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Interpersonal challenges of entrepreneurial teams:  
The role of uncertainty in the relationships between team members

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## LIST OF ABBREVIATIONS

CEO	Chief executive officer
CFO	Chief financial officer
COO	Chief operating officer
CTO	Chief technology officer
Dr.	Doctor
e.g.	Exempli gratia (for example)
Et al.	Et alii (and others)
ERI	Entrepreneurship Research Institute
i.e.	Id est (that is)
PSED	Panel Study of Entrepreneurial Dynamics
Prof.	Professor
TUM	Technical University of Munich

## **ABSTRACT**

The entrepreneurial journey involves several uncertainties for entrepreneurs. Starting a new venture as a team adds a crucial source of uncertainty for entrepreneurs. That is, the relationships between the entrepreneurial team members. However, we still lack sufficient knowledge of the uncertainty emerging from these relationships and the consequences for the team and individual team member. Utilizing an inductive, qualitative approach and drawing on various incidents of relational uncertainty between entrepreneurial team members, I developed a dynamic model of the emergence of relational uncertainty and the uncertainty management process. The first part of the model describes the inputs and the two dimensions (i.e., friendship and instrumental relationship) of perceived entrepreneurial team member relationships and how lack of information and violation of team member expectations stimulate the emergence of relational uncertainty. The second part of the model outlines two uncertainty management trajectories that entrepreneurial team members follow influenced by their individual perception of the relational level toward their teammate. My study contributes to literature on entrepreneurship as well as human communication and social psychology. I provide new insights into the development of the relationships within entrepreneurial teams by showing how team members manage challenges linked to the relationships between them and by proposing ways how individual and team measures are adopted.

# 1 INTRODUCTION

*“Working with Mark [Zuckerberg] is very challenging. You’re never sure if what you’re doing is something he likes or he doesn’t like. It’s so much better to be friends with Mark than to work with him.”* – Chris Hughes, co-founder of Facebook (Kirkpatrick, 2011, p. 270)

Starting a new venture is known to be an entirely uncertain endeavor. The ability to conceive and respond to uncertainty is often what makes the success of new ventures (McKelvie, Haynie, & Gustavsson, 2011). Thus, the concept of uncertainty is indispensable in the field of entrepreneurship (e.g., Knight, 1921; Shane & Eckhardt, 2003; Townsend, Hunt, McMullen, & Sarasvathy, 2018) and researchers even consider uncertainty to be the *“conceptual cornerstone for most theories of the entrepreneur”* (McMullen & Shepherd, 2006, p. 132). Entrepreneurship research has put a strong focus on entrepreneurs as individuals so far. In fact, most new ventures are founded and led by entrepreneurial teams (Klotz, Hmieleski, Bradley, & Busenitz, 2014; Wasserman, 2012). I consider them as *“two or more people who work together interdependently to discover, evaluate, and exploit opportunities to create new products or services”* (Knight, Greer, & De Jong, 2020, p. 7) and they are *“involved in its [the opportunity’s] subsequent management, and share ownership”* (Lazar et al., 2019). Entrepreneurial team members are distinct from other people conceivably involved in the venture such as investors or external board members who do not take any active role in ongoing operations (Klotz et al., 2014) and employees who do not hold a significant equity stake (Cooney, 2005).

In my dissertation, I focus on entrepreneurial teams and how they navigate the new ventures through choppy waters as the leading light. They face different sources of uncertainty

throughout the entrepreneurial process. First, they are confronted with unpredictable and dynamic industry environments (Chandler, Honig, & Wiklund, 2005; Hmieleski & Baron, 2008). Second, they suffer from a lack of resources and experiences required for the management of a new venture (Shepherd, Douglas, & Shanley, 2000; Sirmon, Hitt, & Ireland, 2007) and “*must learn to rely largely upon themselves for information and for the generation of ideas and solutions*” (Ensley, Pearson, & Amason, 2002, p. 367). Third, in contrast to teams in organizations, entrepreneurial teams and their tasks are not embedded in predefined organizational structures (Blatt, 2009). Thus, they are required to find their own ways on how to organize themselves and the venture (Sine, Mitsuhashi, & Kirsch, 2006). Finally, entrepreneurial teams face one major source of uncertainty which has not been studied yet, namely the challenge of “*forging and maintaining [of] productive working relationships*” (Blatt, 2009, p. 533) between the team members. This lack of insight is surprising because interacting with others is considered to be inherently uncertain in general (FeldmanHall & Shenhav, 2019). Accordingly, uncertainty about the partner is considered to be a pervasive feature of romantic relationships (Knobloch & Solomon, 1999). In particular, this applies when interpersonal relationships are rather novel (Berger & Calabrese, 1975) and the interdependences between the individuals involved are high (Theiss, Knobloch, Checton, & Magsamen-Conrad, 2009), which are typical conditions of the new venture context. Research in the fields of human communication and social psychology provides a solid foundation which helps advancing our understanding of social sources of uncertainty in entrepreneurship in general and entrepreneurial teams more specifically. Drawing on this research, understanding entrepreneurial team members’ relational uncertainty is crucial because it shapes the development of relationships within the entrepreneurial team (Afifi & Burgoon, 1998; Boucher, 2015; Knobloch & Solomon, 1999). In this dissertation, I follow the definition of relational uncertainty as entrepreneurial team members’ “*doubts and ambivalence*

