up process. *"As an entrepreneur, you always have to make a decision about anything. That sounds stupid. But maybe in a job, most things are a fact. Here, you decide on most things. Where you have your office, what's your business model. Everything."* (Respondent 10)

The autonomy within entrepreneurship had played a major role in the career choice for entrepreneurship, especially for Darwinians and entrepreneurs with a need for autonomy. *"As an entrepreneur, the main thing for me is that I can work with the people I want, when I want, who I want. That's why I became an entrepreneur."* (Respondent 3)

In describing their freedom, especially older and more experienced entrepreneurs compared their entrepreneurship to prior employments in which they were told what to do, how to do it and when to do it. They claimed to experience more autonomy and control in their entrepreneurial work life. *"I had several jobs where I was pretty free to do what I like. But in all these situations, there's always somebody who's telling you what to do or what not to do. Even if I think it's not the right choice, there's always some kind of decision-making going on outside of your control. If I feel like I want to do half a day something with my kids or family, and I think it's ok to do, I don't want anybody to tell me it's not ok to do. I don't like the restrictions in those kinds of jobs. That's one reason. The freedom is very important for me."* (Respondent 15)

Skill discretion

All entrepreneurs described their work days as "varied" and "diverse". They emphasized that entrepreneurship provided them a diverse range of tasks and demanded a variety of skills. *"Not one day is the same. It's a very diverse day with tasks and activities. You could see it in this section [of the grid]. All things I'm involved in. You don't only need discipline, but also a lot of skills to get things done."* (Respondent 15)

While the entrepreneurs still had to fulfil routine tasks, they were also involved in many other new tasks which made the "variety greater "and entrepreneurship "more adventurous". Entrepreneurship offered them opportunities to continuously learn new skills and qualities. *"You are continuously learning new skills."* (Respondent 14)

Interestingly, a few Communitarians and Communitarian-hybrids created an "educational" or "learning" company culture so their employees could also experience learning processes. *"I always was somebody who was focused on developing myself as a person. That was very important. Nowadays, that's something I've put in our mission for our company. I think it's very important to develop people who are working for me."* (Respondent 3)

While the variety in tasks and work contexts in entrepreneurship was often described as "exciting", it was also considered to be "distracting" and "difficult to focus". *"One of the challenges during everyday life of an entrepreneur is keeping focus of that day. It's very easy during a day to get distracted and do other things."* (Respondent 14)

Especially older entrepreneurs (35-64 years) described how they eventually delegated some tasks to employees so they could focus on their core task and build upon their entrepreneurial qualities. *"When*

you're further on, you delegate more things. You have your qualities as an entrepreneur. Everybody has their qualities. You have to do what you're good at and not let energy suck away in things that you can do but that does not give you a flow." (Respondent 1)

Most entrepreneurs had founded the company with co-founders. The entrepreneurial roles, tasks and responsibilities were often divided among the group of co-founders. However, even these entrepreneurs, who had to share or give up some of their entrepreneurial tasks, still described their job as "varied". *"I do everything from sales to finance to buying to purchasing and sales, marketing, tax writing, press contacts, customer support... You do almost everything because you have to. You cannot hire one hundred people when you're just a start-up. It's an enormous set of skills that you use in a day."* (Respondent 2, one co-founder, focuses on founder role)

(In)dependence on sources from immediate task environment

Interestingly, while all entrepreneurs emphasized their feeling of freedom and control, they also mentioned dependencies that limited their control. Most of them felt dependent on sources from the immediate task environment. For example, many entrepreneurs with co-founders mentioned that, while they could make day-to-day decisions themselves, most important decisions were made in consultation with their co-founders. *"All the three of us are part-owners of the company. So, decision-making is going through all three of us. I'm not completely free anymore in that sense. I have to decide it with my two co-founders. In that sense, I'm not that free."* (Respondent 3)

Entrepreneurs who had many employees also considered their employees in decision making. *"Since you're working with an entire team, we've got twelve people working here, you need to take that into account as well. You're discussing what you're doing and how you're doing it together with the team as well."* (Respondent 14)

The entrepreneurs felt most dependent on co-founders in the activities of business opportunity development, preparing a business plan, finances, human resources, building and equipment, social networking, building prototypes, outsourcing/production and administration. In most of these activities (preparing a business plan, finances, social networking, customer outreach), the entrepreneurs' co-founders were responsible and the entrepreneurs themselves were not or only limited involved in decision making. *"For example, for building prototypes, it's not my responsibility, it's not my department, so to say, therefore I cannot make a lot of decisions over there."* (Respondent 2)

In other activities, co-founders shared responsibility (in business opportunity development, human resources, building and equipment, outsourcing/production). *"We have shared responsibilities, like hiring and building facilities."* (Respondent 2)

The entrepreneurs were most depended on employees when they delegated tasks to them due to lack of time (in administration) or knowledge (in outsourcing/production). *"The production process is difficult,*

because we are now software developers. We haven't studied that, software development, so we have to rely on our employees. When they say it's difficult, we have to believe it's difficult. I cannot say that. I know how difficult it is to build a business plan, but I don't know how difficult writing a new software in line with codes is. I do not have many control about that." (Respondent 8)

(In)dependence on sources from non-task environment

Not only sources from the immediate task environment could form a risk for entrepreneurs' feeling of control, also sources from the non-task environment played a role. The entrepreneurs mentioned dependencies on customers, business partners, investors, competitors, regulations and procedures that lowered their control. "*Especially the stress about the things that you cannot handle yourself, because you're dependent on outside things, that are often the things that causes slumbering, long-term stress. Are there any investors willing to invest, are there any competitors coming up with something else that's similar and that will throw us off the market.*" (Respondent 2)

All entrepreneurs felt dependent on the behavior of customers. The influence of customers was mentioned in the activities of social networking and customer outreach, but also in the production phase (building prototypes, developing models/services). "*You don't know how the customer will react or behave on your product.*" (Respondent 13 on building prototypes)

Business partners and investors were also often mentioned as influential sources. While most partnerships and investors were involved in the business because they could add value to the company or product, they also demanded a voice in decision making. "*We were free until we established this partnership. It's harder now because we're dependent on another party. That gives a lot of stress. Sometimes we just have to wait. We have to wait for their decision to be made. That makes it difficult.*" (Respondent 13)

Darwinians emphasized the influence of competitors who could change the market with the release of new products or services. They recognized their lack of control on (the behavior of) competitors. "*Competition, of course, is always the hardest, because you don't know exactly what your competition is doing. If they want to build the same thing, then they can essentially build the same thing. And I think you do not have any control.*" (Respondent 2)

Especially younger entrepreneurs (20-34 years old) felt limited by the influence of national government through its regulations and procedures. These procedures were encountered in the activities of forming a legal entity, finances and applying for patents/licenses. "*Literally, you just need to follow steps, you don't really have control over that. You need to go through certain actions in order to be a private limited company, for example, in order for the tax company not to come knocking on your door.*" (Respondent 11, age: 23 years old)

In summary, the entrepreneurs experienced decision authority and skill discretion as important parts of their large job control, but they also experienced dependencies on other parties that limited their feeling of control. The next subchapter discusses social support in the context of high-tech start-up entrepreneurs.

4.3 Social support

In the analysis, it was found that the high-tech start-up entrepreneurs could receive social support on the work floor from co-founders and employees. However, many entrepreneurs often sought for more support outside the work environment. Family and friends were able to provide adequate social support when they had the right resources, knowledge and experience. This subchapter discusses 1) instrumental support from work sources, 2) emotional support from work sources, 3) instrumental support from non-work sources and 4) emotional support from non-work sources.

Social support was discussed on the general level of the entrepreneurial life, while sometimes further explained with the illustration of entrepreneurial activities or daily office matters. An overview of how often each entrepreneurial activity was mentioned as 'least social support' can be found in Appendix I.

Instrumental support from work sources

Most entrepreneurs stressed the instrumental support they received from work sources. Entrepreneurs with co-founders valued the instrumental support they received from their co-founder. Their co-founder was often able to provide them with the needed information, inspiration, advice and expertise. *"I say to my co-founder: 'Do you have a solution?' That's very inspiring to each other."* (Respondent 4)

Communitarians and Communitarian-hybrids focused on receiving support from their employees. Employees were most often able to provide inspiration, expertise and services. *"They are helping me out or giving me new ideas. They are helping me like: 'You should not sell this functionality but you have to sell that one because it's easier to fix or easier to build'."* (Respondent 8 on his employees)

A few Darwinians deliberately excluded employees in entrepreneurial activities because they wanted to keep the activity to themselves or because the employees lacked an "entrepreneurial mindset". *"Here in the company, it's difficult because they all think and act like an employee and that's different. [...] They don't have the vision, they don't want to take risks."* (Respondent 12 on his employees)

The entrepreneurs experienced a lack of instrumental support on the work floor in the activities of business opportunity development, preparing a business plan, forming a legal entity, finances, social networking, customer outreach, establishing partnerships, building prototypes, developing models/services, outsourcing/production, patents/licenses. They often lacked social support when co-workers were less involved (in business opportunity development, finances, social networking, customer outreach, partnerships building prototypes, outsourcing/production, applying for patents/licenses). The

entrepreneurs were often still able to retrieve help when needed but it was more difficult as co-workers needed more information and time to provide adequate instrumental support. *"I guess finance, not really that many people that know exactly what's going on. The thing is, these are things that I do alone, but when I need to, I can get the back-up."* (Respondent 2 on finances)

In other activities, co-workers lacked expertise and therefore were not able to help (in preparing a business plan, forming a legal entity, social networking, customer outreach, partnerships, building prototypes, models/services, outsourcing/production). *"I'm the one with the most knowledge on that thing. My colleagues cannot give that much input or cannot decide for me."* (Respondent 6 on building prototypes)

Emotional support from work sources

Entrepreneurs with co-founders mainly received emotional support from their co-founders as they had shared many experiences together in the start-up. They often had not only developed a professional but also amicable relationship with their co-founders. *"I can talk with my co-founder and we get along pretty well, which is really important."* (Respondent 9)

Especially Communitarians and young entrepreneurs also found emotional support with their employees. *"Emotional support we get from our colleagues and co-founders."* (Respondent 6)

A few Darwinians found it difficult to receive emotional support from employees as they would not fully understand the entrepreneurial life. *"Inside the company, there's a lot of social support. Except for one thing, that I already mentioned, that's the true meaning of being an entrepreneur and the responsibilities that come with that. That's impossible for them to understand. I can't even blame them. It's just that you can't understand it if you're not an entrepreneur."* (Respondent 14)

Instrumental support from non-work sources

Most entrepreneurs appreciated instrumental support from outside work. A few older entrepreneurs (35-64 years) received financial support from family members or friends, especially in the early stages of the start-up process. *"From day one, she's very supportive in that. Emotionally, financially."* (Respondent 15 on his spouse, age: 38 years old)

Younger entrepreneurs and entrepreneurs without co-founders often looked for advice, inspiration and moments of reflections from family members, friends or neighbors. *"You need a group of people around you who can support you and give you advice, and who are not in the business itself. Just to mirror you: 'Why are you doing this? Have you thought about this and why are you doing it this way?' This type of simple questions. You need these people around you. It's good."* (Respondent 12)

Some of these entrepreneurs joined an entrepreneurial community to find people with similar entrepreneurial experiences. *"Usually, in the real professional business world, you take a consultant.*

You pay them like a hundred bucks an hour and then you got your answer. But the nice thing about a community is that you can just walk like ten meters and you got a really nice support, regardless." (Respondent 11)

However, not all befriended entrepreneurs understood the start-up process of small high-tech firms, therefore the advice was not always generalizable to high-tech start-ups. *"Only a select group understands how these high-tech global companies work, because the classical models don't really fit. For example, I have a father-in-law who actually works for the government and he thinks in pension funds and in insurances and I don't know what. While most of these services or at least strategies for managing departments don't really fit on high-tech, quick moving, young companies, which just have their own way of doing things."* (Respondent 5)

Interestingly, a few Missionaries and Missionary hybrids strongly opposed support from family or friends. They deliberate kept family and friends out of business matters to keep a clear separation between their business and private life. *"My family and friends don't do anything and that's something I want to, but that's personal. I want to keep that separated."* (Respondent 3)

A few Darwinians stated that most of their non-entrepreneurial family and friends were unable to provide support as they lacked expertise and an "entrepreneurial mindset". *"People do not understand what it means to be an entrepreneur. Even my best friends find it very difficult to understand what it is, what it means."* (Respondent 14)

The least support from family and friends was received in the activities of preparing a business plan, forming a legal entity, finances, human resources and applying for patents/licenses. In the activity of finances, family and friends sometimes lacked the financial resources to help. *"We are actually seeking for investment partners. Of course, you discuss it at home, these kind of matters. I can't ask my family to invest in my company, because they don't have the money."* (Respondent 4)

In other activities, family and friends lacked the expertise (in preparing a business plan, forming a legal entity, human resources, applying for patents/licenses) to provide adequate support. *"I think it's probably the social network I'm in. We're more contents creators, artists, designers. Less about the technology or copyrights, licensing, all that stuff. It was a lot more difficult to get into that topic."* (Respondent 11 on applying for patents/licenses)

Emotional support from non-work sources

Most entrepreneurs received emotional support from their family members and friends. The emotional support outside of work was found in in forms of trust, love, encouragement, interest and relaxation. Diverse entrepreneurs described how their relatives and friends were proud of their achievements and regularly showed interest, which made them feel emotionally supported. *"Of course, my family and friends are incredibly proud of what I do and what I achieve, which is a fantastic feeling. With my best*

friends, I quite often discuss business and how it's going, the things I'm thinking about and the things we're working on. On the other hand, you don't want to be talking business with your friends the entire time. So, there's a healthy mix thereof, on the one hand telling what I'm doing, on the other hand, spending time with friends." (Respondent 14)

One entrepreneur mentioned that women generally value emotional support more than men do as they would talk more about their work days. *"When I come home from a very long day and when I'm very tired, what I typically do not want is to talk about my day. What women often want, is talking about the day."* (Respondent 14)

The entrepreneurs had least emotional support from family and friends in the activities of business opportunity development, devoting full-time, preparing a business plan, forming a legal entity, finances and applying for patents/licenses. According to a few Darwinians, family and friends could not provide emotional help in these activities because they did not understand the entrepreneurial work life enough. *"That responsibility, people don't understand because they've never been in that situation. In a sense, the only people who understand what it truly means to be an entrepreneur, are other entrepreneurs."* (Respondent 14 on finances)

The activities of forming a legal entity and applying for patents/licenses were not emotionally supported as they were not considered "socially interesting" or "exciting". *"When you rent a building, it's like: 'Ah, ok! Where's the building?' You have social interaction. When you say: 'We applied for a patent', there is not much social interest. When we started a private limited company, it's not exciting. It's not a social interesting thing."* (Respondent 1)

In summary, the entrepreneurs received social support on the work floor from co-founders and employees. Many entrepreneurs sought for more support outside the work environment. However, family and friends were often only able to provide support when they had the right 'mindset', resources and knowledge. The next subchapter discusses work stress, job burnout and the individual and performance-related consequences.

4.4 Individual and performance-related consequences

It was found that entrepreneurial stress could impact entrepreneurs' job performance, business performance, health and well-being. The high-tech start-up entrepreneurs emphasized both positive and negative forms of stress with corresponding consequences for their personal job performance, business performance and social life. This subchapter focuses on 1) work stress, 2) job burnout, 3) personal job performance, 4) business performance and 5) private life and well-being.

Work stress

All entrepreneurs had experienced stressful events in their entrepreneurial life and considered their entrepreneurial work life "stressful". One young entrepreneur even claimed he experienced continuous stress. *"There's stress about the projects, there's stress about money, there's stress about customers, there's stress about the future, there's stress about managing your shareholders and your investors. There's continuous stress."* (Respondent 14, age: 29 years old)

In comparing their entrepreneurial work life to prior employments, most entrepreneurs claimed to have more and different types of stress as an entrepreneur. Whereas the stress of employees was limited to a relatively small set of tasks, the entrepreneurs were engaged in all aspects of the company that could involve different forms of stress. *"I think they [employees] have other, only one stress. Sometimes it's there and most of the times it's not there. In my opinion. I think that I've got more stress, more types of stress."* (Respondent 4)

A few younger entrepreneurs (20-34 years old) compared the entrepreneurial stress to a rollercoaster with alternating periods of high and low stress. *"You experience a lot of things I think, as an entrepreneur. It's a rollercoaster of emotions. Sometimes it's really good and sometimes you feel a bit stressed."* (Respondent 3, age: 27 years old)

Most entrepreneurs explained that stress was most harmful or "negative" when it was slumbering and long-term. *"Long-term stress, when you've got something like that, I don't think it's good."* (Respondent 3)

Short term stress, such as setting deadlines, was considered "positive" or not harmful as it actually motivated them to finish their tasks on time or helped them to establish improvements and prioritize. *"Setting some goals and deadlines pushes people to do some things."* (Respondent 1)

Job burnout

According to the scores on the Maslach's Burnout Inventory, three entrepreneurs had no burnout symptoms, 11 entrepreneurs showed moderate burnout symptoms and two entrepreneurs experienced strong burnout symptoms. The entrepreneurs with no burnout symptoms had low scores of exhaustion and cynicism and high scores of professional efficacy. All three finished a university degree and had founded (a) prior venture(s) in the past. Two of the three entrepreneurs had the largest entrepreneurial experience (of 16 and 20 years) of the entrepreneur group, the third had 5 years of experience. Their current venture was at least 2 years old and founded with (a) co-founder(s). Two had a Darwinian identity type and one had a hybrid Darwinian-Missionary identity type. They all hired employees (two, 12 and 16 employees), which could be an indication of their company's success.

Eleven entrepreneurs showed moderate scores on one or more of MBI's components. One entrepreneur had a moderate score in exhaustion, four entrepreneurs in cynicism and two in reduced professional

efficacy. One entrepreneur had a moderate score in both exhaustion and cynicism, two entrepreneurs in both cynicism and reduced professional efficacy and one had a moderate score on all three components. Most entrepreneurs in this group completed a higher vocational or university degree, one finished an intermediate vocational degree. Seven out of 11 had founded (a) prior venture(s). Their entrepreneurial experience ranged from 2.5 to 11 years with an average of 5.5 years while their current venture was between 6 months and 5.5 years old. Five had a Darwinian identity type, one a Communitarian, two a Missionary and the five others had hybrid identities: one Darwinian-Missionary, one Communitarian-Missionary and one Darwinian-Community-Missionary. Eight out of 11 had hired employees (from two to 18 staff members, with an average of nine employees), which could indicate variations in their business' successes.

The two entrepreneurs who had a moderate score in both cynicism and reduced professional efficacy were both relatively young (25 and 27 years old), had no prior entrepreneurial experience before their current venture and they both had no co-founders. The seven entrepreneurs who had a moderate score in one of these two components (cynicism or reduced professional efficacy) all had co-founders and prior entrepreneurial experience or other business experience. As such, the presence of co-founders and/or prior experience could possibly explain why entrepreneurs scored on either one or two of the components of Maslach's Burnout Inventory. The entrepreneur who had a moderate score on all three components had the youngest venture (only 6 months of age). The young age of the company could explain the entrepreneur's scores as many entrepreneurs described how the first start-up phases were the most demanding or stressful. *"Especially in the first years you have to spend a lot of time."* (Respondent 10)

Two entrepreneurs had strong burnout symptoms. One scored high on cynicism and moderate on exhaustion, the other scored high on exhaustion, low on professional efficacy and moderate on cynicism. Both entrepreneurs finished a university degree and had founded (a) prior venture(s). They both hired employees (two and nine employees). They both had a Darwinian identity type. One entrepreneur had founded his current company with a co-founder directly after finishing his studies. He had the least entrepreneurial experience of the group (of 2 years) and had no other business experience (at the age of 23). The other entrepreneur did have an entrepreneurial experience of 8 years but his prior business partner left the business, so he no longer worked together with a co-founder. Again, the presence of co-founders and/or prior experience seemed to differentiate the higher scores from the lower scores. Educational degree however, did not seem to play a role. Personality traits also were not linked to specific burnout scores as they were found across all different burnout groups.

Besides the presence of co-founders and prior experience, also entrepreneurs' social identity types seemed to play a role. Darwinians were found across all different burnout groups, varying from no to high burnout symptoms. Communitarians and Communitarian-hybrids, in turn, all experienced moderate burnout symptoms and Missionaries and Missionary-hybrids had either no or moderate

burnout symptoms. Hence, while Communitarians seemed to experience moderate burnouts symptoms, Missionaries had either no or moderate burnout symptoms and Darwinians ranged from no to high burnout scores.

Interestingly, comparing these measured burnout levels from the MBI scores to described stress levels from the interview sessions, only entrepreneurs with moderate or strong burnout symptoms in MBI mentioned being stressed in the interview. *"I'm stressed right now."* (Respondent 11, moderate burnout symptoms)

Entrepreneurs with moderate and strong burnout symptoms mentioned the burnout's component of exhaustion. They described burnout as being depleted of their energy or being in need for sleep or relaxation. *"You're thinking about it a lot and sometimes you just want to stop thinking about it. That costs a lot of energy. I think stress is more related to energy for me."* (Respondent 13)

A few entrepreneurs with moderate burnout symptoms mentioned feeling cynicism. They felt detached from their job aspects and often described how they were reluctant to go to work or perform tasks. *"There will be moments when I wake up in the morning and I'm like: 'Ugh, I don't feel like going to the office'. Specifically, because I'm stressed because I know there's so much stuff to do."* (Respondent 11)

Entrepreneurs with moderate burnout symptoms also mentioned feelings of reduced professional efficacy. They felt less capable to focus and perform their tasks. They described lack of achievement and productivity in tasks and responsibilities. *"When there's a lot of negative stress… […] I won't be calling new customers because I feel sad. Then it's difficult to reset yourself."* (Respondent 4)

Personal job performance

Most entrepreneurs, varying from no to strong burnout symptoms, claimed that positive or short-term stress had improved their personal job performance. They could be more productive, be more efficient, perform better, prioritize and learn due to short-term stress like deadlines or short-term goals. *"Stress will help when I want to do a lot of things in one day."* (Respondent 9)

Negative or long-term stress, on the other hand, was often associated with declining performance. The same group of entrepreneurs claimed to make quick, incautious and wrong decisions and lack focus, creativity and innovation. They generally lost the energy or motivation to perform well. *"You're tired, you make bad decisions."* (Respondent 3)

Darwinians claimed that, as they were too focused on their stressful tasks, they would have no time to look at long-term goals or prospects of the company, which they also referred to as the "helicopter view". *"The stress doesn't give you the space to think about your company, to look at the helicopter view of your company."* (Respondent 7)

Business performance

All entrepreneurs from this study claimed stress could impact the business performance. *"It does impact your business performance too."* (Respondent 11)

Darwinians and Darwinian hybrids with moderate or strong burnout symptoms mainly focused on financial consequences. They claimed that short-term stress could stimulate motivation and achievement, especially in the financial performance, such as sales growth and profitability. *"When you're a little bit stressed, it isn't that bad. I think, when you have sales, they could improve."* (Respondent 3)

A few Darwinians with moderate burnout symptoms also emphasized the effects of long-term stress on the firm's strategy. They claimed that long-term stress could negatively impact the firm's strategy as entrepreneurs would have less time to focus on it. "*On a long term, you have less time for the helicopter view, so your strategy is less perfect. It's better when you have the time to be busy with the strategy.*" (Respondent 7)

Furthermore, especially entrepreneurs with an innovative personality, experiencing no to strong burnout symptoms, emphasized how long-term stress could negatively operational performance such as new product innovation and product quality. They claimed long-term stress could impact the creative and innovative work of employees as these employees could feel "blocked". *"The funny thing is that for good innovation, you don't want to have too much stress. You want to have the people being able to think creatively, to come up with creative solutions, creative ideas, create those ideas et cetera. They should be in a position where they do not experience too much stress."* (Respondent 14)

Experienced entrepreneurs with no or moderate burnout symptoms claimed that their personal functional was closely linked to the business performance, as their decisions influenced the company. *"It's like you are your business. At the point that you're not your business anymore, your company is sold or it's the side where you not involved in, but that's quite unlikely. As long as you're daily involved in your business, it's very much of influence."* (Respondent 9)

Private life and well-being

All entrepreneurs described how stress could impact their physical and mental health. They emphasized how especially long-term stress would lead to a loss of energy, feeling tired, moody and unmotivated and to the neglection of basic health needs such as healthy meals. *"For example, you stay at the office, you order a pizza instead of having a healthy meal."* (Respondent 5)

They were also aware of how stress could eventually lead to burnout as they had seen it with other entrepreneurs or co-workers. *"I saw him stressing about getting a burnout."* (Respondent 7)

Interestingly, especially entrepreneurs without prior experience, experiencing moderate to strong burnout symptoms, mentioned how they often brought work stress home. *"It's not that you have stress at the office and when you go outside the office, it's over. It's not like that."* (Respondent 6)

Also, for many entrepreneurs, family, social activities and leisure time had suffered from their work stress. *"And also at home, your family... You want do enjoyable things or things that you like, but you're just thinking about that one thing and the stress."* (Respondent 6)

While most of them had not experienced it themselves, especially older entrepreneurs (35-64 years old) could mention examples or stories in which entrepreneurship led to social isolations, divorces or other personal problems. *"I know a lot of stories of people who are divorced or whatever because of the entrepreneurship."* (Respondent 15, age: 38 years old)

A few experienced entrepreneurs with no burnout symptoms mentioned the concept of a "downward spiral" in which work stress could lead to more negative consequences. For example, it could lead to problems at home, which could lead to more problems at work, et cetera. *"That could be some kind of circle. That means that when you neglect your family, you get stressed at home. They'll say: 'we feel neglected' and then you also have some extra problems at home. So, then you have more stress. That's the downward spiral."* (Respondent 1)

In summary, all entrepreneurs recognized that work stress is a part of the entrepreneurial work life. The entrepreneurs without co-founder and/or prior entrepreneurial experience seemed to experience higher burnout symptoms. While stress was associated with positive consequences, most entrepreneurs also linked it to negative job performance, business performance, health and well-being. The next subchapter discusses how the entrepreneurs cope with stress and its negative consequences.

4.5 Coping

It was found that the high-tech start-up entrepreneurs mainly used problem-focused coping as they took an active stand to deal with the stressful situation. Experienced entrepreneurs also used emotion-focused coping to focus on the negative emotions that came forth out of stressful situations. Entrepreneurs built on the coping resources of control, social support and time outs (work breaks, leisure time and vacation) in their coping behavior. Furthermore, they used their prior experiences in coping with entrepreneurial stress. This chapter focuses on the entrepreneurs' 1) problem-focused coping, 2) emotion-focused coping and 3) prior coping experiences.

Problem-focused coping

All entrepreneurs used problem-focused coping to deal with work stress. They focused on dealing with the (source of the) problem and on finding a suitable solution. *"I'm a problem solver. If I see a problem, the first thing I do is create solutions to that problem and start doing that."* (Respondent 14)

A few younger entrepreneurs (20-34 years old) with moderate burnout symptoms even called it "a part of entrepreneurship" to deal with problems and focus on solutions. *"If you're going to be stressed and just sit around and do nothing, that's your problem. You need to execute. You need to do something. Maybe that's also part of being an entrepreneur. That you realize and say: 'I'm going to take action, I'm going to make a change.'"* (Respondent 11, age: 23 years old)

Especially entrepreneurs with a need for achievement emphasized problem-focused coping as they would actively focus on analyzing and solving the problem. They considered the stress to be a "wake-up call" for action and took responsibility for dealing with the problem. *"I think that stress should be a wake-up call that you're doing something wrong. You're doing something that's not ok. You need to listen to that. […] If stress is caused because you're in a wrong position, then you need to change that in the end."* (Respondent 10)

The entrepreneurs focused on several **coping resources** to deal with the source of the stress. The coping resource of **control** was mainly used by Darwinians with prior start-up experience, who had no to strong burnout symptoms. As they were involved in many aspects of their business, they had access to many information sources. They gathered all information necessary to cope with the situation: they created a clear overview of the important tasks, focused on the "helicopter view" (broader picture) and/or decided to spend time of their work days to thoroughly reflect on the situation. *"If the stress increases, you have to lay back and think about what is really important and what not."* (Respondent 12)

Subsequently, these experienced Darwinians used the acquired information in combination with their decision authority to refine strategies, remove barriers of their daily work life, set priorities or hire new employees to cope with the situation. *"Work hard and try to refine the strategy. Get your core team together and leave everything behind."* (Respondent 8)

Furthermore, one entrepreneur with strong burnout symptoms mentioned his need for autonomy in coping. He tried to increase control in stressful situations to lower stress. *"If you're not in control but you get into control, it reduces the stress. And if you're in a situation that you don't want, then of course you need to move it to a situation that you want."* (Respondent 10)

Most entrepreneurs, with varying burnout symptoms, used **social support** from co-workers, family and friends as it could provide them with the needed instrumental aid and advice to deal with a situation. For example, they contacted others if they lacked skills or knowledge or when they needed advice on how to deal with stressful situations. *"I think it's very important that, especially entrepreneurs, talk about it with other people on how to cope with some situations."* (Respondent 3)

Experienced entrepreneurs with no or moderate burnout symptoms used **work breaks** and **leisure activities** to enable problem-focused coping. The work breaks and leisure activities helped the entrepreneurs to thoroughly think about the problem, break down the problem in parts and find solutions

as they could provide a new perspective on the matter. *"I have to take a time-out and think about nothing. I'll have a bike tour of something like that. And when it's a little bit more relaxed, you see over part by part, so breaking it in smaller parts so the problem isn't that big anymore. So, that's also a coping mechanism. Then you can solve it."* (Respondent 1)

With regards to **personality traits**, a few older and experienced entrepreneurs with an innovate personality and no or moderate burnout symptoms used their innovativeness in coping with stressful situations. They were willing to try new, different and multiple solutions in their **innovative coping**, as a form of problem-focused coping, and emphasized the role of "creativity" and "innovation". *"At that point it didn't work out. We had to be creative."* (Respondent 15)

Also, a few experienced entrepreneurs with a proactive personality and no to moderate burnout symptoms composed a proactive attitude in the arise of stressful situations. They encouraged **proactive coping**, as a form of problem-focused coping, in preparing for and preventing stressful events as they emphasized the need to look forward. *"Preparation is a good thing. An entrepreneur who is badly prepared and bad organized in his company, he has a lot more stress than an entrepreneur who looks forward and is well prepared."* (Respondent 1)

Emotion-focused coping

Especially experienced entrepreneurs with no or moderate burnout symptoms used emotion-focused coping to deal with work stress. Instead of focusing on the (source) of the problem, they focused on dealing with their emotions as they engaged in distracting activities, such as leisure activities (sports, meditation), social activities and consuming alcohol. *"I will be running at the evening to clear my mind and lose the stress and do nothing for my work and watch television."* (Respondent 4)

The entrepreneurs used several **coping resources** to cope with the negative emotions of stress. Experienced entrepreneurs with no or moderate burnout symptoms used **social support** from co-workers, family and friends to distract themselves from emotions associated with work matters. *"I have friends that I can luckily also converse with about other stuff."* (Respondent 2)

Experienced and older entrepreneurs with no or moderate burnout symptoms also used **work breaks** as a distraction from emotional work stressors or as way to re-energize. *"You need to know to sometimes go home, take a break and do nothing for your work. Then you start again and you have a lot of energy. Then you see you're more efficient in your work."* (Respondent 4)

A few experienced entrepreneurs with no or moderate burnout symptoms engaged in **leisure activities** for a distraction from work life, for relaxation and to find new energy. Most of these entrepreneurs engaged in sport activities (running, soccer, fitness, meditation). *"I started running a lot and that helped me to shift my mind-set. So, I work, then I eat, then I run and I don't know how or why, but when I'm*

running, it all makes sense. I can be off the whole evening because I don't think about it anymore." (Respondent 13)

A few older entrepreneurs used these sport activities in combination with more passive leisure activities (watching television), while a few younger entrepreneurs used sports in combination with social activities (going out). *"Go running. Sports, social activities. Not only focus on work, but also go out."* (Respondent 13, age: 25 years old)

Older and experienced entrepreneurs with no burnout symptoms used **vacation time** to help them to calm down, be relaxed and re-energize for work. *"A week vacation or two days or take a day off, helps me to calm down and be more relaxed, get more energy. It's very important that you learn that sometimes you have to quit, take a break and then go further."* (Respondent 4)

With regards to **personality traits**, one entrepreneur with an innovative personality and no burnout symptoms used **innovative coping**, as a form of emotion-focused coping, to find new ways to deal with the emotions of stress. He emphasized how "trying new thing" and "innovation" sometimes helped him to overcome negative emotions. *"Do things that you don't know yourself. Get out of your comfort zone. Do new stuff, try a new sport or mix with new kinds of people."* (Respondent 11)

Hence, similar coping resources and personality traits played a role in both problem-focused and emotion-focused coping. However, the coping resources are used with different purposes. In the case of problem-focused coping, control, social support, work breaks and leisure time are used to deal with the (source) of the stress and to find a suitable solution. In emotion-focused coping, social support, work breaks, leisure time and vacation are used to deal with the emotions that are associated with the stressful events and/or to distract oneself from the stress. Also the personality traits have different roles: proactive entrepreneurs focused on 'proactive coping' as a form of problem-focused coping to prevent stressful situations or solve the stress, whereas innovative entrepreneurs used 'innovative' coping as a form of both problem-focused and emotion-focused coping, to find new ways to solve the stress or to deal with its negative emotions.

Prior coping experiences

All entrepreneurs mentioned how they used knowledge from prior experiences in coping with stressful events. Entrepreneurs with prior ventures often referred to their start-up experience from previous businesses, while entrepreneurs without prior ventures referred to the earlier years of their current start-up or to other relevant business experiences. They all emphasized how they had learned from making mistakes in the past. They had learned which coping mechanisms could effectively change the stressful situation. *"I think it's something you first have to experience and then you have to learn how you can cope with it and how you can deal with the stress. When you know how to deal with it, you can do some things to change it. I think it's something you have to learn."* (Respondent 3)

With regards to personality traits, experienced and older entrepreneurs described they felt more capable and confident through their experiences. The generalized self-efficacy, or confidence in their own capabilities, helped them in decision making and in finding appropriate coping mechanisms. *"You have more confidence of getting things solved. So, that means you have mechanisms*." (Respondent 1)

Furthermore, experienced entrepreneurs claimed to have built stress tolerance through experience with stress. Their stress tolerance helped them to put the stress in perspective which helped them in dealing with the stress. *"As an entrepreneur, when I see some things in my first year when I just started where I was stressed on, and nowadays where I'm stressed on, there's a really big change in what I was stressed on. I think that's something I can learn."* (Respondent 3)

In summary, entrepreneurs mainly used problem-focused coping to deal with stress. Experienced entrepreneurs also used emotion-focused coping. The coping resources of control, social support and time outs were utilized in the coping behavior. Entrepreneurs' personal characteristics could play a role in coping, as entrepreneurs' prior experiences and personality traits seemed to be linked to coping strategies. In the next chapter, all findings are discussed and compared to prior studies and theories.

5. Discussion

This study set out to provide nuanced insights into the work stress of high-tech start-up entrepreneurs. It explored their job demands, control, social support, individual and performance-related consequences of stress and coping behaviors. The findings of the study indicate that the JDCS model's job demands, control and social support played important roles for entrepreneurial stress. However, it seems that the model needs to be extended for the entrepreneurial context: the entrepreneurs in this study experienced more job demands than dimensions provided in the JDCS model, but also used more coping resources than only control and social support to counteract the negative consequences of stress. Furthermore, this study enriches the JDCS model by including entrepreneurial personal characteristics.

In this chapter, the JDCS model is discussed in an entrepreneurial high-tech start-up context, based upon the model's main components of job demands, control and social support. Furthermore, a reflection is provided on the consequences of stress and coping behaviors within the start-up context. Moreover, the role of entrepreneurial characteristics (identity types and personality traits) in stress and coping is discussed. Lastly, an extension of the JDCS model is presented: the JDCS+ model.

5.1 Job Demand Control Support model in the high-tech start-up context

The JDCS model by Karasek (1979) provided a useful guiding framework in the study. As the model is relatively simple and involves only a few job characteristics, it provided the opportunity to go into depth about these job characteristics (see also De Boevere, 2002).

The JDCS model focuses on job demands, control and social support of employees (Karasek & Theorell, 1992). Previous studies claim that entrepreneurs have greater and more job demands than employees, but at the same time have more control and lower social support (see Alstete, 2008; Cardon & Patel, 2015; Prottas & Thompson, 2006; Tetrick et al., 2000). This study aims to provide nuanced insights into the job demands, control and social support in the entrepreneurial context. Specifically, the findings show that entrepreneurs encounter a great amount and variety of job demands in their work life. Furthermore, it shows that even though the entrepreneurs have large control, they still feel limited in their decision-making by co-founders, employees, investors and other parties. Moreover, the study demonstrates that entrepreneurs receive social support at work and from family and friends.

Interestingly, the findings imply that entrepreneurs' job demands, control and social support seem to be linked to personal characteristics, such as identity type, personality traits, age and prior experiences. Therefore, to provide a nuanced and more complete understanding of high tech start-up entrepreneurs' stress, this study enhances the JDCS model by including entrepreneurs' personal characteristics.

The job demands, control and social support in the entrepreneurial high-tech start-up context are explained in the next subchapters.

Job demands

The JDCS model identifies only three job demands: time pressure, work quantity and role conflict (Karasek, 1985). In addition to these three job demands, the entrepreneurs in this study seem to experience a diverse set of other job demands. This is in line with earlier studies who claim that entrepreneurs experience more and diverse job demands compared to employees (Alstete, 2008; Cardon & Patel, 2015).

The study shows that high-tech start-up entrepreneurs consider their responsibilities, work quantity and business immersion as demanding aspects of the entrepreneurial work life. This finding is comparable to earlier studies that have linked these three job characteristics to entrepreneurial work stress and burnout (Dijkhuizen et al., 2016; Grant & Ferris, 2012).

Furthermore, this study demonstrates that important and complex tasks are job demands in the entrepreneurial work life. Because entrepreneurs are closely involved in all steps of the start-up phase, they are generally involved in many important and complex tasks, as also found by Dijkhuizen et al. (2014). Earlier studies have shown that tasks of importance and complexity could present challenges and risks that increase negative emotions such as anxiety and stress (Fisher, Minbashian, Beckmann, & Wood, 2013; Grant & Ferris, 2012).

The entrepreneurs in this study explained that their task environment influenced which tasks were considered complex or important, or which tasks could create the highest workload or time pressure. For example, when there were problems in production, production was the most demanding. Earlier studies have not focused on this role of task environment specifically, but they have emphasized that situational contexts could influence work stress (e.o. DeLongis & Holtzman, 2005; Kulenović & Buško, 2007).

Interestingly, while the entrepreneurs in this study claimed to deal with the demands of important and complex tasks, they also encountered demands of boredom and routines in their work life. As they were involved in all steps and activities of the start-up, they also had to perform routine tasks and boring activities that they considered demanding. Prior studies have also linked routine tasks and boredom to negative emotions and work stress (Fisherl, 1993; van Tilburg & Igou, 2012). Bill and Johansson (2010) claim that these demands of boredom are often overlooked when entrepreneurship is framed as an exhilarating and inspiring adventure.

Mark and Smith (2008) explain that individuals may experience the work environment differently: what may be demanding for one entrepreneur, may not be demanding for another. The high-tech start-up entrepreneurs in this study experienced different sets of job demands, related to their personal characteristics, such as identity type, age, prior experiences and role and responsibilities. Prior studies have also linked entrepreneurial job demands to personal characteristics (Berglund et al., 2016; Grant & Ferris, 2012).

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For example, the JDCS model's job demand of time pressure was mainly experienced by entrepreneurs who had a founder role in the start-up. In this study, most entrepreneurs were involved in either a founder role or inventor role (see Cardon et al., 2009). Earlier studies have also found that high-tech entrepreneurs generally separate these two roles, as they often divide business management and technical activities (Spiegel et al., 2013). In this study, entrepreneurs with a founder role, who were involved in business management activities, experienced time pressure as they had regular business meetings that involved deadlines. They considered the time pressure of these deadlines demanding. Prior research has indicated that deadlines and time pressure may form great demands, as they lower job satisfaction and increase stress (Carree & Verheul, 2012; Kocher, Pahlke, & Trautmann, 2013). In comparison, entrepreneurs with an inventor role, who were involved in technical activities, did not mention any demands of time pressure. This could be explained by their passion for inventing (see e.g. Cardon, Gregoire, Stevens, & Patel, 2013; Cardon et al., 2009).

In a similar manner, the JDCS model's job demand of role conflict was experienced by specific entrepreneurs: entrepreneurs who had both a founder and inventor role, entrepreneurs who had both a family and business life and entrepreneurs with hybrid identity types. Prior studies have also mentioned these role conflicts: entrepreneurs with hybrid identity types generally experience conflicting demands as their multiple identity types could contradict each other (Fauchart & Gruber, 2011). Furthermore, work-family conflicts are relatively common (Ahmad, 2008). Research on the 'family embeddedness perspective' emphasize the synergy between work and family (Eddleston & Powell, 2012; Powell & Eddleston, 2013), but also recognize the conflicts between work and family domains (Cruz, Justo, & De Castro, 2012; Jennings & McDougald, 2007). Last, combinations of investor and founder roles, or combinations of business management and technical activities, are also known to form role conflicts (Cardon et al., 2009; Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2007). In the current study, the role conflicts were mainly experienced in entrepreneurial activities where both roles were present. Prior studies have referred to this concept as 'role centrality' (Burke, 2003; Hoang & Gimeno, 2010) or 'identity centrality' (Cardon et al., 2009). Entrepreneurs in the study who experienced conflicting roles described the situation as demanding and stressful, as predicted by earlier studies (Shepherd, Marchisio, Morrish, Deacon, & Miles, 2010).

According to Arenius and Minniti (2005, p. 234), "entrepreneurship tends to be a young man's game". However, some job demands were greater for younger entrepreneurs. For example, especially younger entrepreneurs in this study encountered demands of resource scarcities. As young entrepreneurs often have not been able to build up resources in their short work life, they commonly lack financial and social resources which makes their position more vulnerable, as also found by Ceptureanu and Ceptureanu (2015). Furthermore, especially the younger entrepreneurs dealt with emotional demands. Earlier studies have shown that emotional well-being improves with age, as older people experience better emotional stability and an easing of perceived emotional intensity (Nashiro, Sakaki, & Mather, 2012; Williams et

al., 2006). In turn, compared to the younger entrepreneurs, the older entrepreneurs in the study considered the job's uncertainty and risk to be a greater demand. Hence, the study shows that age could play a role in the perceived demands of uncertainty and risks. Indeed, also prior research claims that, even though older entrepreneurs are generally more able to take risks because they are more settled, they tend to be more cautious and take less risks (Van Praag & Booij, 2003).