*about whether their partner [teammate] really is the 'right' person for them [within the entrepreneurial team]"* (Sorrentino, Hanna, Holmes, & Sharp, 1995, p. 314). The uncertainty describes concerns if the teammate is able to meet the particular needs for the good of the team and venture (Sorrentino et al., 1995). For example, relational uncertainty has been found to be associated with reduced relational closeness and satisfaction (Schrodt & Phillips, 2016), more conflicts (Siegert & Stamp, 1994), restricted information processing (Knobloch & Solomon, 2005) and information production (Afifi & Burgoon, 1998; Bevan, Stetzenbach, Batson, & Bullo, 2006; Knobloch & Carpenter-Theune, 2004), as well as relationship termination (Parks & Adelman, 1983).

As the opening quotation by Chris Hughes, one of the co-founders of Facebook, suggests, doubts whether the teammate is the “*right*” person to work with to build a new venture likely has similar repercussions on the development of the collaboration and relationships within entrepreneurial teams. Facebook was founded by Mark Zuckerberg and his fellow Harvard College students and roommates Eduardo Saverin, Andrew McCollum, Dustin Moskovitz, and Chris Hughes. Anecdotal evidence suggests that the co-founders—and close friends—of Mark Zuckerberg left the company one after the other, in part because, like Chris Huges (2011, p. 270) concluded, “*they got fed up*” with working with Mark Zuckerberg. At the same time, high rates of team turnover and dissolution attests to the uncertainty involved in maintaining entrepreneurial team relationships (Ucbasaran, Lockett, Wright, & Westhead, 2003). Investigating the perception of relational uncertainty is important to generate new insights into cognitive and behavioral processes associated with the development of productive and enduring entrepreneurial team relationships which may be critical for new venture performance. Indeed, research in management acknowledges the impact of the quality of relationships on entrepreneurial and

organizational functioning (Ferris et al., 2009; Graebner & Eisenhardt, 2004; Thomas, Sugiyama, Rochford, Stephens, & Kanov, 2018).

Prior research has focused significant attention on understanding uncertainty in entrepreneurship but leaves unexplored the perception of relational uncertainty within entrepreneurial teams, the factors that give rise to such uncertainty, and how team members respond to it to cultivate constructive working relationships and build a successful venture together. Therefore, the purpose of this dissertation is to offer a framework to better understand the phenomenon of relational uncertainty between entrepreneurial team members. Specifically, I build this research agenda around three research questions, which I discuss in detail in the literature review in chapter 2. These research questions are organized around two essential phases of the relational uncertainty process and provide the framework of this dissertation: (1) the perception and management, as well as (2) the emergence of relational uncertainty. In chapter 3, I follow the chronological sequence of the two phases of the relational uncertainty process and first discuss (2) the emergence of relational uncertainty and then turn to (1) the perception and management of relational uncertainty.

### **(1) The perception and management of relational uncertainty**

Entrepreneurship research suggests that building a new venture entails different sources of uncertainty (Packard, Clark, & Klein, 2017). Most work has focused on uncertainty stemming from the broader environment of new ventures such as technological change or customer demand (McKelvie et al., 2011; Tang & Wezel, 2015; Townsend & Busenitz, 2015). More recently, researchers suggest to consider that the source of uncertainty that entrepreneurs face primarily concerns human actors, which involves the inability to predict human intention or action, in the entrepreneurial process (Packard & Clark, 2020). From this perspective, entrepreneurial teams