The demands of uncertainty and risks could also be linked to the high-technology industry of the entrepreneurs. As found by earlier studies, this high-tech industry is a dynamic and uncertain environment (Rauch & Hatak, 2016) and high-tech entrepreneurs encounter many risks and uncertainties (Kunda, 2009; Malakh-Pines & Èzbilgin, 2010). The entrepreneurs in this study emphasized that the high-tech industry brought forth uncertainties and risks as demanding parts of their work life.

The most demanding entrepreneurial activities were related to finances as most entrepreneurs felt responsible over employees' and their own income. Darwinians, on the other hand, emphasized financial accomplishments and possible future growth in these activities. In contrast to the other identity types, Darwinians always aim for financial success (see also Fauchart & Gruber, 2011; Sieger et al., 2016).

In summary, from the findings, we were able to extend the JDCS model to account for a larger diversity of job demands for the entrepreneurial high-tech start-up context. Furthermore, we provided a more complete view of job demands by including the role of entrepreneurs' personal characteristics, such as identity type, age, role and responsibilities. These personal characteristics are linked to the perception of the job demands.

Control

In the JDCS model, control consists of decision authority and skill discretion, both vital factors in the life of an entrepreneur. Entrepreneurship is characterized by autonomy and control (Patzelt & Shepherd, 2011), and all entrepreneurs from this study emphasized these aspects as crucial part of their jobs. They claimed to have more control than employees as they were now involved in all firm decisions. Earlier studies have also found that entrepreneurs have more control compared to employees (Buttner, 1992; Fernet, Torrès, Austin, & St-Pierre, 2016; Stephan & Roesler, 2010).

The study shows that especially Darwinians and entrepreneurs with a need for autonomy emphasized their decision authority. Rauch and Frese (2007) describe that entrepreneurs with a need for autonomy highly value the feeling of control, which could explain why they are so focused on decision authority. Darwinians in turn, are generally more self-interested and do not involve social groups (such as communities) in their venture creation process (Fauchart & Gruber, 2011; Sieger et al., 2016), which may enlarge their feeling of control as they do not have to consider a community or society-at-large. In comparison to Darwinians, Communitarians tried to share their skill discretion experiences with

employees. They focused on developing their community of co-workers, as predicted by Fauchart and Gruber (2011).

The study shows that skill discretion was appreciated by all entrepreneurs. However, older entrepreneurs explained they had sacrificed some of their task variety in order to focus on their core tasks and entrepreneurial qualities. Several studies have claimed that the delegation of tasks could benefit entrepreneurs, as they become more involved in their core tasks, perform better and may prevent stressful work situations (Lans, Biemans, Verstegen, & Mulder, 2008; Papulová & Mokroš, 2007).

Interestingly, while the entrepreneurs claimed to have all decision authority and large skill discretion, they stressed their continuous dependency on other parties. For example, entrepreneurs generally shared decision authority with their co-founders, as predicted by Spiegel et al. (2013). Furthermore, entrepreneurs with many employees involved their employees in decision-making processes. Prior studies have shown that entrepreneurs could be motivated to involve employees to prevent low understanding and acceptance of decisions on the work floor (Lunenburg, 2011). Moreover, entrepreneurs who had business partners and investors had to consider them in decision-making as they often demanded a voice. Even though partnerships could bring many benefits to an organization, prior studies have shown they could also lower the entrepreneurs' control (Drover, Wood, & Payne, 2014; Street & Cameron, 2007; Wasserman, 2017), especially when the business partner is larger or more powerful than the entrepreneurs' start-up (Street & Cameron, 2007). In addition, in comparison to Communitarians and Missionaries, Darwinians felt more dependent on the behavior and products of competitors, as predicted by Fauchart and Gruber (2011). Finally, especially younger entrepreneurs felt limited by the rules and regulations provided by the government. Younger entrepreneurs more often lack the resources and expertise to deal with these regulations appropriately (Hulsink & Koek, 2014).

In summary, while entrepreneurs were the ones to make all decisions regarding their ventures, the findings show that their choices were still limited by co-workers, rules, regulations and business partners. As such, it seems that even the jobs with most control are still restricted by practicalities and partnerships. Prior studies have discussed more often how institutions, policies and social networks influence entrepreneurial experiences and behaviors (see Autio, Kenney, Mustar, Siegel, & Wright, 2014; Levie & Autio, 2011). Especially in the dynamic setting of high-tech firms, practicalities and partners can impact an organization (Mulders & Van den Broek, 2012; Trimi & Berbegal-Mirabent, 2012). Social support also plays a role in the entrepreneurial work life, which is explained in the next subchapter.

Social support

Social support within the JDCS model is only focused on social support from supervisors and co-workers (Karasek & Theorell, 1992). Since entrepreneurs have no supervisors, they are expected to miss out on social support (van der Doef et al., 2000). However, this study demonstrates that the entrepreneurs

were able to receive support from their co-founders as their co-founders understood their situation and entrepreneurial journey. Prior studies have indeed shown that co-founders are able to provide social support in a very personal matter (Forster & Jansen, 2010).

Entrepreneurs without co-founders often appreciated support from employees. Especially Communitarians focused on their community of co-workers to find support, as predicted by Fauchart and Gruber (2011). Some of these entrepreneurs built an "educational" or "learning" company culture that emphasized employee learning processes. These investments in employees could lead to increased social support from the employee community (Kuvaas & Dysvik, 2010). In turn, a few Darwinians did not involve employees as they doubted the 'entrepreneurial' mindset or capabilities of personnel. This may be explained by their focus on being a competent professional (see Fauchart & Gruber, 2011; Sieger et al., 2016), hence, they did not want to involve people who were not 'competent' enough.

As the social support at work could be limited, most entrepreneurs looked for aid outside their work environment. They asked befriended entrepreneurs for advice or involved family and friends when needed. Comparable to earlier findings, family members and friends were mainly able to provide emotional support (Tetrick et al., 2000), but also provided useful advice, inspiration and business related resources (Arregle et al., 2015). The use of this instrumental support from family is in line with the 'family embeddedness perspective' that explains how family plays a role in the venture creation process, for example by providing financial resources (see Aldrich & Cliff, 2003; Sieger & Minola, 2016). Besides receiving social support from family and friends, a few entrepreneurs joined an entrepreneurial community to find people with similar entrepreneurial experiences. They considered the community to be valuable to their venture creation process. Prior studies have shown that startup communities are able to provide support, encouragement and sharing of experiences (Feld, 2012; Mason & Brown, 2014).

Interestingly, Missionaries wanted to keep work and family life more separated. Compared to the other entrepreneurs from the study, they purposely did not build upon their personal network to receive social support. Earlier research has shown that Missionaries are generally expected to receive support from other sources outside the work environment: they could receive help from individuals who support their mission (Bornstein, 2007) and from networks and support structures that have been built to help such initiatives (Gibbs, 2008; Smith, 2003). However, the Missionaries from this study also did not mention these forms of support. Perhaps they were not yet able to abstract the support as they were still in the start-up phase. As entrepreneurs in start-ups generally face scarcities of resources (Baron, 2010; Paternoster et al., 2014), the Missionaries in this study could have lacked the resources to take part in support structures or to build a social network and find supporters for their mission.

Even though family and friends were able to provide useful support, instrumental aid from outside the work environment could only suffice if supporters had a basic knowledge about entrepreneurship or the high-tech industry. The entrepreneurs emphasized that one would need to understand the industry's

dynamics in order to provide adequate instrumental aid. Compared to other industries, the high-tech industry is characterized by rapid change, uncertainty and competition (Collins & Clark, 2003; D'Aveni, 1998; Lien et al., 2007). Even though family members and close friends generally play an important role in providing social support, it has been discussed that they often lack industry-specific knowledge and experiences (Fuentes, Arroyo, Bojica, & Pérez, 2010; Ozgen & Baron, 2007).

In summary, entrepreneurs received support on the work floor from co-founders or employees, but they were also supported by (entrepreneurial) family members, friends and start-up communities. To enable a better understanding of stress in the start-up process, the JDCS' component of social support could be extended to include social support from outside the work environment. Personal characteristics such as identity type and personality traits also need to be considered. The next subchapter discusses stress, consequences and coping in the entrepreneurial high-tech start-up context.

5.2 Work stress, consequences and coping

Work stress and job burnout

Alstete (2008) states that stress is a major aspect of being an entrepreneur. Comparable to this research, the entrepreneurs in this study all experienced stressful events in their work life. They claimed to have more and different types of stress compared to employees. Earlier studies have also suggested that entrepreneurs have higher stress levels than employees (Cardon & Patel, 2015).

Earlier studies mention forms of positive stress (Akande, 1994; Goodman, 2008) and negative stress (Tennant, 2001). The entrepreneurs in this study experienced both types of stress. They associated positive, short-term stress with motivation and action, and long-term stress with demotivation and problems related to physical, emotional and social well-being.

A few younger entrepreneurs compared the entrepreneurial process to a rollercoaster in the sense that it has alternating periods of high and low stress. Prior studies have used the same comparison to describe the entrepreneurial process (see Cardon & Patel, 2015; Chen, 2009; Moltz, 2003). The younger entrepreneurs may have experienced this so-called rollercoaster more than older entrepreneurs, because older people experience better emotional stability and an easing of perceived emotional intensity (Nashiro et al., 2012; Williams et al., 2006).

Most entrepreneurs in this study experienced symptoms of a job burnout. Interestingly, the entrepreneurs with more entrepreneurial experience and co-founders showed lower burnout symptoms, whereas strong burnout symptoms involved entrepreneurs without prior experience or co-founders. Prior start-up experience is considered to be "a source of learning that empowers entrepreneurs to cope effectively with the demands of the business venture" (Uy et al., 2013, p. 584). Hence, prior start-up experience could help an entrepreneur to deal with job demands. Furthermore, prior studies have shown that co-

founders are able to provide social support (Forster & Jansen, 2010) and social support could decrease burnout feelings (Hombrados-Mendieta & Cosano-Rivas, 2013; Wang et al., 2014).

Consequences of entrepreneurial stress

The entrepreneurs in this study claimed that positive, short-term stress could improve their personal job performance (efficiency, prioritization), whereas negative, long-term stress was associated with declining personal performance (decision making, creativity). Comparable findings are found in earlier studies (Cardon & Patel, 2015; Dijkhuizen et al., 2016; Goodman, 2008; Shepherd et al., 2010). In accordance with Cardon and Patel (2015), the entrepreneurs closely linked their personal job performance to business performance as their personal decisions could influence the company's results.

Darwinians emphasized the negative effects that stress could have on financial performance. Darwinians are generally likely to focus on finances as their main goal is to have financial success (see Fauchart & Gruber, 2011). Most entrepreneurs, however, emphasized that stress would have the most disastrous effect on the business' operational performance as stress "blocks" innovation and creativity. Byron, Khazanchi, and Nazarian (2010) explain that stressors can indeed decrease creativity as they demand cognitive resources that cannot be used for creative thinking, which subsequently results in the use of simpler cognitive strategies that again weaken creative and innovative mindsets.

Cardon et al. (2005) describe that, as entrepreneurs strongly identify with their business, it is difficult to separate their work selves from their personal selves. The entrepreneurs in this study elaborated upon this close connection by telling stories about how stress at work had or could impact their personal physical and mental health, and how it had disturbed their work-life balance. Furthermore, comparable to findings by Carree and Verheul (2012), this study shows that entrepreneurs sacrifice social relations and leisure time of their private life to deal with their stressful work situation.

In summary, work stress could have both positive and negative consequences for personal and business performance. However, health, well-being and social relations are often sacrificed. The next subchapter discusses how entrepreneurs cope with work stress.

Coping with entrepreneurial stress

As previously found by Patzelt and Shepherd (2011), entrepreneurs use problem-focused and emotion-focused coping strategies to deal with stressful situations. Most entrepreneurs from this study mainly focused on dealing with the direct source of the stress. Emotion-focused coping on the other hand, was used to deal with the experience of feeling stressed. Entrepreneurs who used emotion-focused coping often focused on distracting activities, such as playing sports or watching tv. For some entrepreneurs, these distractions also helped them to take a new perspective of the problem to find more suitable solutions, as a form of problem-focused coping. Drnovsek et al. (2010, p. 198) refers to this as "reframing of the problem". Hence, comparable coping resources were used in problem-focused and

emotion-focused coping, but they were used with different purposes. In problem-focused coping, the resources were used to solve the (source of the) problem, and in emotion-focused coping, they were used to deal with the emotions of stress.

According to the JDCS model, control and social support are the main coping resources (Joudrey & Wallace, 2009; Van der Doef & Maes, 1999). The entrepreneurs from this study indeed used control and social support to deal with stressful situations. Both resources helped entrepreneurs to cope with stress and enhanced their well-being. The coping resource of control was used in problem-focused coping, as entrepreneurs used their high decision authority to change the stressful situation, as predicted by Patzelt and Shepherd (2011). Social support, in turn, was used to deal with the source of the stress, but was also utilized to cope with the emotions related to stress. This is in line with earlier findings (Heaney et al., 1995; Joudrey & Wallace, 2009). Next to control and social support, the entrepreneurs also used other resources to deal with stressful situations: work breaks, leisure time and vacation. The work breaks are considered a necessary and useful resource to deal with stress, as they provide a distraction and help entrepreneurs to re-energize (Uy, Foo, & Song, 2013). Furthermore, breaks often help to reframe the problem, as mentioned by Drnovsek, Örtqvist, and Wincent (2010), and hereby enable problem-focused coping as they provide a new perspective on the matter. Leisure time, such as playing sports and watching tv, and vacation time also form coping resources as they provided the entrepreneurs a distraction from work, helped them to find a better work-life balance and see new perspective on work problems. Hence, these three coping resources are used in both problem-focused and emotion-focused coping. Joudrey and Wallace (2009) have recognized work breaks, leisure time and vacation as helpful as they decrease negative emotions and can provide new insights. These 'time outs' from work (Joudrey & Wallace, 2009, p. 198) are somewhat related to the resource of control as an entrepreneur can decide himself how and when to organize a work break, leisure time and vacation (Joudrey & Wallace, 2009; Uy et al., 2013).

Interestingly, entrepreneurs without prior entrepreneurial experience mainly focused on problem-focused coping, whereas experienced entrepreneurs used a combination of problem-focused and emotion-focused coping. Research has shown that prior start-up experience could facilitate the effective use of emotion-focused coping and help entrepreneurs to combine the two coping strategies (Uy et al., 2013). Furthermore, entrepreneurs who use both problem-focused and emotion-focused coping are generally more able to cope with stressful situations and reduce negative emotions (Blonk et al., 2006; Patzelt & Shepherd, 2011). In accordance with these earlier findings, the experienced entrepreneurs, who used both coping strategies, had lower burnout scores compared to entrepreneurs without prior start-up experience.

Moreover, entrepreneurs without prior start-up experience mainly used the coping resource of social support, whereas experienced entrepreneurs also used the coping resources of control, work breaks, leisure time and vacation. Earlier studies have shown that entrepreneurs with prior start-up experience

are generally more able to decide and act in stressful situations and they feel more in control as they have already been exposed to similar situations in prior experiences (Uy et al., 2013). Entrepreneurs with prior experience may have developed the needed expertise, skills and confidence to use their control to cope with stressful situations (see Ceptureanu & Ceptureanu, 2015; Uy et al., 2013). Furthermore, novice entrepreneurs are often more reticent to take time off as they fear that problems could become worse, whereas experienced entrepreneurs realize that breaks are necessary to deal with stress (Baron, 2008; Uy et al., 2013). In general, prior start-up experience may provide easier access to a greater variety of coping resources (Quan, 2012; Uy et al., 2013).

Entrepreneurial personality traits were also found in the coping behavior of entrepreneurs. Experienced entrepreneurs with a proactive personality used proactive coping as a form of problem-focused coping to deal with stress. They prepared for stressful events that could happen in the future, as predicted by Allen and Leary (2010). At the same time, experienced entrepreneurs with an innovative personality used innovative coping as a form of problem-focused to actively change a stressful situation, or used it as a form of emotion-focused coping to deal with the emotions of stress. They claimed that the use of creativity and innovation reduced their feeling of stress, in accordance with earlier findings (Janssen, 2004; Woodward & Hendry, 2004). Hence, the study shows that personality traits could play a role in the coping behavior of entrepreneurs. Personality traits have been linked to coping behavior more often in literature (see Connor-Smith & Flachsbart, 2007). Younger and more inexperienced entrepreneurs may not have been able to build upon these personality traits because they generally lack resources (see also Ceptureanu & Ceptureanu, 2015).

In summary, as expected, all entrepreneurs used problem-focused coping to deal with stress. Interestingly, mainly the experienced entrepreneurs used emotion-focused in addition to problem-focused coping. Next to the coping resources of control and social support, the study adds time outs as a third resource to deal with stress. The next subchapter discusses the role of entrepreneurial characteristics in work stress and coping behavior.

5.3 Entrepreneurial characteristics

Shepherd et al. (2015) state that entrepreneurs together form a heterogeneous group. Even though the entrepreneurs in this study were all male and founded a high-tech IT start-up in the period of 2011-2016 in the region of Twente, they still formed a heterogeneous group. They represented different age groups, varied in their entrepreneurial role and responsibilities, experienced different task environments, ranged from no to 20 years of entrepreneurial experience and chose to involve no, one or multiple co-founders. The role of these personal characteristics in the job demands, control, social support, stress and coping behavior has already been explained in the previous subchapters. However, there are two entrepreneurial characteristics that are elaborated upon in more detail in this subchapter: the entrepreneurial social identity types and personality traits.

Entrepreneurial identity types

In this study, three types of entrepreneurs were distinguished based on the typology of Fauchart and Gruber (2011). Prior research has already claimed that entrepreneurial identity types could influence entrepreneurs' well-being and burnout symptoms (Hatak et al., 2015). This study contributes to these findings by showing how the social identity types seem to relate to job demands, social support and control in the JDCS model.

Darwinians are described as self-interested as they mainly focus on monetary satisfaction (Fauchart & Gruber, 2011). In this study, Darwinians' job demands all related to finances. Their most important and demanding activities were associated with finances, income and possible future growth. They focused on their decision authority to have the power to perform their most efficient or business school management approaches to ensure income and profits. They have high decision authority because they do not have to consider a community or society-at-large, in comparison to Communitarians and Missionaries (see also Haslam, Jetten, Postmes, & Haslam, 2009; Peredo & Chrisman, 2006). Even though Darwinians recognized the added value of social support, they were critical of potential supporters. They often considered employees, family and friends incapable to provide adequate support as they would not have the right 'mindset', knowledge or experience. Hence, as also predicted in earlier studies, Darwinians have high decision authority but lower social support (Haslam, Jetten, Postmes, & Haslam, 2009; Peredo & Chrisman, 2006). Their high decision authority could reduce stressful feelings (Hytti, Kautonen, & Akola, 2013; Prottas & Thompson, 2006). Interestingly, however, the Darwinians from this study varied from no to high burnout symptoms. The Darwinians with prior experience had the lowest burnout symptoms. These experienced Darwinians claimed to use their control to cope with stressful situations. Their prior experience could have provided them insights on how to use their high decision authority to lower stress (see Corbett, 2005; Uy et al., 2013). The Darwinians with moderate or high burnout symptoms may still have to learn how to effectively use their high control to deal with stress.

In comparison, the Communitarians in this study were mainly focused on the benefits and development of their community. As predicted in earlier studies, they were able to receive support from the community and make use of it (Gallagher et al., 2014; Haslam et al., 2005; Reicher et al., 2006). Whereas Darwinians in this study mainly focused on control, Communitarians emphasized the social support from their community. They also claimed to use this social support to cope with stress. For example, they asked for advice from their community members in stressful events. Earlier studies have shown that support from communities can reduce work stress (Haslam et al., 2005; Van Dick et al., 2017). In line with these findings, Communitarians in this study did not experience high burnout symptoms. However, they did have moderate burnout symptoms. These moderate burnout symptoms could be explained by the combination of high job demands and lower control to counteract these demands (see Hytti et al., 2013; Prottas & Thompson, 2006). Compared to Darwinians, Communitarians have lower

control as they consider their community's interests in decision-making processes (see Fauchart & Gruber, 2011; Sieger et al., 2016). This could explain why Communitarians in this study mainly used their social support and not control to deal with stressful events.

Interestingly, compared to Communitarians, Missionaries were not as focused on support. Most Missionaries refused to receive support from family and friends and they did not receive help from individuals supporting their missions or from network and support structures, as was predicted in earlier studies (Bornstein, 2007; Gibbs, 2008; Smith, 2003). Furthermore, they were not as focused on decision authority as the Darwinians. However, even though they seemed to focus less on control and social support, the Missionaries did not show higher burnout symptoms than other entrepreneurs. Specifically, compared to Darwinians and Communitarians, the Missionaries all had no or moderate burnout symptoms. This could be explained by their mission to contribute to society. Earlier research has claimed that the feeling of helping society benefits one's health and well-being (Weinstein & Ryan, 2010).

Next to identity types, personality traits also seemed to play a role in entrepreneurial work stress and coping behavior. The next subchapter discusses the role of entrepreneurial personality traits.

Entrepreneurial personality traits

Scholars claim that personality traits could influence stress (Berglund et al., 2016; Brandstätter, 2011; Ebstrup et al., 2011; Wincent & Örtqvist, 2009) and coping behavior (Connor-Smith & Flachsbart, 2007; Perry et al., 2008). This study contributes to these findings by showing how entrepreneurial personality traits seem to relate to job demands, social support, control and coping behavior. Specifically, the study focused on the six entrepreneurial traits distinguished by Rauch and Frese (2007).

Entrepreneurs' need for achievement is suggested to prevent burnout as it fosters positive emotions and resilience when individuals are confronted with strong work demands (Eisenberger et al., 2005; Moneta, 2011). In this study, need for achievement seemed to play a role in the coping behavior as it motivated entrepreneurs to find the problem of the stress and try to solve it. Earlier studies have also shown that need for achievement is often focused on accepting responsibility and seeking feedback on how to solve problems (Rauch & Frese, 2007).

Generalized self-efficacy seemed to play a role in the coping behavior of experienced entrepreneurs. These entrepreneurs emphasized the importance of confidence or self-efficacy to deal with stressful situations. As predicted by Roddenberry and Renk (2010), generalized self-efficacy helped the entrepreneurs to reduce the negative effects of stress as they felt more able to control a stressor. According to Lu et al. (2005), entrepreneurs with high self-efficacy use problem-focused and entrepreneurs with low self-efficacy use emotion-focused coping. In this study, however, entrepreneurs with high self-efficacy actually used both problem-focused and emotion-focused both to deal with stress.

They claimed they had acquired the self-efficacy through prior experiences. Hence, the use of both coping strategies could be explained based on the prior experiences, as shown by Uy et al. (2013).

Innovativeness also seemed play a role in the coping behavior of experienced entrepreneurs. Experienced entrepreneurs with an innovative personality used innovative coping as a form or problem-focused coping to change the stressful aspects of a situation, as predicted by earlier studies (Fay et al., 2017; Woodward & Hendry, 2004). Interestingly, however, innovative coping was also used as a form of emotion-focused coping in which entrepreneurs sought for new ways to deal with the negative emotions of stress. Innovative coping may thus not necessarily be limited to problem-focused coping.

In this study, entrepreneurs with a need for autonomy emphasized the importance of decision authority in their work life. They used their need for autonomy in coping with stress as they lowered stress by increasing their control, as predicted by Cardon and Patel (2015). Earlier studies claimed that need for autonomy could lower agreeableness (Brandstätter, 2011) and therefore social support (Bowling et al., 2005; Rauch & Frese, 2014; Swickert, 2009). However, in this study, most entrepreneurs with a need for autonomy were still able to receive adequate support from both the work and home environment.

As predicted in earlier studies (Bullough et al., 2014; Rauch & Frese, 2007), stress tolerance helped entrepreneurs to persist in stressful situations. Entrepreneurs with stress tolerance felt that they had learned how to resist stress through prior start-up experience and that it was a way of coping with work stress.

Proactive personality played a role in the coping behavior of experienced entrepreneurs. Experienced entrepreneurs with a proactive personality used proactive coping as a form of problem-focused coping to prepare for stressful events that could happen in the future, as predicted by Allen and Leary (2010). In fact, a few experienced entrepreneurs claimed it was the most important form of coping as it would prevent stress. Hambrick and McCord (2010) have generated similar results, claiming that other coping styles may not be necessary if proactive coping is successfully used.

Interestingly, overall, especially experienced entrepreneurs' personality traits seem to moderate stress and coping behavior. Prior experience could have helped them to learn how to make use of these traits, as also predicted in earlier studies (Politis & Gabrielsson, 2009; Rocha, Carneiro, & Varum, 2015).

In short, both job design (job demands, control and social support) and entrepreneurial characteristics (entrepreneurial identity types and personality traits) seemed to influence entrepreneurial stress and coping behavior. The next chapter presents an extension of the JDCS model to include both factors.

5.4 Extension of the Job Demand Control Support model: the Job Demand Control Support Plus model

Based on the findings of the study, an extension of the JDCS model is presented (see Figure 2). This enriched model, the Job Demand Control Support Plus (JDCS+) model, is designed to reflect the work stress of high-tech entrepreneurs in the start-up context. The model considers the entrepreneur's role as it is constructed within the context of the entrepreneur's personal characteristics and environment. It considers the entrepreneurs' age, gender, identity type, prior start-up experiences, personality traits and the start-up's industry, company culture, presence of co-founder(s), role and responsibilities and task environment. Even though no conclusions can be drawn on the role of gender based on this study, prior studies have indicated that gender plays a role in works stress and coping behavior (Purvanova & Muros, 2010; Wolf, 2016). Furthermore, one entrepreneur in this study also pointed out potential gender differences. Therefore, gender is also included as one of the personal characteristics to consider.

According to the model, entrepreneurs can experience multiple job demands that directly increase stress. The original set of job demands from the JDCS model is extended with job demands found in the qualitative data from this study. Furthermore, the JDCS+ model's component of control not only involves decision authority and skill discretion, it also considers the (in)dependence on other parties. When one is independent from others, the control increases. Social support, in turn, is extended to also include support from family, friends and start-up communities. Furthermore, time outs are added to include the coping resources of work breaks, leisure time and vacation.

Moreover, the JDCS model is enriched to include stress/burnout with burnout dimensions, consequences of stress and coping behavior. The entrepreneurs from the study mentioned they experienced two forms of stress: positive, short-term stress and negative, long-term stress. The JCDS+ model only contains the negative stress as the study has focused on how entrepreneurs cope with negative stress experiences. In the extended model, stress and burnout have consequences for the entrepreneurs' personal job performance, business performance and private life. The entrepreneurs can use problem-focused and emotion-focused coping to deal with the stress. They can draw upon several coping resources in the arise of stressful events: control, social support and time outs. Although the JDCS+ model includes coping resources, it should not be confused with the more recently developed Job Demand Resources (JDR) model that includes resources to lower job demands, increase involvement and increase commitment (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Comparable to the original JDCS model, a distinction is made between additive and interactive (buffering effects):

1. **Additive effects:** entrepreneurs that have high job demands, low control, low social support and low time outs experience higher levels of stress.

2. **Interactive (buffering) effects:** entrepreneurs that have high job demands, high control, high social support and time outs can buffer the negative consequences of the high job demands by using their control, social support and time out.

In the additive effects, coping, social support and time outs directly influence the stress or burnout levels of the entrepreneur. For example, when entrepreneurs have social support, their stress levels are lower. The interactive (buffering) effects in comparison, relate to the indirect impact of control, social support and time outs. They focus on how control, social support and time outs can be used to counteract the negative consequences of high job demands. For example, when entrepreneurs have social support, they can use their social support to counteract or cope with the negative consequences of job demands.

This model of job demands, control, social support, time outs, stress, consequences and coping strategies is within the context of the entrepreneur. The entrepreneurs' personal characteristics influence the job demands they experience, the coping strategies and resources they capture and how they use them.

Figure 2 shows the new JDCS+ model. Figure 3 shows the same model, but it highlights the contributions of this study to the JDCS model in grey blocks.

Job Demand Control Support Plus Model
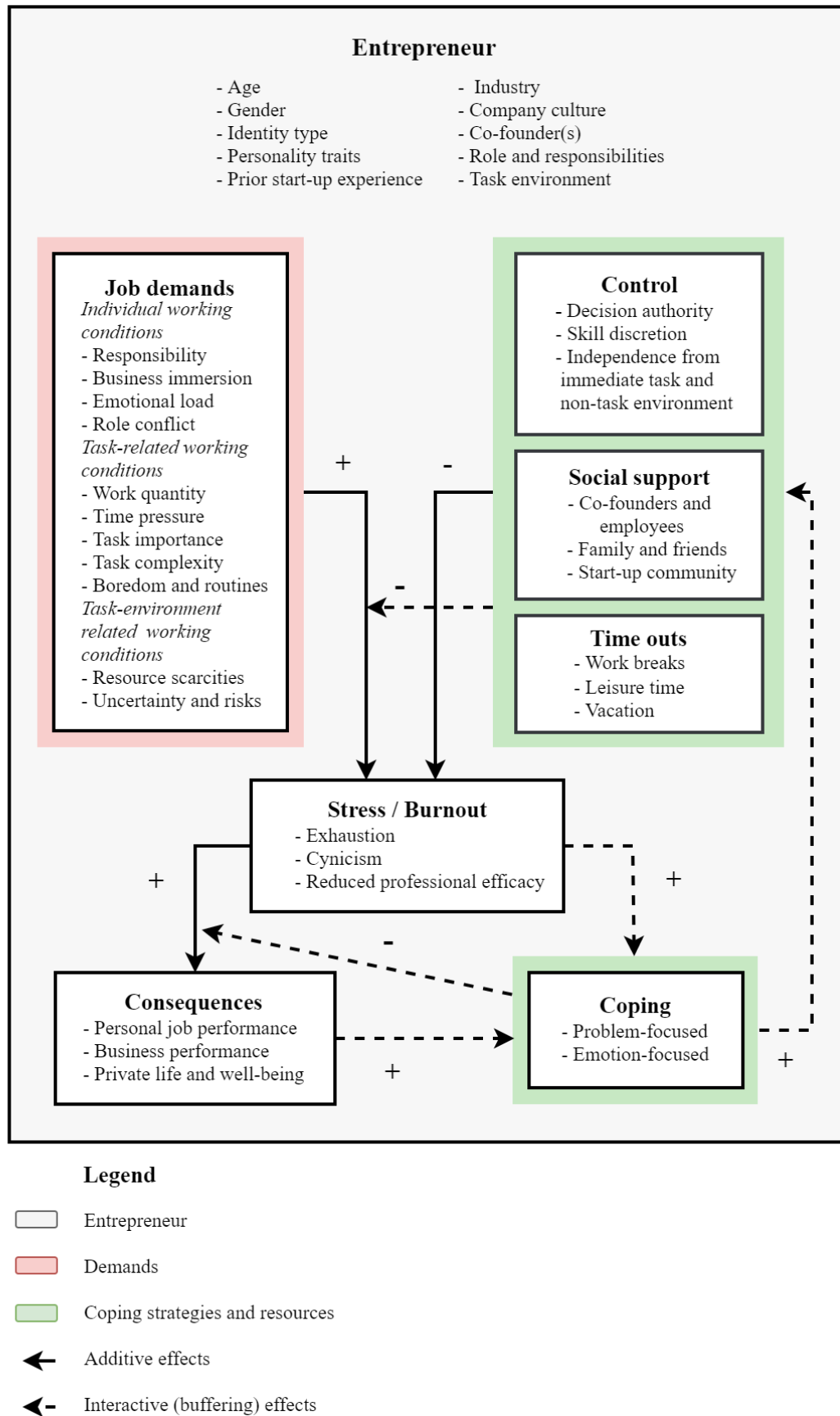
Figure 2. Job Demand Control Support Plus model

Job Demand Control Support Plus Model

Entrepreneur
- Age
- Gender
- Identity type
- Personality traits
- Prior start-up experience
- Industry
- Company culture
- Co-founder(s)
- Role and responsibilities
- Task environment

Job demands
Individual working conditions
- Responsibility
- Business immersion
- Emotional load
- Role conflict
Task-related working conditions
- Work quantity
- Time pressure
- Task importance
- Task complexity
- Boredom and routines
Task-environment related working conditions
- Resource scarcities
- Uncertainty and risks

Control
- Decision authority
- Skill discretion
- Independence from immediate task and non-task environment

Social support
- Co-founders and employees
- Family and friends
- Start-up community

Time outs
- Work breaks
- Leisure time
- Vacation

Stress / Burnout
- Exhaustion
- Cynicism
- Reduced professional efficacy

Consequences
- Personal job performance
- Business performance
- Private life and well-being

Coping
- Problem-focused
- Emotion-focused

Legend

	Entrepreneur
	Demands
	Coping strategies and resources
←	Additive effects
◄-	Interactive (buffering) effects

Figure 3. Job Demand Control Support Plus model: contributions of this study

6. Conclusion

This final chapter reflects on the study's contributions to theory, practice and policy. It also discusses the limitations of the study that need to be considered and addresses insights for future research.

6.1 Contributions to theory

For the analysis of the data, adaptive theory was used, integrating both extant theories and empirical data. This incorporation of both inductive and deductive elements has provided nuanced insights into the work stress and coping behavior of high-tech start-up entrepreneurs.

This study contributes to entrepreneurship research in five ways. First, the study contributes to literature on entrepreneurial health and well-being by applying the JDCS model to the entrepreneurial context. Specifically, the study provides nuanced insights in the job demands, control and social support of high-tech entrepreneurs in the start-up process. Second, this study focuses specifically on the start-up phase of high-tech firms. Even though the entrepreneurial start-up phase is already demanding, high-tech entrepreneurs face even greater demands in this phase because their dynamic environment is uncertain and constantly evolving (Trimi & Berbegal-Mirabent, 2012). As high-tech firms contribute to economies (Collins & Clark, 2003; Lien et al., 2007), it is important to provide a better understanding of the dynamics of high-tech start-ups (Hart & Acs, 2011). This study contributes to literature on high-tech start-ups by providing nuanced insights in the work stress of high-tech entrepreneurs in the start-up process. Third, the study discusses the entrepreneurial work life on different levels: the general entrepreneurial work life, entrepreneurial activities and daily office matters. Most studies only consider the general entrepreneurial work life (e.o. Baron et al., 2016; Grant & Ferris, 2012) and do not involve activities or matters that form important parts of the daily entrepreneurial work life (see Carter et al., 1996; Gartner, 1985). Fourth, the study considers entrepreneurs' personal characteristics, such as identity type and personality traits. The study hereby responds to calls to include personal characteristics in entrepreneurship research (Berglund et al., 2016; Rauch & Frese, 2007). Specifically, in this study entrepreneurs' personal characteristics were related to entrepreneurial job demands, control, social support, stress, consequences and coping behavior. Especially entrepreneurs' identity type, prior start-up experience and co-founders played an important role in work stress. Fifth, the study responds to the call of Bill and Johansson (2010, p. 166) to conceptualize entrepreneurship as "comprising both mundane and spectacular aspects". As most research focuses on the busy, exhilarating and inspiring aspects of the entrepreneurial work life, it tends to overlook boring and routine tasks that are also part of the entrepreneurial journey (Bill & Johansson, 2010). In this study, these boring tasks and routines were considered to be demanding aspects of the entrepreneurial work life.

The study contributes to stress research in three ways. First, the study contributes to studies on work environment and health as it enriches the JDCS model to consider personal characteristics, such as identity type and personality traits. Second, the study adds to recent calls to explore the work stress of

entrepreneurs (Cardon & Patel, 2015). The current study demonstrates how entrepreneurs experience great job demands that they counteract with the coping resources of control, social support and time outs to decrease stress. Third, this study re-emphasizes the role of time outs (work breaks, leisure time and vacation) in dealing with stress. Prior studies have already mentioned the use of time outs in coping behavior (Folkman, 2011; Joudrey & Wallace, 2009). The current study adds time outs as a third coping resource for the JDCS model.

6.2 Contributions to practice and policy

The findings are relevant in practice for current and future entrepreneurs as they provide insight in entrepreneurial stress, health and well-being. Generally, entrepreneurs have a limited awareness and understanding that their health influences their business performance (Nordenmark, Vinberg, & Strandh, 2012; Volery & Pullich, 2010). The current study helps to create entrepreneurs' awareness and understanding of the importance of health as it focuses on the link between job demands, stress, health, well-being and performance-related consequences. Furthermore, the study helps entrepreneurs to understand that, even though stress is a part of entrepreneurship, they are able to deal with it when they use the appropriate coping resources (Cardon & Patel, 2015; Patzelt & Shepherd, 2011). Specifically, the study shows that entrepreneurs learn to cope with stress through experience. Entrepreneurs are advised to focus on the educational aspects of prior stressful situations and mistakes as these experiences provide useful insights on how to deal with future stressful events (see also Uy et al., 2013).

Entrepreneurs generally value their high job control. This study helps them realize that their entrepreneurial job control could also be used to help them deal with stressful events. Specifically, the study shows that entrepreneurs could use their control to gain access to the needed resources to deal with stress (e.g. gain access to information). Furthermore, if entrepreneurs wish to maintain their high levels of control, they are advised to not involve business partners or investors in their start-up as they would become dependent on them in decision making processes (see also Mulders & Van den Broek, 2012; Trimi & Berbegal-Mirabent, 2012).

Furthermore, even though entrepreneurs appreciate their control, they still may want to consider involving co-founders in their start-up business. Co-founders generally lower control as decision-making is shared, but they could enhance entrepreneurs' well-being and health by providing social support (see also Forster & Jansen, 2010; Hombrados-Mendieta & Cosano-Rivas, 2013; Wang et al., 2014). Furthermore, entrepreneurs could profit from an entrepreneurial network as other entrepreneurs with experience are able to provide useful social support. Entrepreneurs could focus on building on their current relations with entrepreneurs or join an entrepreneurial community.

Entrepreneurs may also want to consider time outs: work breaks, leisure time and vacation could enhance well-being and health and lower stress (Joudrey & Wallace, 2009). Even though entrepreneurs are generally 24/7 involved in their business, these breaks are essential for relaxation and dealing with

stress. Especially novice entrepreneurs, who are often reticent to take time off, should realize that time outs help them to deal with stress (Baron, 2008; Uy et al., 2013).

Interestingly, the study shows that entrepreneurs' personal characteristics play a role in work stress. Hence, individual differences could influence how one experiences job demands, stress and coping. Therefore, entrepreneurs need to consider their own personal characteristics and situation to find the most appropriate coping mechanisms to deal with stressful events. They are advised to consider their personal preferences and experiences in their coping behavior.

Besides providing insights to entrepreneurs, the study also provides organizations with useful insights on job design, well-being and health. The study's entrepreneurial context is of interest because many companies encourage employees to perform entrepreneurial behavior in order to cultivate innovation and enhance business performance (Hayton, 2005; Kuratko, Hornsby, & Covin, 2014). Furthermore, as employee well-being and health are related to business performance (Van De Voorde, Paauwe, & Van Veldhoven, 2012), it is relevant for these organizations to know how to invest in workers' health and well-being. According to this study, organizations could create a healthy environment for entrepreneurial employees by designing jobs with control in which employees have decision authority, skill discretion and are independent from sources from immediate task and non-task environments. Furthermore, the companies should also consider social support and time outs to enhance employee well-being in these entrepreneurial job designs. For example, they could build a community of social support in the organization. Time outs could be facilitated by providing employees fair options to take work breaks or vacation time. Companies may also invest in accommodations for employees' leisure time, such as sports or relaxation, to enable coping with stressful situations.

As entrepreneurship generally impacts economies (Bosma, 2013; Collins & Clark, 2003), it is interesting for governments and municipalities to use the findings to stimulate and support entrepreneurial initiatives and entrepreneurs' well-being as an investment in their regional economy. They could increase entrepreneurs' control by easing or reducing start-up regulations and practicalities. Furthermore, they could organize informational events about dealing with entrepreneurial stress, or they could encourage entrepreneurial networks (e.g. start-up communities and hubs) so entrepreneurs can find social support outside their work environment.

Also entrepreneurial networks, such as start-up communities and hubs, benefit from the findings as they could educate their members on entrepreneurial stress and coping behaviors in the start-up process. For example, they could organize learning programs on how to deal with the most stressful entrepreneurial activities of finances, human resources and administration. Furthermore, they can build on the findings to emphasize the relevance of their communities as they were found to provide important social support.

Entrepreneurs' family, friends and co-workers also benefit from the insights of the study, as the findings help them to understand the entrepreneurial work life. The findings provide more understanding of the

entrepreneurs' decision making at work, but also help them to comprehend entrepreneurial challenges in keeping a healthy work-life balance. Hereby, the findings help them to improve their personal relationship with the entrepreneur (Waugh & Fredrickson, 2006). Ultimately, when these groups have a better understanding of the entrepreneurial work life, they may also be more capable of providing more adequate support to the entrepreneur (see also Shepherd & Patzelt, 2017; Tetrick et al., 2000).

6.3 Limitations and future research suggestions

While the study has provided many insights, it also has several limitations that need to be considered. These limitations are related the use of the JDCS model as a theoretical basis and to the study design.

The JDCS is considered to be the most influential model of stress in the workplace (Kompier, 2003) and it is validated across a variety of populations (Van der Doef & Maes, 1999). However, the JDCS model also has several limitations as it is often criticized for oversimplifying matters: the model involves mainly workload-related job demands, it has a limited conceptualization of control, it does not consider all possible work circumstances, and most of all, it does not consider individual differences (Carayon, 1993; Cox et al., 2000; Mark & Smith, 2008; Perrewé & Zellars, 1999). This study has encountered these limitations in the data analysis phase. In this phase, the job demands were extended to also include non-workload related job demands (e.g. task complexity and task importance), the conceptualization of control was extended to include independence of other parties (e.g. customers and co-founders), multiple entrepreneurial activities and work circumstances were considered (e.g. business opportunity development and finances), and individual differences such as identity type and personality traits were included. However, the JDCS model still forms the theoretical basis for the study and hence, its framework may have formed limitations for the current study.

A suggestion for future research would be to use another stress model to provide insights about entrepreneurial stress from another point of view. As the JDCS model is used in this study, and the ERI model has been used for the study of Wolf (2016), future research is recommended to include other stress models such as the Vitamin Model (Warr, 1987) or Michigan Model (Caplan, Cobb, French, Harrison, & Pinneau, 1975) as they may provide new insights.

The study has only focused on the stress component of the JDCS model. The model, however, also has a learning component that has not been discussed in this study as it extends the study's main focus. In the current study, entrepreneurs often mentioned how they had learned through making mistakes and how their prior experience had provided them more insights about stress and coping behaviors. Future research is recommended to focus on this learning aspect of the JDCS model within the same entrepreneurial context.