appear to be particularly rife with uncertainty which directs attention to sources of uncertainty inside of new ventures. Entrepreneurial teams not only play a key role in the entrepreneurial process (Bolzani, Fini, Napolitano, & Toschi, 2019; Klotz et al., 2014), but their interpersonal relationships may also involve a multitude of unknowns about each other (Blatt, 2009). For example, researchers have addressed entrepreneurial team members' concerns of how the other envisions the future of the venture (Preller, Patzelt, & Breugst, 2018) or who owns the idea (Gray, Knight, & Baer, 2020). These forms of unknowns may manifest in the perception of relational uncertainty within entrepreneurial teams. However, we still do not know the specific content issues relevant to entrepreneurial team members to assess whether the teammate is the "right" person for them. The source of uncertainty is relevant to determine appropriate ways in which entrepreneurs respond to it (McKelvie et al., 2011; Packard & Clark, 2020). Without a clear grasp of whether and in what way entrepreneurial team members are uncertain about their individual teammates, we cannot fully understand the management process and extensive consequences for the entrepreneurial teams and their ventures. Therefore, the first part of this dissertation focuses on the following research question:

*RQ1: How do individual entrepreneurial team members perceive relational uncertainty toward their teammates?*

The fundamental perspective in the field of entrepreneurship is based on the assumption that entrepreneurs are willing to bear uncertainty (Townsend et al., 2018) which has even been seen as precursor to profit (Knight, 1921) and entrepreneurial opportunities (Alvarez & Barney, 2007). However, the notion of the aversive nature of uncertainty is articulated across various fields of research (Berger & Calabrese, 1975; FeldmanHall & Shenhav, 2019; Hogg, 2007; Jauch

& Kraft, 1986). Entrepreneurship research acknowledges that the desire to reduce uncertainty is an important motivator of behavior (Shepherd, McMullen, & Jennings, 2007). More specifically, depending on the nature of uncertainty, entrepreneurial actors are expected to either employ an adaptive approach to navigate or a predictive planning approach to reduce uncertainty (Packard & Clark, 2020). Even though researchers theoretically propose that the entrepreneurial process involves much uncertainty concerning human actors (Blatt, 2009; Huang & Knight, 2017; Packard & Clark, 2020), little if any empirical work has explored how entrepreneurial actors respond to such uncertainty or has offered an explanation of the mechanisms underlying such responses (Griffin & Grote, 2020). Research in human communication and social psychology provides more insights into the psychological mechanisms of uncertainty management with its emphasis on uncertainty reduction in social settings (Afifi, 2010; Berger & Calabrese, 1975; Solomon, Knobloch, Theiss, & McLaren, 2016; Sunnafrank, 1990). This work suggests that the aversive nature of uncertainty provokes individuals to engage in cognitive as well as behavioral processes and leads to various relational outcomes (Afifi & Weiner, 2004; Berger & Bradac, 1982; Hogg, 2000; Solomon et al., 2016). Therefore, relational uncertainty management within entrepreneurial teams may serve as a precursor to team structures and processes. As we still have little knowledge of the basic cognitive and socio-emotional mechanism which shape the relationship between entrepreneurial team composition and outcomes (Klotz et al., 2014; Knight et al., 2020), I pose the following second research question:

*RQ2: How do individual entrepreneurial team members manage relational uncertainty and what are the outcomes for the entrepreneurial teams?*

## **(2) The emergence of relational uncertainty**

But how does relational uncertainty within entrepreneurial teams emerge in the first place? Entrepreneurial team research has highlighted the organic formation process that allows the team members to select who to work with (Lazar et al., 2019). Even though researchers have identified two salient selection criteria, that is interpersonal attraction and resource seeking, the actual formation process as well as its difficulties still remain unclear (Lazar et al., 2019; Patzelt, Preller, & Breugst, 2020). More specifically, we do not know if and how entrepreneurial team members imagine the “*right*” teammate and balance the criteria to select him or her. Relational uncertainty is likely to arise in this early phase of the entrepreneurial team member relationship because the team members lack knowledge about the particular needs and challenges, and how to work with each other in the new venture setting (Blatt, 2009). At the same time, we know little about how the relationship develops over time when new needs and challenges emerge in the course of the venture’s growth that likely gives rise to new catalysts of relational uncertainty between individual team members (Patzelt et al., 2020). For example, entrepreneurial teams are a critical context for multiplex relationships (Aldrich & Kim, 2007) and the team members face the challenge of balancing the friendship and professional dimensions of the relationship. Therefore, the second part of this dissertation addresses the following research question:

*RQ3: How and in what ways does relational uncertainty emerge between individual entrepreneurial team members?*