The current study used a cross-sectional approach. No causal relations can be verified with this research design. Therefore, no definitive conclusions can be drawn on how the job demands have impacted the

stress level, or how the coping has influenced well-being. Furthermore, the cross-sectional approach collected all data at a single point in time. Therefore, it may be the case that the entrepreneurs' measured stress levels or described stress would be different at another time (Bryman & Bell, 2015). In addition, even though burnout levels were assessed in a survey and in a semi-structured interview form, no objective health indicators were measured to confirm the findings. Therefore, no objective conclusions can be drawn regarding the health or stress levels of the entrepreneurs. Future research is recommended to include these objective health measures to validate the findings about the entrepreneur's health, and to involve an experiment to measure causal relations.

The sample of the study consisted of 16 male high-tech entrepreneurs. Considering the small size of the sample, the findings may not be generalizable for the entire target group, let alone other groups of entrepreneurs. As the respondents were gathered using a homogenous sampling method, the respondent group was rather homogenous: it involved all male entrepreneurs, from the same high-tech industry, from the same region of Twente, with a start-up established between 2010 and 2016. However, as no female entrepreneurs could be found, due to the industry's and region's high male domination (see also Kamer van Koophandel, 2015; Meijer, 2016), no conclusions can be drawn on gender differences. Future research is recommended to include both male and female entrepreneurs, as gender is suggested to play an important role in entrepreneurial stress and coping behaviors (Purvanova & Muros, 2010; Wolf, 2016). Furthermore, as all entrepreneurs from the study have founded a start-up in the high-tech industry in the region of Twente, the findings may not be generalizable across other industries, regions or countries. This is a common limitations for homogenous sampling studies (Bornstein, Jager, & Putnick, 2013). Future research is recommended to enlarge the respondent group and involve other industries, regions and/or countries in the sample. Another interesting topic for follow-up research would be to focus on the generalizability of the model across different stages of company maturity, as the involved entrepreneurs and companies of this study were in the start-up phase.

Even though a strict sampling method was used to find entrepreneurs with the same characteristics (such as the same industry, region and involved in the start-up phase), the entrepreneurs' stress levels were not known beforehand. The entrepreneurs' stress levels may have influenced their view on job demands, control, social support, stress, consequences and coping behavior. Future research is recommended to consider this in their sampling methods.

As work stress could be considered to be a socially sensitive subject, the entrepreneurs could have been more likely to respond to questions with a social desirability bias (Gittelman et al., 2015; King & Bruner, 2000). This bias refers to the tendency of respondents to present a favorable image of themselves, and hereby not presenting a realistic image of their true feelings and behaviors (Van de Mortel, 2008). To limit the social bias, projective technique were used that could eliminate social barriers judgement (Donoghue, 2000; Steinman, 2008). Furthermore, all entrepreneurs were ensured anonymity in the data

collection. However, social bias may still play a role, therefore its possible effects need to be considered when reading the findings.

As the study includes multiple qualitative measures, such as the storytelling technique and semi-structured interview, the researcher's personal interpretation of the data may have also influenced the research, which could endanger the study's validity (Bryman & Bell, 2015; Catterall & Ibbotson, 2000). In the study, reliability of the coding was established by measuring the intercoder reliability of the codebooks using Cohen's Kappa (Cohen, 1960, 1968). The intercoder reliability was sufficient for all codebooks, which lowers potential bias. However, the possible effects of the researcher's influence on the research still need to be considered when looking at the findings.

The study has identified entrepreneurs' identity types to explain potential differences between types of entrepreneurs. This identification of identity types needs to be interpreted with caution as no established scales were used to determine the identity types. However, the identity types were identified with a rigorous coding process using established codebooks by Fauchart and Gruber (2011) and Sieger et al. (2016). Another limitation of the identity types could be the uneven divided sample as there are more Darwinians than other social identity types in this study. However, this phenomenon is comparable to earlier findings (Sieger et al., 2016) as the pure Darwinian generally is the most common social identity for entrepreneurs in the Netherlands. The further distribution of social identities in this study could be explained by the high-tech industry of IT (Sieger et al., 2016).

Comparable to the identification of entrepreneurs' identity types, the study also tried to identify entrepreneurs' personality traits. This identification of personality traits needs to be interpreted with caution as no established scales were used to determine entrepreneurs' personality traits. In turn, the traits were identified with a rigorous coding process based on the work by Rauch and Frese (2007).

In the findings, some components seem to be related to each other. For example, the entrepreneurs mentioned how prior experiences had enhanced their personality traits of generalized self-efficacy and stress tolerance. In the presented JDCS+ model, the relationship and influence that personal characteristics have on each other are not further discussed upon, but may be an interesting topic for further research. Furthermore, some of the found job demands are conflicting, such as task complexity and boredom and routine. It may be interesting for future research to focus on how these conflicting job demands play a role in the work life and how these may relate to each other.

When testing the model, future researchers should consider the lack of support for the interactive (buffering) effects of the JDCS model and to what extent the JDCS+ model encounters similar low empirical support. It has been suggested that the "matching principle" may play a role in the interactive effects (Häusser et al., 2010; Van der Doef & Maes, 1999). According to De Jonge, Le Blanc, Peeters, and Noordam (2008, p. 767), "buffer effects should occur when similar types of demands (e.g. emotional demands) match with similar types of resources (e.g. emotional support), and produce similar types of

outcomes (e.g. emotional exhaustion)". The current research has not focused on these potential matches, but it could be an interesting avenue for future research to gain more insights into the interactive effects.

The study has not focused on objective venture performance outcomes. Even though the company's number of employees may be an indication of the business' success, no objective data of the business' performance have been collected. Future research is recommended to include such business performance measurements as business success could also influence the entrepreneur's stress, as found in earlier studies (Alstete, 2008; Singh, Corner, & Pavlovich, 2007). Furthermore, an entrepreneur's stress could also influence business performance (Cardon & Patel, 2015; Tennant, 2001), this two-way relationship may be an interesting topic for future research.

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Appendices

Appendix A. Information on entrepreneurs from this study

Table 3 provides an overview of the personal information, start-up information and MBI-scores of each individual entrepreneur.

Table 3. *Information on the entrepreneurs*

Respondent	Personal information	Start-up information	MBI-scores
Respondent 1	Age: 46	Start date: 1-9-2014	No burnout symptoms
	Gender: male	1 male co-founder	Low exhaustion
	Education: university	16 employees	Low cynicism
	Identity type: Darwinian	Industry: IT/finance/consultancy	High professional efficacy
	Entrepreneurial experience: 20 years (6 prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 2	Age: 23	Start date: 1-7-2014	Strong burnout symptoms
	Gender: male	1 male co-founder	Moderate exhaustion
	Education: university	9 employees	High cynicism
	Identity type: Darwinian	Industry: IT/consumer electronics	High professional efficacy
	Entrepreneurial experience: 2 years (1 prior venture)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 3	Age: 27	Start date: 1-1-2014	Moderate burnout symptoms
	Gender: male	No co-founders	Low exhaustion
	Education: higher vocational education	18 employees	Moderate cynicism
	Identity type: Darwinian-Communitarian-Missionary	Industry: IT/internet/automotive	Moderate professional efficacy
	Entrepreneurial experience: 2,5 years (no prior ventures)	No family business	
	Entrepreneurial role: founder and inventor role (business management and technical activities)		

Respondent 4	Age: 41	Start date: 30-6-2014	Moderate burnout symptoms
	Gender: male	1 male co-founder	Low exhaustion
	Education: higher vocational education	11 employees	Moderate cynicism
	Identity type: Missionary	Industry: IT/software	High professional efficacy
	Entrepreneurial experience: 8 years (3 prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 5	Age: 27	Start date: 10-10-2014	Moderate burnout symptoms
	Gender: male	3 male co-founders	Low exhaustion
	Education: university	8 employees	Moderate cynicism
	Identity type: Darwinian	Industry: IT/consultancy	High professional efficacy
	Entrepreneurial experience: 5,5 years (no prior ventures)	No family business	
	Entrepreneurial role: inventor role (technical activities)		
Respondent 6	Age: 27	Start date: 1-8-2013	Moderate burnout symptoms
	Gender: male	3 male co-founders	Low exhaustion
	Education: higher vocational education	2 employees	Moderate cynicism
	Identity type: Communitarian	Industry: IT/online/internet/webapp development	High professional efficacy
	Entrepreneurial experience: 7 years (2 prior ventures)	No family business	
	Entrepreneurial role: inventor role (technical activities)		
Respondent 7	Age: 25	Start date: 1-11-2011	Moderate burnout symptoms
	Gender: male	No co-founders	Low exhaustion
	Education: intermediate vocational education	5 employees	Moderate cynicism
	Identity type: Darwinian	Industry: IT/internet/marketing	Moderate professional efficacy
	Entrepreneurial experience: 4,5 years (no prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 8	Age: 32	Start date: 15-6-2015	Moderate burnout symptoms
	Gender: male	1 male co-founder	Low exhaustion
	Education: university	9 employees	Moderate cynicism
	Identity type: Darwinian-Missionary	Industry: IT/software/consultancy	High professional efficacy

	Entrepreneurial experience: 10 years (1 prior venture)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 9	Age: 28	Start date: 1-7-2015	No burnout symptoms
	Gender: male	1 male co-founder	Low exhaustion
	Education: university	2 employees	Low cynicism
	Identity type: Darwinian	Industry: IT/software/research & development	High professional efficacy
	Entrepreneurial experience: 16 years (3 prior ventures)	No family business	
	Entrepreneurial role: founder and inventor role (business management and technical activities)		
Respondent 10	Age: 39	Start date: 1-10-2011	Strong burnout symptoms
	Gender: male	No co-founders	High exhaustion
	Education: university	2 employees	Moderate cynicism
	Identity type: Darwinian	Industry: IT	Low professional efficacy
	Entrepreneurial experience: 8 years (2 prior ventures)	No family business	
	Entrepreneurial role: founder and inventor role (business management and technical activities)		
Respondent 11	Age: 23	Start date: 1-9-2013	Moderate burnout symptoms
	Gender: male	3 male co-founders	Moderate exhaustion
	Education: university	No employees	Moderate cynicism
	Identity type: Communitarian-Missionary	Industry: IT/entertainment/advertisement	High professional efficacy
	Entrepreneurial experience: 3 years (2 prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 12	Age: 49	Start date: 1-4-2014	Moderate burnout symptoms
	Gender: male	No co-founders	Moderate exhaustion
	Education: university	17 employees	Low cynicism
	Identity type: Darwinian	Industry: IT	High professional efficacy
	Entrepreneurial experience: 11 years (4 prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 13	Age: 25	Start date: 1-2-2016	Moderate burnout symptoms
	Gender: male	1 male co-founder	Moderate exhaustion

	Education: university	2 employees	Moderate cynicism
	Identity type: Missionary	Industry: IT/software	Moderate professional efficacy
	Entrepreneurial experience: 2,5 years (1 prior venture)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 14	Age: 29	Start date: 1-9-2012	No burnout symptoms
	Gender: male	1 male co-founder	Low exhaustion
	Education: university	12 employees	Low cynicism
	Identity type: Darwinian-Missionary	Industry: IT/aviation/wildlife control	High professional efficacy
	Entrepreneurial experience: 5 years (no prior ventures)	No family business	
	Entrepreneurial role: founder and inventor role (business management and technical activities)		
Respondent 15	Age: 38	Start date: 1-9-2014	Moderate burnout symptoms
	Gender: male	3 male co-founders	Low exhaustion
	Education: higher vocational education	No employees	Low cynicism
	Identity type: Darwinian	Industry: IT/software	Moderate professional efficacy
	Entrepreneurial experience: 3 years (no prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		
Respondent 16	Age: 53	Start date: 1-2-2013	Moderate burnout symptoms
	Gender: male	3 male co-founders	Low exhaustion
	Education: university	No employees	Low cynicism
	Identity type: Darwinian	Industry: IT/mobility	Moderate professional efficacy
	Entrepreneurial experience: 4 years (no prior ventures)	No family business	
	Entrepreneurial role: founder role (business management activities)		

Appendix B. Interview guide

Interview guide 'Entrepreneurial well-being' Using Job Demand Control Support Model

Welcome the participant, explain the goal of the research (entrepreneurial well-being) and get consent. Follow the next steps:

- Tell them the interview will roughly take 45 minutes to an hour. It would be nice if we could do this without interruptions;
- Tell them that the data collection is part of a bigger project. The name of the entrepreneur and their venture name will be anonymized in any future publications
- Interviews will be recorded and transcribed;
- We would be happy to share the results of the study;
- Consent form too formal, but make sure you get (oral) consent;
- Make sure you bring an audio recorder and blue, red and yellow pens;
- Always say that the interviews are about 'entrepreneurial well-being' and not about stress;
- Print the 1) grid, 2) storytelling panel and 3) information about participant on separate sheets. Do not show the entrepreneurs this guide.

Step 1. Explain the structure of the interview (grid, story-telling, followed by semi-structured interview questions, followed by a survey)

- Do not mention the terms Maslach's Burnout Inventory till the time you have administered the survey

\<Start the recording\>

Step 2. Priming the subjects using a grid of entrepreneurial activities

Script: Could you circle blue the areas which are most demanding (in terms of workload, conflicts), circle red those where you feel you have the least control (in terms of decision making freedom, skill use) and circle yellow those where you feel you have the least social support (from work or outside of work)?

ENTREPRENEURIAL ACTIVITY GRID …………………………………………….. (Entrepreneur's first name)

ORGANIZATION/ VENTURE BUILDING	RESOURCE MANAGEMENT	MARKETING	PRODUCTION	RESPONDING TO GOVERNMENT AND SOCIETY
Business Opportunity Development	Finance: saved money to invest, Asking for funding, Invested own money	Social Networking (customers, other businesses, suppliers)	Building Prototypes	Applied patent/license
Devoted Full-time	Human: hiring employees, organizing start-up team	Customer Outreach	Development of models, services	Environmental Impact and Sustainability
Prepared a Business Plan	Building + Equipment: bought facilities, looked for facilities, rent/lease	Establishing Partnerships	Outsourcing / Managing Production Process	Dealing with competition
Formed Legal Entity				

Step 3. Story-telling exercise: a day in the life of a start-up entrepreneur

- Show the panel of pictures and ask the entrepreneur to narrate a story based on the pictures
- A separate print out of the pictures on a single page would be recommended. Also use the one with male model for male entrepreneurs and vice versa.
- Use the panel with male and female model for the interview subject appropriately.

Script: Story-Telling Technique: I am now going to present you a picture story. It shows the daily life of an entrepreneur. Please be so kind as to tell me (the story of) what happens in each of the pictures, and how you think the entrepreneur feels throughout the day – to make it a real story, please give the entrepreneur in the story a name.

- Show the entrepreneur the panel of pictures in the next page.

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Step 4. Semi-structured interview questions

Script: Thank you for telling me such an exciting story. Finally, I would like to ask you a few more concrete questions. There is no right or wrong in terms of answers. I just want to get a better impression of the way you perceive your work as an entrepreneur.

Job-Demand Control Support Model Questions

Question	Coding
What attracted you to entrepreneurship/what motivated you to become an entrepreneur?	Identity type
What are the work situations that are really demanding for you as an entrepreneur? Why? What do you do then?	Job demands
How would you describe stress/a stressful situation as an entrepreneur?	Job demands
How free are you in making decisions as an entrepreneur? Can you give me an example? (e.g. specific work situations/tasks)	Control (decision authority)
Do you feel that you can use a variety of your skills in your job as an entrepreneur? Can you give me an example? (e.g. specific work situations/tasks)	Control (skill discretion)
a) To what extent/how do you have social support at work? How does it affect your work? Can you give me an example? (e.g. specific work situations/tasks) b) In general, do you feel supported by your family and friends in your role as entrepreneur? How does it affect your work?	Social support (at work) Social support (at home)
a) How do you react to stress at work as an entrepreneur? b) How do you cope with stress at work as an entrepreneur?	Coping
a) When you feel stressed, how does this affect your performance at work?	Consequences

b) How does the stress you experience as an entrepreneur affect your business performance: 1) financials (sales, turnover) and 2) operational (product or process innovation)? When? c) How does stress within your work as an entrepreneur affect your personal/private life?	
Given your experience as an entrepreneur, what advice would you give to other entrepreneurs in terms of managing stress?	

Step 5. Survey based on MBI

In your experience as an entrepreneur, please indicate how often you experience these feelings/thoughts.

Question #	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1. I feel emotionally drained from my work.	0	1	2	3	4	5	6
2. I feel used up at the end of the workday.	0	1	2	3	4	5	6
3. I feel tired when I get up in the morning and have to face another day at my work.	0	1	2	3	4	5	6
4. Working all day is really a strain for me.	0	1	2	3	4	5	6
5. I can effectively solve the problems that arise in my work.	0	1	2	3	4	5	6
6. I feel burnt out from my work.	0	1	2	3	4	5	6
7. I feel I am making an effective contribution to what my business does.	0	1	2	3	4	5	6
8. I've become less interested in my work since I started this business.	0	1	2	3	4	5	6
9. I have become less enthusiastic about my work.	0	1	2	3	4	5	6
10. In my opinion, I am good in my work.	0	1	2	3	4	5	6
11. I feel exhilarated when I accomplish something at work.	0	1	2	3	4	5	6
12. I have accomplished many worthwhile things in this work.	0	1	2	3	4	5	6

13. I just want to do my work and not be bothered.	0	1	2	3	4	5	6
14. I have become more cynical about whether my work contributes anything.	0	1	2	3	4	5	6
15. I doubt the significance of my work.	0	1	2	3	4	5	6
16. At my work, I feel confident that I am effective at getting things done.	0	1	2	3	4	5	6

Step 6: Information on the entrepreneur (will be maintained confidentially)

1. Age ………………..
2. Gender ……………
3. Education …………
4. Entrepreneurial Experience:
    a.   …………..(yrs)
    b.   Is this your first venture ? Yes / No
    c.   If 4b = No, how many businesses have you founded before the current one: …………..
    d.   Is this a family business ? Yes / No
    e.   Do you have any co-founders? If yes, how many?........... M/F………….
5. Start date of the business (mm/yy) ………
6. No. of employees …………
7. Industry of operation …………

Step 7: Thank the entrepreneur for their participation and get their email address if you do not have it already for sending them the results of the study!

Appendix C. Codebook grid

Table 4 demonstrates the codebook that was used to analyze the qualitative data from the grid. The codes were based on literature, the interview guide and on empirical insights.