This dissertation sets out to understand the perception and management as well as the initial emergence of relational uncertainty within entrepreneurial teams. I utilize an inductive, qualitative approach given the lack of prior insights and my interest in the underlying mechanism

of the phenomenon of relational uncertainty. This approach is particularly appropriate for my study to capture the manifestation of the phenomenon in detail and over time (Gehman et al., 2017). My study relies on longitudinal data from two rounds of interviews with each team member of nine entrepreneurial teams, additional interviews with stakeholders of the nascent ventures (i.e., mentors, coaches, and employees), and triangulation material, such as news articles, website, and social media content. From this data, I developed a dynamic model of the emergence of relational uncertainty as well as the uncertainty management process. I propose that all entrepreneurial team members perceive relational uncertainty toward a teammate at some point of their collaboration. The initial lack of information about each other and the violation of entrepreneurial team member expectations of their teammates are key drivers of the emergence of relational uncertainty. The uncertain team members followed then two different uncertainty management trajectories—disclosing or concealing their uncertainty to the respective teammate—which each have important consequences for the relationship and development of the teams. Importantly, I found that the team members’ perception of relational level toward the teammate influences the trajectory they follow.

In elaborating on relational uncertainty within entrepreneurial teams, this dissertation has contributions to literature on entrepreneurship in general and entrepreneurial teams more specifically. Moreover, it also informs literature on human communication and social psychology. First, by considering uncertainty as a fundamental social phenomenon, my study offers breadth and depth in our understanding of uncertainty entrepreneurs face at the early stages of a new venture. Such conceptual expansion and theoretical repositioning substantially enrich our current thinking in entrepreneurship. My study not only complements our knowledge of different natures of uncertainty, but also provides new insights into the actual management process of human-sourced uncertainty in entrepreneurship (Packard & Clark, 2020). Second, in

this study, I provide a micro perspective on entrepreneurial team members' perception and management of relational uncertainty. Such insights contribute to a better understanding of the mechanisms motivating social cognitions and actions in entrepreneurial teams and show how these shape consequences for their internal functioning. In doing so, I follow calls for more nuanced approaches on how entrepreneurial teams “*shape the initial structure, systems, and processes of their firms*” (Klotz et al., 2014, p. 249) as well as the accompanied challenges (Knight et al., 2020; Patzelt et al., 2020). Finally, my study exposes a novel facet of relational uncertainty in professional relationships as well as a more complex approach of uncertainty management in the context of entrepreneurial teams, which has important implications for existing theories in the fields of human communication and social psychology (Berger & Calabrese, 1975; Knobloch & Solomon, 2002b).

## **2 THEORETICAL FOUNDATIONS AND LITERATURE REVIEW**

The purpose of this dissertation is to understand the phenomenon of relational uncertainty between entrepreneurial team members. Specifically, I focus on how entrepreneurial team members interpret and respond to uncertainty about their teammates and how it determines the development of entrepreneurial teams and new ventures. As discussed in the introduction, this research is designed around three research questions. This theoretical chapter aims to situate each research question in the existing literature to provide a framework for the current understanding of the phenomenon as well as a springboard for the emergent theory. I draw on literature in entrepreneurship, human communication, and social psychology to unpack each research question in turn.

The first part of this chapter focuses on uncertainty in entrepreneurship. Since entrepreneurial team members may experience various natures and forms of uncertainty, I provide an overview of the existing literature to demonstrate the relevance of these assumptions. I also suggest how this dissertation can complement the understanding of the concept of uncertainty in entrepreneurship. I begin with providing a broad understanding of uncertainty across various fields of research and then distinguish between exogenous and endogenous uncertainty in entrepreneurship research. Finally, I situate the construct of relational uncertainty within the literature on uncertainty and differentiate it from other sources of endogenous uncertainty within entrepreneurial teams. In the second part of this chapter, I offer insights into research on the process of entrepreneurial team formation and the strategies team members adopt to select each other. In addition, I discuss the development of the relationships between entrepreneurial team members and focus on the multiplexity of their relationships.

## 2.1. Uncertainty in entrepreneurship

For more than a century, uncertainty has been acknowledged as a central experience in organizational life (Cyert & March, 1963; Knight, 1921; Simon, 1955, 1959; Tversky & Kahneman, 1974). Though the prevalent role of uncertainty has been widely discussed across different fields within the social sciences, such as organizational theory (e.g., Cyert & March, 1963; Milliken, 1987; Thompson, 2003), organizational behavior (e.g., Cooper & Thatcher, 2010; Morrison, 1993; Van den Bos & Lind, 2002), social psychology (e.g., Hogg, 2007), and human communication (e.g., Kramer, 1999; Teboul, 1994), the pervasiveness of uncertainty is a fundamental assumption underlying research in the field of entrepreneurship (e.g., McKelvie et al., 2011; McMullen & Shepherd, 2006; Packard et al., 2017). It is largely taken for granted in the literature that entrepreneurs make decisions and subsequently act in the face of inherently uncertain futures (e.g., Knight, 1921; McKelvie et al., 2011; McMullen & Shepherd, 2006; Townsend et al., 2018). This mainly is because young ventures are exposed to various novel situations and lack past reference points (Shepherd et al., 2000; Stinchcombe, 1965). Entrepreneurs may be confronted with novelty along structural (e.g., where and when) or agentic (e.g., how and why) dimensions (Townsend et al., 2018) and be required to develop new bodies of knowledge, which relates to inherent uncertainty (Alvarez & Barney, 2005; Knight, 1921; Reetz, 2019).

The concept of uncertainty is theoretically important and has energized much research in the different fields. This research contains various definitions and conceptualizations of uncertainty as well as related concepts such as risk and ambiguity (Lipshitz & Strauss, 1997; Packard et al., 2017). Thus, the concept has been increasingly criticized to suffer from definitional imprecision (Alvarez, Afuah, & Gibson, 2018; Packard et al., 2017; Townsend et al.,

2018). A central debate focuses on the nature of uncertainty and the extent to which uncertainty is mitigable or reducible (Packard & Clark, 2020; Townsend et al., 2018). A common theme that connects many of the conceptions is the fundamental distinction between immitigable indeterminacy, i.e., ontological uncertainty, and mitigable ignorance of knowable information, i.e., epistemological uncertainty (Hacking, 1975; Packard & Clark, 2020; Perlman & McCann Jr, 1996). Specifically, on one hand, uncertainty as a structural feature of the environment and the assumption that scarce remedies exist to resolve uncertainty because of the absence of information (Townsend et al., 2018). On the other hand, uncertainty as the imperfection of individuals' knowledge and the assumption that uncertainty can be resolved through acquiring relevant information (Griffin & Grote, 2020; McMullen & Shepherd, 2006). To account for interdisciplinary use and different facets of the construct, I adopt a general definition of uncertainty as any departure from the ideal state of complete knowledge (Walker et al., 2003) and emphasize unpredictability as the essence of uncertainty (Griffin & Grote, 2020; Packard & Clark, 2020).

Following Griffin and Grote (2020), I distinguish between exogenous uncertainty and endogenous uncertainty to elaborate on different sources of uncertainty in entrepreneurship. This categorization delineates the location of the uncertainty (i.e., outside or inside the venture) and the extent to which it exists in the entrepreneurial actor's sphere of influence (Griffin & Grote, 2020), which is important in my study to capture the agency aspect of generating and managing uncertainty within entrepreneurial teams (Bandura, 2001). Exogenous and endogenous uncertainty with its focus on "where" the uncertainty occurs and "what" information is missing is different from other conceptualizations of uncertainty such as subjective (Duncan, 1972; Lipshitz & Strauss, 1997) or perceived uncertainty (Downey & Slocum, 1975; Milliken, 1987). For example, Milliken (1987) emphasizes the importance to understand "why" an individual is

uncertain as well as “how” the individual is experiencing it. This perceptual dimension of uncertainty has also been vital to the understanding of the entrepreneurial process (Shane & Venkataraman, 2000; Stevenson & Jarillo, 1990). It depicts a subjective measure of uncertainty and is associated with both exogenous and endogenous uncertainty. The conceptualization of exogenous and endogenous uncertainty allows for a distinct separation and attribution of critical uncertainties within new ventures.

### **Exogenous uncertainty**

Exogenous uncertainty lies in the broader environment of the venture and beyond the entrepreneurial actor’s general sphere of influence (Griffin & Grote, 2019). Early economists, organization theorists, and organizational behavior researchers have already studied how such uncertainty affects organizational actors and coined different terms, such as environmental (Downey, Hellriegel, & Slocum Jr, 1975; Duncan, 1972) or external uncertainty (Kahneman & Tversky, 1982) as well as sometimes objective (Downey & Slocum, 1975) or “true” uncertainty (Knight, 1921). For example, for Knight, “true” uncertainty exists when individuals are neither able to anticipate the outcomes of their action nor to assess the probability of occurring when a decision is made.