Table 4. *Codebook grid*

Construct	Code	Subcode (entrepreneurial activity)	Description
Most demanding	Work quantity (Karasek, 1985)	a. Business opportunity development	The entrepreneur describes work quantity in business opportunity development as demanding
		b. Devoted full-time	The entrepreneur describes work quantity in devoting full-time as demanding
		c. Prepared a business plan	The entrepreneur describes work quantity in preparing a business plan as demanding
		d. Formed legal entity	The entrepreneur describes work quantity in forming a legal entity as demanding
		e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes work quantity in finances as demanding
		f. Human: hiring employees, organizing start-up team	The entrepreneur describes work quantity in human resource management as demanding
		g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes work quantity in building and equipment as demanding
		h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes work quantity in social networking as demanding
		i. Customer outreach	The entrepreneur describes work quantity in customer outreach as demanding
		j. Establishing partnerships	The entrepreneur describes work quantity in establishing partnerships as demanding
		k. Building prototypes	The entrepreneur describes work quantity in building prototypes as demanding
		l. Development of models, services	The entrepreneur describes work quantity in development of models and services as demanding
		m. Outsourcing/managing production process	The entrepreneur describes work quantity in outsourcing/managing production process as demanding

	n. Applied patent/license	The entrepreneur describes work quantity in applying for patents/licenses as demanding
	o. Environmental impact and sustainability	The entrepreneur describes work quantity in dealing with environmental impact and sustainability as demanding
	p. Dealing with competition	The entrepreneur describes work quantity in dealing with competition as demanding
Time pressure (Karasek, 1985)	a. Business opportunity development	The entrepreneur describes time pressure in business opportunity development as demanding
	b. Devoted full-time	The entrepreneur describes time pressure in devoting full-time as demanding
	c. Prepared a business plan	The entrepreneur describes time pressure in preparing a business plan as demanding
	d. Formed legal entity	The entrepreneur describes time pressure in forming a legal entity as demanding
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes time pressure in finances as demanding
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes time pressure in human resource management as demanding
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes time pressure in building and equipment as demanding
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes time pressure in social networking as demanding
	i. Customer outreach	The entrepreneur describes time pressure in customer outreach as demanding
	j. Establishing partnerships	The entrepreneur describes time pressure in establishing partnerships as demanding
	k. Building prototypes	The entrepreneur describes time pressure in building prototypes as demanding
	l. Development of models, services	The entrepreneur describes time pressure in development of models and services as demanding
	m. Outsourcing/managing production process	The entrepreneur describes time pressure in outsourcing/managing production process as demanding
	n. Applied patent/license	The entrepreneur describes time pressure in applying for patents/licenses as demanding
	o. Environmental impact and sustainability	The entrepreneur describes time pressure in dealing with environmental impact and sustainability as demanding

	p. Dealing with competition	The entrepreneur describes time pressure in dealing with competition as demanding
Role conflict (Karasek, 1985)	a. Business opportunity development	The entrepreneur describes role conflicts in business opportunity development as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	b. Devoted full-time	The entrepreneur describes role conflicts in devoting full-time as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	c. Prepared a business plan	The entrepreneur describes role conflicts in preparing a business plan as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	d. Formed legal entity	The entrepreneur describes role conflicts in forming a legal entity as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes role conflicts in finances as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes role conflicts in human resource management as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes role conflicts in building and equipment as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes role conflicts in social networking as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	i. Customer outreach	The entrepreneur describes role conflicts in customer outreach as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	j. Establishing partnerships	The entrepreneur describes role conflicts in establishing partnerships as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	k. Building prototypes	The entrepreneur describes role conflicts in building prototypes as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	l. Development of models, services	The entrepreneur describes role conflicts in development of models and services as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)

	m. Outsourcing/managing production process	The entrepreneur describes role conflicts in outsourcing/managing production process as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	n. Applied patent/license	The entrepreneur describes role conflicts in applying for patents/licenses as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	o. Environmental impact and sustainability	The entrepreneur describes role conflicts in dealing with environmental impact and sustainability as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	p. Dealing with competition	The entrepreneur describes role conflicts in dealing with competition as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
Business immersion (Dijkhuizen, Van Veldhoven, & Schalk, 2014)	a. Business opportunity development	The entrepreneur describes business immersion in business opportunity development as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	b. Devoted full-time	The entrepreneur describes business immersion in devoting full-time as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	c. Prepared a business plan	The entrepreneur describes business immersion in preparing a business plan as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	d. Formed legal entity	The entrepreneur describes business immersion in forming a legal entity as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes business immersion in finances as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes business immersion in human resource management as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes business immersion in building and equipment as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes business immersion in social networking as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined

	i. Customer outreach	The entrepreneur describes business immersion in customer outreach as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	j. Establishing partnerships	The entrepreneur describes business immersion in establishing partnerships as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	k. Building prototypes	The entrepreneur describes business immersion in building prototypes as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	l. Development of models, services	The entrepreneur describes business immersion in development of models and services as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	m. Outsourcing/managing production process	The entrepreneur describes business immersion in outsourcing/managing production process as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	n. Applied patent/license	The entrepreneur describes business immersion in applying for patents/licenses as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	o. Environmental impact and sustainability	The entrepreneur describes business immersion in dealing with environmental impact and sustainability as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	p. Dealing with competition	The entrepreneur describes business immersion in dealing with competition as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
Uncertainty and risks (Dijkhuizen et al., 2014)	a. Business opportunity development	The entrepreneur describes uncertainty and risks in business opportunity development as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	b. Devoted full-time	The entrepreneur describes uncertainty and risks in devoting full-time as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life

c. Prepared a business plan	The entrepreneur describes uncertainty and risks in preparing a business plan as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
d. Formed legal entity	The entrepreneur describes uncertainty and risks in forming a legal entity as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes uncertainty and risks in finances as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
f. Human: hiring employees, organizing start-up team	The entrepreneur describes uncertainty and risks in human resource management as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes uncertainty and risks in building and equipment as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes uncertainty and risks in social networking as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
i. Customer outreach	The entrepreneur describes uncertainty and risks in customer outreach as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
j. Establishing partnerships	The entrepreneur describes uncertainty and risks in establishing partnerships as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
k. Building prototypes	The entrepreneur describes uncertainty and risks in building prototypes as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life

	l. Development of models, services	The entrepreneur describes uncertainty and risks in development of models and services as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	m. Outsourcing/managing production process	The entrepreneur describes uncertainty and risks in outsourcing/managing production process as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	n. Applied patent/license	The entrepreneur describes uncertainty and risks in applying for patents/licenses as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	o. Environmental impact and sustainability	The entrepreneur describes uncertainty and risks in dealing with environmental impact and sustainability as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	p. Dealing with competition	The entrepreneur describes uncertainty and risks in dealing with competition as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
Responsiblity (Dijkhuizen et al., 2014)	a. Business opportunity development	The entrepreneur describes responsibility in business opportunity development as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	b. Devoted full-time	The entrepreneur describes responsibility in devoting full-time as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	c. Prepared a business plan	The entrepreneur describes responsibility in preparing a business plan as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	d. Formed legal entity	The entrepreneur describes responsibility in forming a legal entity as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company

e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes responsibility in finances as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
f. Human: hiring employees, organizing start-up team	The entrepreneur describes responsibility in human resource management as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes responsibility in building and equipment as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes responsibility in social networking as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
i. Customer outreach	The entrepreneur describes responsibility in customer outreach as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
j. Establishing partnerships	The entrepreneur describes responsibility in establishing partnerships as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
k. Building prototypes	The entrepreneur describes responsibility in building prototypes as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
l. Development of models, services	The entrepreneur describes responsibility in development of models and services as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
m. Outsourcing/managing production process	The entrepreneur describes responsibility in outsourcing/managing production process as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
n. Applied patent/license	The entrepreneur describes responsibility in applying for patents/licenses as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
o. Environmental impact and sustainability	The entrepreneur describes responsibility in dealing with environmental impact and sustainability as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
p. Dealing with competition	The entrepreneur describes responsibility in dealing with competition as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company

Emotional load (Dijkhuizen et al., 2014)	a. Business opportunity development	The entrepreneur describes emotional load in business opportunity development as demanding. Emotional load refers to the emotions that are involved in the job
	b. Devoted full-time	The entrepreneur describes emotional load in devoting full-time as demanding. Emotional load refers to the emotions that are involved in the job
	c. Prepared a business plan	The entrepreneur describes emotional load in preparing a business plan as demanding. Emotional load refers to the emotions that are involved in the job
	d. Formed legal entity	The entrepreneur describes emotional load in forming a legal entity as demanding. Emotional load refers to the emotions that are involved in the job
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes emotional load in finances as demanding. Emotional load refers to the emotions that are involved in the job
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes emotional load in human resource management as demanding. Emotional load refers to the emotions that are involved in the job
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes emotional load in building and equipment as demanding. Emotional load refers to the emotions that are involved in the job
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes emotional load in social networking as demanding. Emotional load refers to the emotions that are involved in the job
	i. Customer outreach	The entrepreneur describes emotional load in customer outreach as demanding. Emotional load refers to the emotions that are involved in the job
	j. Establishing partnerships	The entrepreneur describes emotional load in establishing partnerships as demanding. Emotional load refers to the emotions that are involved in the job
	k. Building prototypes	The entrepreneur describes emotional load in building prototypes as demanding. Emotional load refers to the emotions that are involved in the job
	l. Development of models, services	The entrepreneur describes emotional load in development of models and services as demanding. Emotional load refers to the emotions that are involved in the job

	m. Outsourcing/managing production process	The entrepreneur describes emotional load in outsourcing/managing production process as demanding. Emotional load refers to the emotions that are involved in the job
	n. Applied patent/license	The entrepreneur describes emotional load in applying for patents/licenses as demanding. Emotional load refers to the emotions that are involved in the job
	o. Environmental impact and sustainability	The entrepreneur describes emotional load in dealing with environmental impact and sustainability as demanding. Emotional load refers to the emotions that are involved in the job
	p. Dealing with competition	The entrepreneur describes emotional load in dealing with competition as demanding. Emotional load refers to the emotions that are involved in the job
Task complexity (Dijkhuizen et al., 2014)	a. Business opportunity development	The entrepreneur describes task complexity in business opportunity development as demanding
	b. Devoted full-time	The entrepreneur describes task complexity in devoting full-time as demanding
	c. Prepared a business plan	The entrepreneur describes task complexity in preparing a business plan as demanding
	d. Formed legal entity	The entrepreneur describes task complexity in forming a legal entity as demanding
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes task complexity in finances as demanding
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes task complexity in human resource management as demanding
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes task complexity in building and equipment as demanding
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes task complexity in social networking as demanding
	i. Customer outreach	The entrepreneur describes task complexity in customer outreach as demanding
	j. Establishing partnerships	The entrepreneur describes task complexity in establishing partnerships as demanding
	k. Building prototypes	The entrepreneur describes task complexity in building prototypes as demanding
	l. Development of models, services	The entrepreneur describes task complexity in development of models and services as demanding

	m. Outsourcing/managing production process	The entrepreneur describes task complexity in outsourcing/managing production process as demanding
	n. Applied patent/license	The entrepreneur describes task complexity in applying for patents/licenses as demanding
	o. Environmental impact and sustainability	The entrepreneur describes task complexity in dealing with environmental impact and sustainability as demanding
	p. Dealing with competition	The entrepreneur describes task complexity in dealing with competition as demanding
Task importance (Fisher, Minbashian, Beckmann, & Wood, 2013; Podsakoff, LePine, & LePine, 2007)	a. Business opportunity development	The entrepreneur describes task importance in business opportunity development as demanding
	b. Devoted full-time	The entrepreneur describes task importance in devoting full-time as demanding
	c. Prepared a business plan	The entrepreneur describes task importance in preparing a business plan as demanding
	d. Formed legal entity	The entrepreneur describes task importance in forming a legal entity as demanding
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes task importance in finances as demanding
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes task importance in human resource management as demanding
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes task importance in building and equipment as demanding
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes task importance in social networking as demanding
	i. Customer outreach	The entrepreneur describes task importance in customer outreach as demanding
	j. Establishing partnerships	The entrepreneur describes task importance in establishing partnerships as demanding
	k. Building prototypes	The entrepreneur describes task importance in building prototypes as demanding
	l. Development of models, services	The entrepreneur describes task importance in development of models and services as demanding
	m. Outsourcing/managing production process	The entrepreneur describes task importance in outsourcing/managing production process as demanding

	n. Applied patent/license	The entrepreneur describes task importance in applying for patents/licenses as demanding
	o. Environmental impact and sustainability	The entrepreneur describes task importance in dealing with environmental impact and sustainability as demanding
	p. Dealing with competition	The entrepreneur describes task importance in dealing with competition as demanding
Scarcities of job resources (Baron, 2010; Stinchcombe & March, 1965)	a. Business opportunity development	The entrepreneur describes scarcities of job resources in business opportunity development as demanding, e.g. scarcities of economic, human and physical resources
	b. Devoted full-time	The entrepreneur describes scarcities of job resources in devoting full-time as demanding, e.g. scarcities of economic, human and physical resources
	c. Prepared a business plan	The entrepreneur describes scarcities of job resources in preparing a business plan as demanding, e.g. scarcities of economic, human and physical resources
	d. Formed legal entity	The entrepreneur describes scarcities of job resources in forming a legal entity as demanding, e.g. scarcities of economic, human and physical resources
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes scarcities of job resources in finances as demanding, e.g. scarcities of economic, human and physical resources
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes scarcities of job resources in human resource management as demanding, e.g. scarcities of economic, human and physical resources
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes scarcities of job resources in building and equipment as demanding, e.g. scarcities of economic, human and physical resources
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes scarcities of job resources in social networking as demanding, e.g. scarcities of economic, human and physical resources
	i. Customer outreach	The entrepreneur describes scarcities of job resources in customer outreach as demanding, e.g. scarcities of economic, human and physical resources
	j. Establishing partnerships	The entrepreneur describes scarcities of job resources in establishing partnerships as demanding, e.g. scarcities of economic, human and physical resources
	k. Building prototypes	The entrepreneur describes scarcities of job resources in building prototypes as demanding, e.g. scarcities of economic, human and physical resources

	l. Development of models, services	The entrepreneur describes scarcities of job resources in development of models and services as demanding, e.g. scarcities of economic, human and physical resources
	m. Outsourcing/managing production process	The entrepreneur describes scarcities of job resources in outsourcing/managing production process as demanding, e.g. scarcities of economic, human and physical resources
	n. Applied patent/license	The entrepreneur describes scarcities of job resources in applying for patents/licenses as demanding, e.g. scarcities of economic, human and physical resources
	o. Environmental impact and sustainability	The entrepreneur describes scarcities of job resources in dealing with environmental impact and sustainability as demanding, e.g. scarcities of economic, human and physical resources
	p. Dealing with competition	The entrepreneur describes scarcities of job resources in dealing with competition as demanding, e.g. scarcities of economic, human and physical resources
Boredom and routines (Bill & Johansson, 2010)	a. Business opportunity development	The entrepreneur describes boredom and routines in business opportunity development as demanding
	b. Devoted full-time	The entrepreneur describes boredom and routines in devoting full-time as demanding
	c. Prepared a business plan	The entrepreneur describes boredom and routines in preparing a business plan as demanding
	d. Formed legal entity	The entrepreneur describes boredom and routines in forming a legal entity as demanding
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes boredom and routines in finances as demanding
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes boredom and routines in human resource management as demanding
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes boredom and routines in building and equipment as demanding
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes boredom and routines in social networking as demanding
	i. Customer outreach	The entrepreneur describes boredom and routines in customer outreach as demanding
	j. Establishing partnerships	The entrepreneur describes boredom and routines in establishing partnerships as demanding

		k. Building prototypes	The entrepreneur describes boredom and routines in building prototypes as demanding
		l. Development of models, services	The entrepreneur describes boredom and routines in development of models and services as demanding
		m. Outsourcing/managing production process	The entrepreneur describes boredom and routines in outsourcing/managing production process as demanding
		n. Applied patent/license	The entrepreneur describes boredom and routines in applying for patents/licenses as demanding
		o. Environmental impact and sustainability	The entrepreneur describes boredom and routines in dealing with environmental impact and sustainability as demanding
		p. Dealing with competition	The entrepreneur describes boredom and routines in dealing with competition as demanding
Least control	Decision authority (Karasek, 1985)	a. Business opportunity development	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in business opportunity development
		b. Devoted full-time	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in devoting full-time
		c. Prepared a business plan	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in preparing a business plan
		d. Formed legal entity	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in forming a legal entity
		e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in finances
		f. Human: hiring employees, organizing start-up team	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in human resource management
		g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in building and equipment

h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in social networking
i. Customer outreach	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in customer outreach
j. Establishing partnerships	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in establishing partnerships
k. Building prototypes	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in building prototypes
l. Development of models, services	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in development of models and services
m. Outsourcing/managing production process	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in outsourcing/managing production process
n. Applied patent/license	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in applying for patents/licenses
o. Environmental impact and sustainability	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in dealing with environmental impact and sustainability
p. Dealing with competition	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in dealing with competition

Skill discretion (Karasek, 1985)	a. Business opportunity development	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in business opportunity development
	b. Devoted full-time	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in devoting full-time
	c. Prepared a business plan	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in preparing a business plan
	d. Formed legal entity	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in forming a legal entity
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in finances
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in human resource management
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in building and equipment
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in social networking
	i. Customer outreach	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in customer outreach

	j. Establishing partnerships	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in establishing partnerships
	k. Building prototypes	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in building prototypes
	l. Development of models, services	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in development of models and services
	m. Outsourcing/managing production process	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in outsourcing/managing production process
	n. Applied patent/license	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in applying for patents/licenses
	o. Environmental impact and sustainability	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in dealing with environmental impact and sustainability
	p. Dealing with competition	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in dealing with competition
(In)dependence on sources from immediate task environment	a. Business opportunity development	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in business opportunity development
	b. Devoted full-time	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in devoting full-time
	c. Prepared a business plan	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in preparing a business plan

	d. Formed legal entity	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in forming a legal entity
	e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in finances
	f. Human: hiring employees, organizing start-up team	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in human resource management
	g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in building and equipment
	h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in social networking
	i. Customer outreach	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in customer outreach
	j. Establishing partnerships	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in establishing partnerships
	k. Building prototypes	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in building prototypes
	l. Development of models, services	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in development of models and services
	m. Outsourcing/managing production process	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in outsourcing/managing production process
	n. Applied patent/license	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in applying for patents/licenses
	o. Environmental impact and sustainability	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in dealing with environmental impact and sustainability
	p. Dealing with competition	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in dealing with competition
(In)dependence on sources from non-task environment	a. Business opportunity development	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in business opportunity development

b. Devoted full-time	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in devoting full-time
c. Prepared a business plan	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in preparing a business plan
d. Formed legal entity	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in forming a legal entity
e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in finances
f. Human: hiring employees, organizing start-up team	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in human resource management
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in building and equipment
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in social networking
i. Customer outreach	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in customer outreach
j. Establishing partnerships	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in establishing partnerships

		k. Building prototypes	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in building prototypes
		l. Development of models, services	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in development of models and services
		m. Outsourcing/managing production process	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in outsourcing/managing production process
		n. Applied patent/license	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in applying for patents/licenses
		o. Environmental impact and sustainability	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in dealing with environmental impact and sustainability
		p. Dealing with competition	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in dealing with competition
Least social support	Lack of instrumental support from work-sources (see Karasek, Triantis, & Chaudhry, 1982; Malecki & Demaray, 2003; Näswall, Sverke, & Hellgren, 2005)	a. Business opportunity development	The entrepreneur describes his or her instrumental support from work sources (co-workers) in business opportunity development, e.g. the provision of needed resources like information, advice, money, materials or services
		b. Devoted full-time	The entrepreneur describes his or her instrumental support from work sources (co-workers) in devoting full-time, e.g. the provision of needed resources like information, advice, money, materials or services

c. Prepared a business plan	The entrepreneur describes his or her instrumental support from work sources (co-workers) in preparing a business plan, e.g. the provision of needed resources like information, advice, money, materials or services
d. Formed legal entity	The entrepreneur describes his or her instrumental support from work sources (co-workers) in forming a legal entity, e.g. the provision of needed resources like information, advice, money, materials or services
e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes his or her instrumental support from work sources (co-workers) in , e.g. the provision of needed resources like information, advice, money, materials or services
f. Human: hiring employees, organizing start-up team	The entrepreneur describes his or her instrumental support from work sources (co-workers) in finances, e.g. the provision of needed resources like information, advice, money, materials or services
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes his or her instrumental support from work sources (co-workers) in building and equipment, e.g. the provision of needed resources like information, advice, money, materials or services
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes his or her instrumental support from work sources (co-workers) in social networking, e.g. the provision of needed resources like information, advice, money, materials or services
i. Customer outreach	The entrepreneur describes his or her instrumental support from work sources (co-workers) in customer outreach, e.g. the provision of needed resources like information, advice, money, materials or services
j. Establishing partnerships	The entrepreneur describes his or her instrumental support from work sources (co-workers) in establishing partnerships, e.g. the provision of needed resources like information, advice, money, materials or services
k. Building prototypes	The entrepreneur describes his or her instrumental support from work sources (co-workers) in building prototypes, e.g. the provision of needed resources like information, advice, money, materials or services

	l. Development of models, services	The entrepreneur describes his or her instrumental support from work sources (co-workers) in development of models and services, e.g. the provision of needed resources like information, advice, money, materials or services
	m. Outsourcing/managing production process	The entrepreneur describes his or her instrumental support from work sources (co-workers) in outsourcing/managing production process, e.g. the provision of needed resources like information, advice, money, materials or services
	n. Applied patent/license	The entrepreneur describes his or her instrumental support from work sources (co-workers) in applying for patents/licenses, e.g. the provision of needed resources like information, advice, money, materials or services
	o. Environmental impact and sustainability	The entrepreneur describes his or her instrumental support from work sources (co-workers) in dealing with environmental impact and sustainability, e.g. the provision of needed resources like information, advice, money, materials or services
	p. Dealing with competition	The entrepreneur describes his or her instrumental support from work sources (co-workers) in dealing with competition, e.g. the provision of needed resources like information, advice, money, materials or services
Lack of emotional support from work sources (see Karasek, Triantis, et al., 1982; Kirrane & Buckley, 2004)	a. Business opportunity development	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in , e.g. trust, love and encouragement
	b. Devoted full-time	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in devoting full-time, e.g. trust, love and encouragement
	c. Prepared a business plan	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in preparing a business plan, e.g. trust, love and encouragement

d. Formed legal entity	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in forming a legal entity, e.g. trust, love and encouragement
e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in finances, e.g. trust, love and encouragement
f. Human: hiring employees, organizing start-up team	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in human resource management, e.g. trust, love and encouragement
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in building and equipment, e.g. trust, love and encouragement
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in social networking, e.g. trust, love and encouragement
i. Customer outreach	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in customer outreach, e.g. trust, love and encouragement
j. Establishing partnerships	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in establishing partnerships, e.g. trust, love and encouragement
k. Building prototypes	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in building prototypes, e.g. trust, love and encouragement
l. Development of models, services	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in development of models and services, e.g. trust, love and encouragement

		The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in outsourcing/managing production process, e.g. trust, love and encouragement
	m. Outsourcing/managing production process	
		The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in applying for patents/licenses, e.g. trust, love and encouragement
	n. Applied patent/license	
		The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in dealing with environmental impact and sustainability, e.g. trust, love and encouragement
	o. Environmental impact and sustainability	
		The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in dealing with competition, e.g. trust, love and encouragement
	p. Dealing with competition	
Lack of instrumental support from non-work sources (see Malecki & Demaray, 2003; Näswall et al., 2005)	a. Business opportunity development	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in business opportunity development, e.g. the provision of needed resources like information, advice, money, materials or services
	b. Devoted full-time	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in devoting full-time, e.g. the provision of needed resources like information, advice, money, materials or services
	c. Prepared a business plan	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in preparing a business plan, e.g. the provision of needed resources like information, advice, money, materials or services
	d. Formed legal entity	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in forming a legal entity, e.g. the provision of needed resources like information, advice, money, materials or services

e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in finances, e.g. the provision of needed resources like information, advice, money, materials or services
f. Human: hiring employees, organizing start-up team	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in human resource management, e.g. the provision of needed resources like information, advice, money, materials or services
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in building and equipment, e.g. the provision of needed resources like information, advice, money, materials or services
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in social networking, e.g. the provision of needed resources like information, advice, money, materials or services
i. Customer outreach	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in customer outreach, e.g. the provision of needed resources like information, advice, money, materials or services
j. Establishing partnerships	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in establishing partnerships, e.g. the provision of needed resources like information, advice, money, materials or services
k. Building prototypes	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in building prototypes, e.g. the provision of needed resources like information, advice, money, materials or services
l. Development of models, services	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in development of models and services,

		e.g. the provision of needed resources like information, advice, money, materials or services
	m. Outsourcing/managing production process	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in outsourcing/managing production process, e.g. the provision of needed resources like information, advice, money, materials or services
	n. Applied patent/license	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in applying for patents/licenses, e.g. the provision of needed resources like information, advice, money, materials or services
	o. Environmental impact and sustainability	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in dealing with environmental impact and sustainability, e.g. the provision of needed resources like information, advice, money, materials or services
	p. Dealing with competition	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in dealing with competition, e.g. the provision of needed resources like information, advice, money, materials or services
Lack of emotional support from non-work sources (see Kirrane & Buckley, 2004)	a. Business opportunity development	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in business opportunity development, e.g. trust, love and encouragement
	b. Devoted full-time	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in devoting full-time, e.g. trust, love and encouragement
	c. Prepared a business plan	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in preparing a business plan, e.g. trust, love and encouragement

d. Formed legal entity	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in forming a legal entity, e.g. trust, love and encouragement
e. Finance: saved money to invest, asking for funding, invested own money	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in finances, e.g. trust, love and encouragement
f. Human: hiring employees, organizing start-up team	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in human resource management, e.g. trust, love and encouragement
g. Building + equipment: bought facilities, looked for facilities, rent/lease	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in building and equipment, e.g. trust, love and encouragement
h. Social networking (customers, other businesses, suppliers)	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in social networking, e.g. trust, love and encouragement
i. Customer outreach	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in customer outreach, e.g. trust, love and encouragement
j. Establishing partnerships	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in establishing partnerships, e.g. trust, love and encouragement
k. Building prototypes	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in building prototypes, e.g. trust, love and encouragement
l. Development of models, services	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in development of models and services, e.g. trust, love and encouragement

m. Outsourcing/managing production process	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in outsourcing/managing production process, e.g. trust, love and encouragement
n. Applied patent/license	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in applying for patents/licenses, e.g. trust, love and encouragement
o. Environmental impact and sustainability	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in dealing with environmental impact and sustainability, e.g. trust, love and encouragement
p. Dealing with competition	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in dealing with competition, e.g. trust, love and encouragement

Appendix D. Codebook storytelling

Table 5 demonstrates the codebook that was used to analyze the qualitative data from the storytelling technique. The codes were based on literature, the interview guide and on the storytelling of the respondents themselves. Because the respondents' stories were unstructured, their stories involved a variety of subjects, among which job demands, control and social support.

Table 5. *Codebook storytelling*

Construct	Code	Subcode (daily office activity)	Description
Job demands	Work quantity (Karasek, 1985)	a. Waking up	The entrepreneur describes work quantity in waking up as demanding
		b. Scheduling	The entrepreneur describes work quantity in scheduling as demanding
		c. Making a phone call	The entrepreneur describes work quantity in making phone calls as demanding
		d. Having a meeting	The entrepreneur describes work quantity in having a meeting as demanding
		e. Presenting	The entrepreneur describes work quantity in presenting as demanding
		f. Doing administration	The entrepreneur describes work quantity in doing administration as demanding
		g. Leaving work	The entrepreneur describes work quantity in leaving work as demanding
	Time pressure (Karasek, 1985)	a. Waking up	The entrepreneur describes time pressure in waking up as demanding
		b. Scheduling	The entrepreneur describes time pressure in scheduling as demanding
		c. Making a phone call	The entrepreneur describes time pressure in making phone calls as demanding
		d. Having a meeting	The entrepreneur describes time pressure in having a meeting as demanding
		e. Presenting	The entrepreneur describes time pressure in presenting as demanding
		f. Doing administration	The entrepreneur describes time pressure in doing administration as demanding
		g. Leaving work	The entrepreneur describes time pressure in leaving work as demanding
	Role conflict (Karasek, 1985)	a. Waking up	The entrepreneur describes role conflicts in waking up as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
		b. Scheduling	The entrepreneur describes role conflicts in scheduling as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
		c. Making a phone call	The entrepreneur describes role conflicts in making phone calls as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
		d. Having a meeting	The entrepreneur describes role conflicts in having a meeting as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)

	e. Presenting	The entrepreneur describes role conflicts in presenting as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	f. Doing administration	The entrepreneur describes role conflicts in doing administration as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
	g. Leaving work	The entrepreneur describes role conflicts in leaving work as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
Business immersion (Dijkhuizen et al., 2014)	a. Waking up	The entrepreneur describes business immersion in waking up as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	b. Scheduling	The entrepreneur describes business immersion in scheduling as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	c. Making a phone call	The entrepreneur describes business immersion in making phone calls as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	d. Having a meeting	The entrepreneur describes business immersion in having a meeting as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	e. Presenting	The entrepreneur describes business immersion in presenting as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	f. Doing administration	The entrepreneur describes business immersion in doing administration as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
	g. Leaving work	The entrepreneur describes business immersion in leaving work as demanding. In business immersion, the entrepreneur describes a '24/7' job in which work life and private life are more intertwined
Uncertainty and risks (Dijkhuizen et al., 2014)	a. Waking up	The entrepreneur describes uncertainty and risks in waking up as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	b. Scheduling	The entrepreneur describes uncertainty and risks in scheduling as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	c. Making a phone call	The entrepreneur describes uncertainty and risks in making phone calls as demanding. Uncertainty and risks refer to the high levels of uncertainty about

		the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	d. Having a meeting	The entrepreneur describes uncertainty and risks in having a meeting as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	e. Presenting	The entrepreneur describes uncertainty and risks in presenting as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	f. Doing administration	The entrepreneur describes uncertainty and risks in doing administration as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
	g. Leaving work	The entrepreneur describes uncertainty and risks in leaving work as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that are involved in the business life
Responsibility (Dijkhuizen et al., 2014)	a. Waking up	The entrepreneur describes responsibility in waking up as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	b. Scheduling	The entrepreneur describes responsibility in scheduling as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	c. Making a phone call	The entrepreneur describes responsibility in making phone calls as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	d. Having a meeting	The entrepreneur describes responsibility in having a meeting as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	e. Presenting	The entrepreneur describes responsibility in presenting as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
	f. Doing administration	The entrepreneur describes responsibility in doing administration as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company

	g. Leaving work	The entrepreneur describes responsibility in leaving work as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
Emotional load (Dijkhuizen et al., 2014)	a. Waking up	The entrepreneur describes emotional load in waking up as demanding. Emotional load refers to the emotions that are involved in the job
	b. Scheduling	The entrepreneur describes emotional load in scheduling as demanding. Emotional load refers to the emotions that are involved in the job
	c. Making a phone call	The entrepreneur describes emotional load in making phone calls as demanding. Emotional load refers to the emotions that are involved in the job
	d. Having a meeting	The entrepreneur describes emotional load in having a meeting as demanding. Emotional load refers to the emotions that are involved in the job
	e. Presenting	The entrepreneur describes emotional load in presenting as demanding. Emotional load refers to the emotions that are involved in the job
	f. Doing administration	The entrepreneur describes emotional load in doing administration as demanding. Emotional load refers to the emotions that are involved in the job
	g. Leaving work	The entrepreneur describes emotional load in leaving work as demanding. Emotional load refers to the emotions that are involved in the job
Task complexity (Dijkhuizen et al., 2014)	a. Waking up	The entrepreneur describes task complexity in waking up as demanding
	b. Scheduling	The entrepreneur describes task complexity in scheduling as demanding
	c. Making a phone call	The entrepreneur describes task complexity in making phone calls as demanding
	d. Having a meeting	The entrepreneur describes task complexity in having a meeting as demanding
	e. Presenting	The entrepreneur describes task complexity in presenting as demanding
	f. Doing administration	The entrepreneur describes task complexity in doing administration as demanding
	g. Leaving work	The entrepreneur describes task complexity in leaving work as demanding
Task importance (Fisher et al., 2013; Podsakoff et al., 2007)	a. Waking up	The entrepreneur describes task importance in waking up as demanding
	b. Scheduling	The entrepreneur describes task importance in scheduling as demanding
	c. Making a phone call	The entrepreneur describes task importance in making phone calls as demanding
	d. Having a meeting	The entrepreneur describes task importance in having a meeting as demanding
	e. Presenting	The entrepreneur describes task importance in presenting as demanding
	f. Doing administration	The entrepreneur describes task importance in doing administration as demanding
	g. Leaving work	The entrepreneur describes task importance in leaving work as demanding

	Scarcities of job resources (Baron, 2010; Stinchcombe & March, 1965)	a. Waking up	The entrepreneur describes scarcities of job resources in waking up as demanding, e.g. scarcities of economic, human and physical resources
		b. Scheduling	The entrepreneur describes scarcities of job resources in scheduling as demanding, e.g. scarcities of economic, human and physical resources
		c. Making a phone call	The entrepreneur describes scarcities of job resources in making phone calls as demanding, e.g. scarcities of economic, human and physical resources
		d. Having a meeting	The entrepreneur describes scarcities of job resources in having a meeting as demanding, e.g. scarcities of economic, human and physical resources
		e. Presenting	The entrepreneur describes scarcities of job resources in presenting as demanding, e.g. scarcities of economic, human and physical resources
		f. Doing administration	The entrepreneur describes scarcities of job resources in doing administration as demanding, e.g. scarcities of economic, human and physical resources
		g. Leaving work	The entrepreneur describes scarcities of job resources in leaving work as demanding. For example: scarcities of economic, human and physical resources
	Boredom and routines (Bill & Johansson, 2010)	a. Waking up	The entrepreneur describes boredom and routines in waking up as demanding
		b. Scheduling	The entrepreneur describes boredom and routines in scheduling as demanding
		c. Making a phone call	The entrepreneur describes boredom and routines in making phone calls as demanding
		d. Having a meeting	The entrepreneur describes boredom and routines in having a meeting as demanding
		e. Presenting	The entrepreneur describes boredom and routines in presenting as demanding
		f. Doing administration	The entrepreneur describes boredom and routines in doing administration as demanding
		g. Leaving work	The entrepreneur describes boredom and routines in leaving work as demanding
Control	Decision authority (Karasek, 1985)	a. Waking up	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in waking up
		b. Scheduling	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in scheduling
		c. Making a phone call	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in making a phone call
		d. Having a meeting	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in having a meeting
		e. Presenting	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in presenting
		f. Doing administration	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in doing administration

	g. Leaving work	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions (such as timing and approach) in leaving work
Skill discretion (Karasek, 1985)	a. Waking up	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in waking up
	b. Scheduling	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in scheduling
	c. Making a phone call	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in making a phone call
	d. Having a meeting	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in having a meeting
	e. Presenting	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in presenting
	f. Doing administration	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in doing administration
	g. Leaving work	The entrepreneur describes the level and variety of skills and creativity required and the flexibility that he or she has in deciding what skills to use in leaving work
(In)dependence on sources from immediate task environment	a. Waking up	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	b. Scheduling	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	c. Making a phone call	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	d. Having a meeting	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	e. Presenting	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	f. Doing administration	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
	g. Leaving work	The entrepreneur describes (in)dependence on sources from immediate task environment (such as co-founders and employees) in waking up
(In)dependence on sources from non-task environment	a. Waking up	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in waking up

		b. Scheduling	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in scheduling
		c. Making a phone call	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in making a phone call
		d. Having a meeting	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in having a meeting
		e. Presenting	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in presenting
		f. Doing administration	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in doing administration
		g. Leaving work	The entrepreneur describes (in)dependence on sources from non-task environment (such as rules, regulations, business partners and customers) in leaving work
Social support	Instrumental support from work sources (see Karasek, Triantis, et al., 1982; Malecki & Demaray, 2003; Näswall et al., 2005)	a. Waking up	The entrepreneur describes his or her instrumental support from work sources (co-workers) in waking up, e.g. the provision of needed resources like information, advice, money, materials or services
		b. Scheduling	The entrepreneur describes his or her instrumental support from work sources (co-workers) in scheduling, e.g. the provision of needed resources like information, advice, money, materials or services
		c. Making a phone call	The entrepreneur describes his or her instrumental support from work sources (co-workers) in making a phone call, e.g. the provision of needed resources like information, advice, money, materials or services
		d. Having a meeting	The entrepreneur describes his or her instrumental support from work sources (co-workers) in having a meeting, e.g. the provision of needed resources like information, advice, money, materials or services
		e. Presenting	The entrepreneur describes his or her instrumental support from work sources (co-workers) in presenting, e.g. the provision of needed resources like information, advice, money, materials or services
		f. Doing administration	The entrepreneur describes his or her instrumental support from work sources (co-workers) in doing administration, e.g. the provision of needed resources like information, advice, money, materials or services

	g. Leaving work	The entrepreneur describes his or her instrumental support from work sources (co-workers) in leaving work, e.g. the provision of needed resources like information, advice, money, materials or services
Emotion-based support from work sources (see Karasek, Triantis, et al., 1982; Kirrane & Buckley, 2004)	a. Waking up	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in waking up, e.g. trust, love and encouragement
	b. Scheduling	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in scheduling, e.g. trust, love and encouragement
	c. Making a phone call	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in making a phone call, e.g. trust, love and encouragement
	d. Having a meeting	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in having a meeting, e.g. trust, love and encouragement
	e. Presenting	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in presenting, e.g. trust, love and encouragement
	f. Doing administration	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in doing administration, e.g. trust, love and encouragement
	g. Leaving work	The entrepreneur describes his or her emotion-based support from work-sources (co-workers) in leaving work, e.g. trust, love and encouragement
Instrumental support from non-work sources (see Malecki & Demaray, 2003; Näswall et al., 2005)	a. Waking up	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in waking up, e.g. the provision of needed resources like information, advice, money, materials or services
	b. Scheduling	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in waking up, e.g. the provision of needed resources like information, advice, money, materials or services
	c. Making a phone call	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in scheduling, e.g. the provision of needed resources like information, advice, money, materials or services
	d. Having a meeting	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in having a meeting, e.g. the provision of needed resources like information, advice, money, materials or services
	e. Presenting	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in presenting, e.g. the provision of needed resources like information, advice, money, materials or services
	f. Doing administration	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in doing administration, e.g. the provision of needed resources like information, advice, money, materials or services

		The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends) in leaving work, e.g. the provision of needed resources like information, advice, money, materials or services
	g. Leaving work	
Emotion-based support from non-work sources (see Kirrane & Buckley, 2004)	a. Waking up	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in waking up, e.g. trust, love and encouragement
	b. Scheduling	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in scheduling, e.g. trust, love and encouragement
	c. Making a phone call	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in making a phone call, e.g. trust, love and encouragement
	d. Having a meeting	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in having a meeting, e.g. trust, love and encouragement
	e. Presenting	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in presenting, e.g. trust, love and encouragement
	f. Doing administration	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in doing administration, e.g. trust, love and encouragement
	g. Leaving work	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends) in leaving work, e.g. trust, love and encouragement

Appendix E. Codebook interview

Table 6 demonstrates the codebook that was used to analyze the qualitative data from the semi-structured interview. The codes were based on literature, the interview guide and empirical data from the interview transcripts.

Table 6. *Codebook interview*

Construct	Codes	Subcodes	Description
JDCS-model	Job demands	a. Work quantity (Karasek, 1985)	The entrepreneur describes work quantity as demanding
		b. Time pressure (Karasek, 1985)	The entrepreneur describes time pressure (e.g. deadlines) as demanding
		c. Role conflict (Karasek, 1985)	The entrepreneur describes role conflicts as demanding. In a role conflict, multiple roles conflict (e.g. family-work conflict)
		d. Business immersion (Dijkhuizen et al., 2014)	The entrepreneur describes business immersion as demanding. In business immersion, the entrepreneur experiences a '24/7' job in which work life and private life are more intertwined
		g. Uncertainty and risks (Dijkhuizen et al., 2014)	The entrepreneur describes uncertainty and risks as demanding. Uncertainty and risks refer to the high levels of uncertainty about the functioning of the company and the functioning of the entrepreneur him or herself, and risks that as involved in the business life
		h. Responsibility (Dijkhuizen et al., 2014)	The entrepreneur describes responsibility as demanding. Responsibility refers to the great responsibility that an entrepreneur has over the functioning of the company
		h. Emotional load (Dijkhuizen et al., 2014)	The entrepreneur describes emotional load as demanding. Emotional load refers to the emotions that as involved in the job
		h. Task complexity (Dijkhuizen et al., 2014)	The entrepreneur describes task complexity as demanding
		i. Task importance (Fisher et al., 2013; Podsakoff et al., 2007)	The entrepreneur describes task importance as demanding
		j. Scarcities of job resources (Baron, 2010; Stinchcombe & March, 1965)	The entrepreneur describes scarcities of resources as demanding, such as scarcities of economic, human and physical resources
		k. Boredom and routines (Bill & Johansson, 2010)	The entrepreneur describes boredom and routines as demanding
	Control	a. Decision authority (Karasek, 1985)	The entrepreneur describes the extent to which he or she is autonomous in work-related decisions, such as timing and approach
		b. Skill discretion (Karasek, 1985)	The entrepreneur describes the level and variety of skills and creativity required in the job and the flexibility that he or she has in deciding what skills to use

		c. (In)dependence on sources from immediate task environment	The entrepreneur describes his or her (in)dependence on sources from immediate task environment, such as co-founders and employees
		d. (In)dependence on sources from non-task environment	The entrepreneur describes his or her (in)dependence on sources from non-task environment, such as rules, regulations, business partners and customers
	Social support	a. Instrumental support from work sources (Karasek, Triantis, et al., 1982; Malecki & Demaray, 2003; Näswall et al., 2005)	The entrepreneur describes his or her instrumental support from work sources (co-workers), e.g. the provision of needed resources like information, advice, money, materials or services
		b. Emotion-based support from work sources (Karasek, Triantis, et al., 1982; Kirrane & Buckley, 2004)	The entrepreneur describes his or her emotion-based support from work-sources (co-workers), e.g. trust, love and encouragement
		c. Instrumental support from non-work sources (Malecki & Demaray, 2003; Näswall et al., 2005)	The entrepreneur describes his or her instrumental support from non-work sources (e.g. family and friends), e.g. the provision of needed resources like information, advice, money, materials or services
		d. Emotion-based support from non-work sources (Kirrane & Buckley, 2004)	The entrepreneur describes his or her emotion-based support from non-work sources (e.g. family and friends), e.g. trust, love and encouragement
Stress / burnout	Burnout dimensions	a. Exhaustion (Maslach, 2003)	The entrepreneur describes stress/burnout based on feelings of exhaustion
		b. Cynicism (Maslach, 2003)	The entrepreneur describes stress/burnout based on negative, insensitive, or excessively detached responses to job aspects
		c. Reduced professional efficacy (Maslach, 2003)	The entrepreneur describes stress/burnout based on feelings of incompetence and lack of achievement and productivity at work
	Described burnout level	a. No burnout symptoms (Maslach et al., 2001)	The entrepreneur describes experiencing no burnout symptoms
		b. Moderate burnout symptoms (Maslach et al., 2001)	The entrepreneur describes experiencing moderate burnout symptoms
		c. Strong burnout symptoms (Maslach et al., 2001)	The entrepreneur describes experiencing strong burnout symptoms
	Types of stress	a. Positive forms of stress (Dhabhar, 2014; Oksman, Ermes, & Kati, 2016)	The entrepreneur describes positive forms of stress
		b Negative forms of stress Dhabhar, 2014; Oksman, Ermes, & Kati, 2016)	The entrepreneur describes negative forms of stress
		c. Rollercoaster (Moltz, 2003)	The entrepreneur describes stress/burnout as a rollercoaster of emotions (alternating periods of high and low stress)
Coping	Coping strategies	a. Problem-focused (Folkman & Moskowitz, 2004; Patzelt & Shepherd, 2011)	The entrepreneur describes how he or she uses problem-focused coping (e.g. making a plan of action or focusing on the next steps)
		b. Emotion-focused (Folkman & Moskowitz, 2004; Patzelt & Shepherd, 2011)	The entrepreneur describes how he or she uses emotion-focused coping (e.g. engaging in distractive activities or consuming drugs and alcohol)
	Coping resources	a. Control (Karasek & Theorell, 1992; Van der Doef & Maes, 1999)	The entrepreneur describes how he or she uses control to deal with stress

		b. Social support (Karasek & Theorell, 1992; Van der Doef & Maes, 1999)	The entrepreneur describes how he or she uses social support to deal with stress
		c. Time outs (work breaks, leisure time, vacation) (Joudrey & Wallace, 2009; Lakey & Orehek, 2011; Uy et al., 2013)	The entrepreneur describes how he or she uses work breaks, leisure time and/or vacation to deal with stress
Consequences	Personal job performance	a. Personal job performance improves (Cardon & Patel, 2015; Goodman, 2008)	The entrepreneur describes how stress/burnout could improve his or her personal job performance
		b. Personal job performance worsens (Karasek, 1979; Tennant, 2001; Wincent & Örtqvist, 2009)	The entrepreneur describes how stress/burnout could worsen his or her personal job performance
	Business performance	a. Linked to the entrepreneur's personal job performance (Cardon & Patel, 2015; Tennant, 2001)	The entrepreneur describes how business performance is linked to his or her personal job performance
		b. Financial performance (Garengo, Biazzo, & Bititci, 2005)	The entrepreneur describes how stress/burnout could impact the firm's financial performance (such as sales, turnover)
		c. Operational (non-financial) performance (Garengo et al., 2005)	The entrepreneur describes how stress/burnout could impact the firm's operational performance (such as product or process innovation)
	Private life	a. Physical health (Cardon & Patel, 2015; Stephan & Roesler, 2010; Van Yperen & Janssen, 2002)	The entrepreneur describes how stress/burnout could impact his or her physical health
		b. Mental health (Cardon & Patel, 2015; Stephan & Roesler, 2010)	The entrepreneur describes how stress/burnout could impact his or her mental health
		c. Social relationships and leisure activities (Carree & Verheul, 2012; Kuratko, 2016; Parasuraman, Purohit, Godshalk, & Beutell, 1996)	The entrepreneur describes how stress/burnout could impact his or her social relationship and leisure activities

Appendix F. Codebook entrepreneurial characteristics

Table 7 demonstrates the codebook that was used to analyze the qualitative data. The codes were based on literature, the interview guide and empirical data from the interview transcripts.