I treat exogenous uncertainty as a given condition as exogenous uncertainty is conceptualized as an objective property of the environment and outside the boundaries of the venture (Wiltbank, Dew, Read, & Sarasvathy, 2006). From this view, uncertainty refers to the nature of the world and exists independently from of an individual’s knowledge. Even through the inclusion of new information, some features are fundamentally unknown and the uncertainty is largely immitigable for individuals (Packard & Clark, 2020; Townsend et al., 2018). Much of exogenous uncertainty originates from the complex and dynamic nature of the environment

(Davis, Eisenhardt, & Bingham, 2009; Williamson, 1979). This uncertainty has long been in the focus of management and entrepreneurship research (Milliken, 1987; Packard et al., 2017; Townsend et al., 2018), which has pointed to unforeseeable and highly unstable conditions and events that arise in a new venture's environment (Chandler et al., 2005; Hmieleski & Baron, 2008). For example, entrepreneurs may be concerned that technological change will affect their product (McKelvie et al., 2011), substantial changes in customer preferences can tarnish entrepreneurs' relationships with their customers (Jaworski & Kohli, 1993) or a crisis event may hamper the availability of financial resources for new ventures (Brown & Rocha, 2020). Such changes and events in the environment and the resulting uncertainty have been considered front and center as the source for entrepreneurs' profits (Knight, 1921) as well as the creation of entrepreneurial opportunities (Alvarez & Barney, 2007).

The role of the entrepreneur has been seen as the idiosyncratic individual who is willing to bear the uncertainty and face the challenge of acquiring and organizing resources in order to create and capture value (Busenitz & Barney, 1997; Knight, 1921; McMullen & Shepherd, 2006). Much work in entrepreneurship has focused on how entrepreneurs navigate uncertain environments and how it impacts venture performance. For example, in uncertain environments, Hmieleski and Baron (2008) suggest a positive relationship between entrepreneurs who self-regulate their behaviors mainly through promotion focus and new venture growth. While entrepreneurship literature on exogenous uncertainty has enhanced our understanding of entrepreneurs and their new ventures, researchers have predominantly focused on the individual and venture as convenient and useful units of analysis (Alvarez et al., 2018). In this study, I focus on relational uncertainty within entrepreneurial teams since we know that most entrepreneurial endeavors are undertaken by entrepreneurial teams rather than individual entrepreneurs (Cooney, 2005; Kamm, Shuman, Seeger, & Nurick, 1990; Klotz et al., 2014). Although research on

exogenous uncertainty does not explicitly speak to entrepreneurial teams, the uncertain conditions are also true for the team as a whole. In this regard, research on entrepreneurial and top management teams has accounted for uncertain environments and has shown that team properties can be a strong asset for the effective performance of new ventures under such conditions (Hambrick & Mason, 1984; Jin et al., 2017). For example, researchers found that teams benefit from functional diversity (Eesley, Hsu, & Roberts, 2014) and shared prior experiences (Eisenhardt & Schoonhoven, 1990) to achieve higher venture performance in uncertain environments. Altogether, conceiving entrepreneurship as a “*socially distributed process that involves joint action possibilities*” (Harper, 2008, p. 614) suggests advantageous potential for entrepreneurial teams to manage uncertainties stemming from outside the boundaries of the venture. At the same time, prior work on top management teams shows that behavioral implications of heterogeneity can result in conflicts and eventually hinder venture performance in uncertain environments (Carpenter & Fredrickson, 2001; O’Reilly, Snyder, & Boothe, 1993). An increase in interactions and interdependences of human actors in the entrepreneurial process may lead to increased complexity and challenges inside the boundaries of the venture (Jehn, 1997). Therefore, in the following section, I review the existing entrepreneurship literature on endogenous uncertainty through the lens of entrepreneurial teams. This allows considering additional team-based elements that may be key features of team and venture outcomes.

### **Endogenous uncertainty**

While exogenous uncertainty is seen as a structural feature of the environment and exists outside the general sphere of influence of the entrepreneur, endogenous uncertainty is pervasive inside the boundaries of the venture (Griffin & Grote, 2020). It generally signifies an epistemological condition which is rooted in the ignorance of, in principle, knowable information

(Davidson, 1996; Packard & Clark, 2020; Perlman & McCann Jr, 1996). According to Perlman and McCann Jr (1996, p. 17), epistemic uncertainty exists “*because the mind has its opinions ... and because it cannot apprehend more than a limited sphere*” and relates to Dosi and Egidi’s (1991, p. 146) concept of procedural uncertainty which stems from a “*competence gap in problem-solving*”. The assumption of individuals’ limited cognitive capacity in relation to the complexity of the real world is grounded in organizational theory (Simon, 1947, 1955, 1956) and repositions the notion of uncertainty from incomplete information in the environment to the inability of individuals to process information (Dequech, 2004). The domain of endogenous uncertainty is amenable to the recognition and interpretation of relevant information and can be directly influenced, i.e., mitigated or reduced, by the entrepreneurial actor (Dosi & Egidi, 1991; Griffin & Grote, 2020; Packard & Clark, 2020).

Because entrepreneurial actors experience different uncertainties within the boundaries of new ventures, entrepreneurship research has studied various sources of endogenous uncertainty which are important to understand and distinguish. To provide a rich and deep understanding of the nature and role of endogenous uncertainty faced by entrepreneurial actors, I discuss various “*knowledge problems*”<sup>1</sup> (Townsend et al., 2018, p. 661) within new ventures. Given that most new ventures are founded and led by teams (Cooney, 2005; Kamm et al., 1990; Klotz et al., 2014), I review the existing literature on uncertainties within new ventures with focus on entrepreneurial teams, involving role ambiguity, task uncertainty, norm uncertainty, and prototype ambiguity.

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<sup>1</sup> To capture the full domain of unknowingness within new ventures, in this section, I also include other closely related “*knowledge problems*” (Townsend et al., 2018, p. 661), i.e., ambiguity, beyond uncertainty.

**Role ambiguity.** Entrepreneurial actors in new ventures have not yet established roles and routines that ensure ongoing operations (Stinchcombe, 1965). Roles are sets of behaviors for a given position that individuals are expected to perform (Graen, 1976). Katz and Kahn (1978, p. 172) defined ventures as “*open systems of roles*” in which each member contributes with independent behaviors to the formation of a social system. Role ambiguity reflects unclarity about the requirements of a particular job or position within a venture and team (Rizzo, House, & Lirtzman, 1970) and is known to be an unpleasant experience in work situations (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Schuler, 1975). In particular, a lack of formalization and standardization is likely to cause uncertainty about the role (Dalton, Todor, Spendolini, Fielding, & Porter, 1980). Scholars in role theory have predominantly focused on role ambiguity as an individual phenomenon and revealed negative relationships with lower job satisfaction and performance (Benson, Kemery, Sauser Jr, & Tankesley, 1985). While Jackson and Schuler (1985) suggest that role ambiguity is more likely to be experienced when individual workers are highly dependent between each other, role ambiguity has increasingly been advocated as an interpersonal issue at the team-level, implying that shared task demands and conditions may be evocative of unidentifiable and blurred roles with negative consequences for team performance (Tubre & Collins, 2000).

Entrepreneurial actors are known to be particularly prone to role ambiguity. Shepherd et al. (2000) argued that in the context of novelty, entrepreneurs are uncertain about their new managerial role. They have not yet acquired sufficient knowledge and experiences for managing a new venture (Blatt, 2009; Shepherd et al., 2000) because they may have never worked for a start-up or may not be equipped with solid business skills. Prior work has emphasized that new ventures typically lack role formalization as well as functional comprehensiveness during the inception phase (Aldrich, 1999; Beckman & Burton, 2008; Sine et al., 2006; Stinchcombe, 1965).

As a consequence, confusion and conflict arise within new ventures in identifying tasks that need to be accomplished and to allocate the tasks to the team members who possess the required knowledge (Dai, Roundy, Chok, Ding, & Byun, 2016; Ferguson, Cohen, Burton, & Beckman, 2016). In addition, entrepreneurial teams are exposed to high interdependencies, shared responsibilities and overlapping roles between each other (Wasserman, 2012). Entrepreneurs rather select their team members based on similar characteristics than on complementary capabilities, and thus tend to have homogenous sets of skills and knowledge (Ruef, Aldrich, & Carter, 2003, see chapter 2.2 for review). Researchers suggest that uncertainty with respect to the team members' roles give rise to conflicts within the team (Wasserman, 2012) and reduce venture performance (Sine et al., 2006).