Table 7. *Codebook entrepreneurial characteristics*

Construct	Codes	Subcodes	Description
Entrepreneur's identity type	Darwinian	a. Social motivation: personal interest (Sieger et al., 2016, p. 548)	The entrepreneur created his or her firm in order to make money, become rich and/or to advance his or her personal career in the business world
		b. Self-evaluation: being a competent professional (Sieger et al., 2016, p. 548)	To the entrepreneur, it is important that he or she operate the firm on basis of solid management practices and/or has thoroughly analyzed the financial prospects of his business
		c. Frame of reference: competitors (Sieger et al., 2016, p. 548)	When managing his or her firm, the entrepreneur finds it important to have a strong focus on what his or her firm can achieve vis-à-vis the competition and/or establish a strong competitive advantage and significantly outperform other firms in his or her domain
		d. Market segment: most profitable market segment (Fauchart & Gruber, 2011, p. 947)	The entrepreneur produces for the average consumer or for quickly growing segments and/or tends to serve additional segments over time/extend applications to new segments to achieve firm growth
		e. Customer needs: needs that are already known to be important (Fauchart & Gruber, 2011, p. 947)	The entrepreneurs tends to address known beneficial dimensions (e.g. safety, ease-of-use) and/or derived from market analysis
		f. Production: cost-effective, mass (Fauchart & Gruber, 2011, p. 947)	The entrepreneur focuses on cost-effective and mass production methods and/or uses international sourcing of production capabilities and/or values intellectual property rights protection/help in achieving business goals
	Communitarian	a. Social motivation: mutual concern for the benefit of others (Sieger et al., 2016, p. 548)	The entrepreneur created his or her firm in order to solve a specific problem for a group of people that he or she strongly identifies with (e.g. friends, colleagues, club, community) and/or to play a proactive role in shaping the activities of a group of people that he or she strongly identifies with
		b. Self-evaluation: being true to similar others (Sieger et al., 2016, p. 548)	To the entrepreneur, it is important that he or she provides a product/service that is useful to a group of people that he or she strongly identifies with (e.g. friends,

			colleagues, club, community) and/or is able to express to customers that he or she fundamentally shares their views, interests and values
		c. Frame of reference: similar others/specific social group (Sieger et al., 2016, p. 548)	When managing his or her firm, the entrepreneur finds it important that he or she has a strong focus on a group of people that he or she strongly identifies with (e.g. friends, colleagues, club, community) and/or supports and advances a group of people that he or she strongly identifies with
		d. Market segment: users like themselves (Fauchart & Gruber, 2011, p. 947)	The entrepreneur serves customers that are like him or herself and/or sticks to the initial segment because it is the only one he or she perceives as legitimate
		e. Customer needs: novel kinds of needs (Fauchart & Gruber, 2011, p. 947)	The entrepreneur tends to address novel kinds of customer needs and/or derived from his or her own needs
		f. Production: highly individualized, craftsman (Fauchart & Gruber, 2011, p. 947)	The entrepreneur tends to use highly individualized and craftsman production methods, relies on personal capabilities and is reluctant to use intellectual property rights protection within community as it would contradict to sharing value with the community
	Missionary	a. Social motivation: advancing a cause (Sieger et al., 2016, p. 548)	The entrepreneur created his or her firm in order to solve a societal problem that private businesses usually fail to address (e.g. social injustice, destruction of environment) and/or to play a proactive role in changing how the world operates
		b. Self-evaluation: contributing to make the world a better place (Sieger et al., 2016, p. 548)	To the entrepreneur, it is important to be a highly responsible citizen of our world and/or to make the world a "better place" (e.g. by pursuing social justice, protecting the environment)
		c. Frame of reference: society at large (Sieger et al., 2016, p. 548)	When managing his or her firm, the entrepreneur finds it important to have a strong focus on what the firm is able to achieve for society-at-large and/or to convince others that private firms are indeed able to address the type of societal challenges that his or her firm addresses (e.g. social justice, environmental protection)
		d. Market segment: market that is congruent with political vision (Fauchart & Gruber, 2011, p. 947)	The entrepreneur produces for the consumers where he or she expects the greatest social impact (the ultimately society is his or her audience) and/or may serve additional segments if this helps the firm to leverage its socio-political mission
		e. Customer needs: products that change consumption patterns (Fauchart & Gruber, 2011, p. 947)	The entrepreneur tends to address new social practices (e.g., new modes of consumption or production) and/or derived from what he or she would like the world to become
		f. Production: that can serve as "better" practices (Fauchart & Gruber, 2011, p. 947)	The entrepreneur focuses on socially responsible production methods and/or sources from suppliers that match strict criteria (according to firm's mission) and/or demonstrate firm capabilities to diffuse the exemplary model
Entrepreneur's personality	Personality traits	a. Need for achievement (Rauch & Frese, 2007)	The entrepreneur chooses tasks of moderate difficulty, accepts responsibility for results, and seeks feedback on action outcomes

		b. Generalized self-efficacy (Rauch & Frese, 2007)	The entrepreneur estimates him or herself to be able to cope, perform, and be successful
		c. Innovativeness (Rauch & Frese, 2007)	The entrepreneur is willing and interested to look for new ways of actions
		d. Need for autonomy (Rauch & Frese, 2007)	The entrepreneur desires to be in control (e.g. he or she avoids restrictions and rules of established organization)
		e. Stress tolerance (Rauch & Frese, 2007)	The entrepreneur is able to preserve his or her self-control and perform under stressful situations
		f. Proactive personality (Rauch & Frese, 2007)	The entrepreneur has a tendency towards changing his or her environment: he or she looks for opportunities, show initiative and persist to bring a meaningful change to his or her environment
Entrepreneur's prior experience	Entrepreneurial experience	a. No prior experiences	The entrepreneur describes (the consequences of) having no prior entrepreneurial or business experiences
		b. Prior entrepreneurial experiences	The entrepreneur describes (the consequences of) having prior entrepreneurial experiences (e.g. he has founded a venture before)
		c. Prior non-entrepreneurial business experiences	The entrepreneur describes (the consequences of) having prior business experience that is not entrepreneurial (e.g. he has experience as an employee)
Entrepreneur's demographics	Age	a. 20-34 years old (Kautonen, Gelderen, & Fink, 2015; Parker, 2009; Van Praag & Booij, 2003)	The entrepreneur describes (the consequences of) being in the age of 20-34 years old
		b. 35-44 years old (Kautonen et al., 2015; Parker, 2009; Van Praag & Booij, 2003)	The entrepreneur describes (the consequences of) being in the age of 35-44 years old
		c. 45-64 years old (Kautonen et al., 2015; Parker, 2009; Van Praag & Booij, 2003)	The entrepreneur describes (the consequences of) being in the age of 45-64 years old
	Gender	a. Male	The entrepreneur describes (the consequences of) being male
		b. Female	The entrepreneur describes (the consequences of) being female
Entrepreneur's start-up	Co-founders	a. No co-founders	The entrepreneur describes (the consequences of) having no co-founders
		b. Co-founder(s)	The entrepreneur describes (the consequences of) having one or multiple co-founders
	Entrepreneur's role and responsibilities	a. Founder role (business management activities) (Spiegel et al., 2013)	The entrepreneur describes (the consequences of) having a founder role and being engaged in business management activities (e.g. assembling financial and human resources)
		b. Inventor role (technical activities) (Spiegel et al., 2013)	The entrepreneur describes (the consequences of) having an inventor role and being engaged in technical activities (e.g. building prototypes, development of models and services)

	c. Founder role and inventor role (business management and technical activities) (Hébert & Link, 1989)	The entrepreneur describes (the consequences of) having both a founder and inventor role and being engaged in both business management and technical activities (e.g. assembling financial resources and building prototypes)
Company culture	a. Learning / educational	The entrepreneur describes (the consequences of) building a learning or education company culture in which employees can learn
Industry	a. High-tech	The entrepreneur describes (the consequences of) the high-tech industry
Task environment	a. Task environment	The entrepreneur describes (the consequences of) specific task environments

Appendix G. Identity types of the entrepreneurs

In the qualitative analysis, the identity types of the entrepreneurs of this study were identified. Most of the entrepreneurs were identified as Darwinians, and the other entrepreneurs were identified as Communitarian, Missionary or a hybrid form of identities. An overview of the social identity types of the entrepreneurs in this study can be found in Table 8.

Table 8. *Identity types of the entrepreneurs*

Type	Entrepreneurs in this study	Number of entrepreneurs	Percentage
Darwinians	Respondent 1, 2, 5, 7, 9, 10, 12, 15, 16	9	56.25
Communitarian	Respondent 6	1	6.25
Missionary	Respondent 4, 13	2	12.5
Darwinian-Communitarian	-	0	0
Darwinian-Missionary	Respondent 8, 14	2	12.5
Communitarian-Missionary	Respondent 11	1	6.25
Darwinian-Communitarian-Missionary	Respondent 3	1	6.25
Total		16	100

Darwinian

Nine entrepreneurs were identified as pure Darwinians. They founded their start-up for personal interest. Especially younger Darwinians (20-34 years old) created their firms to make money as many realized that entrepreneurship could provide them greater monetary satisfaction than regular employment. *"Money is also an important thing. As an entrepreneur, when you're successful, you make more money than an employee."* (Respondent 1)

A few entrepreneurs even described that making money was more important than other goals, such as making the world a better place. *"Sometimes we have some projects where you feel like it's not really necessary to make the world a better place, however it makes a lot of money."* (Respondent 5)

Especially older Darwinians (35-64 years old) focused on advancing their personal career in the business world as an employment career would not satisfy their personal needs or ambitions. *"If I would be an employee, that would not be sufficient for me. Maybe it would make me unhappy. Maybe I work much harder [as an entrepreneur] and I would get frustrated in an organization [as an employee] because I have too much ambition."* (Respondent 10)

In managing the start-ups, many Darwinians emphasized business school methods in being a competent professional and focused on most profitable market segments. *"There was also this really largely*

growing market and there was this unique product vision that we had and that we thought we could realize, market and sell." (Respondent 2)

Communitarian

One entrepreneur was identified as pure Communitarian. He created his start-up to support a group of people that he strongly identified with: his customers. He felt that he would be more able to help them if he would become an entrepreneur. *"I think that as an entrepreneur, I can help my customers better than when I work at a company."* (Respondent 6)

He showed concern for the benefit of his customers as he focused on solving their problems. *"Talking to customers, get their wishes and the problem, until the end, and see a customer using it and making him happy."* (Respondent 6)

Missionary

Two entrepreneurs were identified as pure Missionaries. One of them created his start-up to advance a particular cause: environmental impact and sustainability. *"Environmental impact and sustainability, that's related to our whole business case."* (Respondent 13)

He emphasized his goal to change the consumption process and mindset of his customers. *"Our job is to influence their process and their mindset."* (Respondent 13)

The other Missionary wanted to contribute to society by improving the access to expensive high technology, in this case virtual reality. *"Our ambition is that we create a platform so that every organization or consumer can use virtual reality for low costs."* (Respondent 4)

The Missionaries focused on solving societal problems and aimed to play an active role in the matter. *"My ambition was that I want to solve some problems and I saw some chances in the world. And I thought if I can create a solution, how nice it would be to help people. Actually, that's my most important motivation."* (Respondent 4)

Darwinian-Communitarian

No entrepreneurs were identified as hybrid Darwinian-Communitarian and therefore this hybrid form is not further discussed upon.

Darwinian-Missionary

Two entrepreneurs were identified as hybrid Darwinian-Missionary. They created firms with reasons for both personal interest and societal interest. One of these entrepreneurs was focused on monetary satisfaction and the use of business school approaches, as he looked at possibilities to establish firm growth and scalability. *"There's always a struggle like, ok, is it better to focus on finishing all the*

projects so you can send some invoices or is better to focus on the scalability of your company?" (Respondent 8)

However, at the same time, he also emphasized the importance of "good governance". *Of course, we're working on, let's say, good governance and things like that."* (Respondent 8)

The other Darwinian-Missionary hybrid entrepreneur was focused on his personal interests to get a kick out of creating a firm and from benefiting from the firm's success. *"Would I do it again? Of course! Because it's the kick of creating the success and then the kick of reaping the benefits of that success."* (Respondent 14)

However, he also emphasized the importance of considering societal issues in the production process. *"We want to do a lot with environmental impact and sustainability. [...] We're doing our best, even with the suppliers that we have, the materials that we use and the way we use them, et cetera."* (Respondent 14)

Communitarian-Missionary

One entrepreneur was identified as hybrid Communitarian-Missionary. He created his firm with reasons for both personal interest and community interest. On one hand, he focused on being true and genuine towards his customers and other parties. *"The first impression is very important in social networking. That's how you grab the attention of viewers. Sometimes that can be out of control because personally, when I make contents, it has to be genuine. It has to have a meaning to be created, not just for the sake of attracting. [...] It's not as genuine, it's really about... It's more cold. There's no meaning behind it other than making money, getting that business going, getting the attention you want."* (Respondent 11)

On the other hand, he aimed to contribute to make the world a better place. *"I think the main drive is that I wanted to make change in this world, regardless of how you do it."* (Respondent 11)

Specifically, he created an educational program to improve societal awareness on environmental impact and sustainability. *"We wanted to give some form of education to people in the world. [...] Just to merely raise awareness in people, to motivate them to do their own thing, or to be educated on how messed up the environment is these days, or to teach them what you can do now at home to be more sustainable."* (Respondent 11)

Darwinian-Communitarian-Missionary

One entrepreneur was identified as hybrid Darwinian-Communitarian-Missionary. He created his firm with reasons for personal, community and societal interest. He was focused on developing his community of colleagues, but at the same time emphasized the personal monetary satisfaction he gained from entrepreneurship. *"I think it's great to work with my team, with the people that are working for me. I got very much satisfaction to see the development of my people. I think that's something you can't pay*

for. Otherwise, I'm not going to say: 'I'm not interested in money', because I think I see my business to make some money to get a personal life which, for me, is very satisfactory. I want two times vacations, I want to go on winter sport, things like that." (Respondent 3)

He was also focused on his societal contributions as an entrepreneur, even though he did not mention a particular cause, such as environmental impact and sustainability. *"What are the things we accomplish or contribute to the particular life itself? That's something I'm always thinking about right now."* (Respondent 3)

Appendix H. Personality traits of the entrepreneurs

In the qualitative analysis, several entrepreneurial personality traits were distinguished. Especially experienced entrepreneurs were linked to the entrepreneurial personality traits of Rauch and Frese (2007). An overview of the personality traits of the entrepreneurs in this study can be found in Table 9.

Table 9. *Personality traits of the entrepreneurs*

Personality trait	Entrepreneurs in this study	Number of entrepreneurs	Percentage
Need for achievement	Respondent 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	16	100
Generalized self-efficacy	Respondent 1, 2, 3, 8, 9, 12, 14	7	43.75
Innovativeness	Respondent 1, 11, 12, 14, 15, 16	6	37.5
Need for autonomy	Respondent 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	16	100
Stress tolerance	Respondent 1, 2, 3, 5, 6, 8, 9, 12, 15	9	56.25
Pro-active personality	Respondents 1, 2, 3, 11, 12, 13, 14	7	43.75

Need for achievement

All entrepreneurs in this study described that they were searching for challenging situations as an entrepreneur. *"You try to do as much challenging things as possible I think, as an entrepreneur. Searching for challenging situations."* (Respondent 9)

They claimed that entrepreneurs are generally "more ambitious" for achievements and "feel more responsibility". *"I think you have to look through the character of an entrepreneur. Those kind of people feel more responsibility and want to do things more perfectionistic and want to do things better. That's why I became an entrepreneur."* (Respondent 3)

They all emphasized the importance of performing difficult tasks, taking responsibilities and conducting improvements in the entrepreneurial work life. *"Every day you try. How can I improve? What should I do differently? What are the next steps?"* (Respondent 12)

Generalized self-efficacy

Especially experienced entrepreneurs emphasized the importance of self-efficacy or confidence for entrepreneurs in their start-up process. *"That you're confident about that you can set the world to your hands, more or less. That's a very important thing I think."* (Respondent 1)

Seven experienced entrepreneurs described their generalized self-efficacy as they claimed to be able to change stressful situations. *"When I look at the changes and the things I've learned, I think it's something*

an entrepreneur should look by his self. He should know that he can change those things by himself." (Respondent 12)

They often linked the generalized self-efficacy to entrepreneurial experience in the sense that prior start-up experience could help to build self-efficacy. They claimed that entrepreneurs without experience would have lower self-efficacy of confidence. *"But the confidence, they don't have that because they haven't gone through all those situations where you can be at."* (Respondent 1)

Innovativeness

Six entrepreneurs from this study, especially experienced entrepreneurs, mentioned a personal interest for innovations and innovative work behavior. *"I want to innovate."* (Respondent 12)

They mainly focused on the development of new products and processes in their start-up. *"I love creating things where there's nothing yet. I love doing new things that no one has done before."* (Respondent 14)

They also used innovative coping, as a form of problem-focused coping and emotion-focused coping, as they used innovative ways to cope with stress. *"Do things that you don't know yourself. Get out of your comfort zone."* (Respondent 11)

Need for autonomy

All entrepreneurs from this study mentioned the large amounts of control in the entrepreneurial work life. They all emphasized how they greatly enjoyed the freedom as an entrepreneur. *"What I loved most of entrepreneurship is the freedom."* (Respondent 1)

They experienced a need for autonomy from an early age or encountered struggles in prior employments with limited control. They became an entrepreneur to satisfy that need for autonomy. *"I like to be in control of what I do and what I love to do. I would like to make my own decisions and to create my own life. I want to be independent. I had a couple of jobs. I liked them, but it didn't give me the satisfaction that I was searching for. That is one main reason. The main reason is that I want to be free in what I do."* Respondent 15)

Stress tolerance

All entrepreneurs in the study emphasized that stress is a major aspect of being an entrepreneur. They claimed that stress tolerance is needed to deal with stressful events. *"If you're having trouble coping with keeping your head clear during a stressful situation, the first thing is maybe: should you be an entrepreneur? Because you will encounter these situations. I mean, that's just a fact."* (Respondent 6)

Eight entrepreneurs described that they personally did not experience stress often or that they tolerated stress. *"I don't really stress that much, that's something personal I think."* (Respondent 6)

Especially older and experienced entrepreneurs claimed to tolerate stress. Many entrepreneurs claimed that prior start-up experience and business experience helped them to endure or tolerate stress. *"As an entrepreneur, when I see some things in my first year when I just started where I was stressed on, and nowadays where I'm stressed on, there's a really big change in what I was stressed on. I think that's something I can learn."* (Respondent 3)

Proactive personality

Seven entrepreneurs described capturing a behavior tendency towards changing their environment. They looked for opportunities and showed initiative. *"I love not only having the idea but then also creating it, doing something with it. You hear a lot of people saying: 'I have such a good idea, it's such a shame that I haven't done anything with it.' Those are not entrepreneurs. Entrepreneurs start doing something with it. That's the difference."* (Respondent 14)

One entrepreneur even described it as "part of being an entrepreneur" to take action and make changes. *"Maybe that's also part of being an entrepreneur. That you realize and say: 'I'm going to take action, I'm going to make a change.'"* (Respondent 11)

Experienced entrepreneurs also composed a proactive attitude in the arise of stressful situations. They used proactive coping, as a form of problem-focused coping, in preparing for and preventing stressful events. *"What you can do, is try to foresee things, try to structure things that helps so you can get less stressful situations."* (Respondent 1)

Appendix I. Overview of the entrepreneurial grid activities' scores

Table 10 demonstrates how often the activities of the entrepreneurial grid were circled to be most demanding, have the least control and/or least social support.

Table 10. *Overview of the activities' grid scores*

Categories of entrepreneurial activities	Entrepreneurial activities	Most demanding	Least control	Least social support
Organization/venture building	Business Opportunity Development	6	1	2
	Devoted Full-time	2	2	2
	Prepared a Business Plan	1	1	2
	Formed Legal Entity	3	2	3
Resource management	Finance	6	4	6
	Human	5	4	2
	Building + Equipment	0	1	1
Marketing	Social Networking	6	1	2
	Customer Outreach	8	0	3
	Establishing Partnerships	8	0	3
Production	Building Prototypes	5	3	0
	Development of Models/Services	5	1	2
	Outsourcing/Managing Production Process	3	5	1
Responding to government and society	Applied Patent/License	1	2	4
	Environmental Impact and Sustainability	0	1	0
	Dealing with competition	1	6	0