***Task uncertainty.*** While role ambiguity relates to a broader understanding of work performance and rather focuses on the task responsibility and causes confusion about *who* is supposed to do *what* (Sine et al., 2006), task uncertainty focuses on the task performance and a lack of clarity about *how* particular tasks are supposed to be done (Cordery, Morrison, Wright, & Wall, 2010). Classical organizational literature defined task uncertainty as the divergence between the required and already possessed information in order to perform a task (Galbraith, 1973). In particular, uncertainty occurs when tasks lack routines and preset procedures (Galbraith, 1973; Van de Ven, Delbecq, & Koenig Jr, 1976). Entrepreneurial team members are not able to just draw on an existent and clear job descriptions (Staw, 1991). In addition, the dynamic and unstable environment of a new venture and novel situations often do not allow entrepreneurial team members to possess all relevant information required (Chandler & Lyon, 2009). First, the teams may initially not be functional complete and lack relevant knowledge, skills, and abilities (Beckman & Burton, 2008). Second, the team members' existing knowledge and experiences may not apply to the new venture context. For example, even when team

members worked in the same industry before, approaches and strategies may differ in the new endeavor (Blatt, 2009). Finally, entrepreneurial teams operate in the context of evolving ventures and the task requirements may change over time through advances in technology and increased competition (Zahra & Bogner, 2000) as well as new customers and suppliers, or different kind of financing (Chandler & Lyon, 2009).

***Norm uncertainty.*** Much human behavior is driven by social norms. Birenbaum and Sagarin (1976, p. 11) defined norms as “*legitimate, socially shared guidelines to the accepted and expected patterns of conduct*”. These guidelines influence how members of a team behave toward each other. For example, norms define the way of communication between team members (e.g., email versus meeting) or when they should arrive at meetings (Bartel & Wiesenfeld, 2013). Theoretical work on teams has acknowledged for many years that norms within teams usually develop gradually and informally over the course of their collaboration (Feldman, 1984) and team members often do not take time to explicitly discuss or write down how to work together (Weick & Roberts, 1993). However, despite their unconscious nature, norms have a powerful and permanent influence on team members’ behavior (Hackman, 1976).

Norm uncertainty exists when team members are in doubt about appropriate ways of behaving or interpreting behavior within the team. Entrepreneurial teams are predisposed to norm uncertainty since the new venture context is acknowledged as weak social institutions which often lack a clear definition of norms with respect to accepted and expected behavior (de Mol, Khapova, & Elfring, 2015; Mischel, 1977). The operational task load when starting a venture may likely be overwhelming to the entrepreneurial team members and they might not have sufficient time to discuss or agree on norms between each other (Ries, 2011; Wasserman, 2012). The team members rather unconsciously form standards for behavior, even before they sufficiently understood the tasks that the new venture brings with it (Bettenhausen & Murnighan,

1985). Norm uncertainty may particularly arise if the entrepreneurial team members are not familiar with each other, as Blatt (2009, p. 538) explains that “*the less familiar team members are with another, the less able they are to interpret each other’s behavior*”. For example, entrepreneurial team members often have different educational backgrounds or professions, e.g., technology and management (Wasserman, 2012). Although heterogeneous teams offer the potential advantages of pooling knowledge and gaining diverse perspectives, the diversity in two team members’ backgrounds can be fraught with different approaches to specific situations (Wasserman, 2012). The entrepreneurial team literature tends to hold the view that team members with close prior relationships feel more comfortable in their early interactions and develop faster and easier effective working relationships between each other (Eisenhardt & Schoonhoven, 1990; Francis & Sandberg, 2000). However, more recently Pillemer and Rothbard (2018) indicated that team members with close relationships are also prone to norm uncertainty over the course of their collaboration. In their theoretical framework they address the dark side of workplace friendships and demonstrated that uncertainty about norms arises when friends work together and blurring the line between friendship and professional relationship. Specifically, the authors emphasize downsides stemming from tensions through the simultaneous appearance of needs-based norms and socioemotional goals of a friendship as well as exchange-based norms and instrumental goals of a professional relationship. The authors suggest that social interactions of friends at work may evoke frequent and intense socioemotional intrusions and result in distractions from instrumental goals. In particular, entrepreneurial team members may have differing tolerance for distractions and find it difficult to draw the line between the informality of the friendship and the formality of the organizational role (Wasserman, 2012). Additionally, higher levels of friendship between team members facilitate informal agreements and the rules of the friendship guide behavior within the entrepreneurial team (Francis & Sandberg, 2000). Finally, Wasserman (2012, p. 106)

explains that entrepreneurial team members with a close relationship particularly fear “*to talk about the elephant in the room*” and tend to purposefully evade difficult discussions and confrontations in order to maintain their relationship.

***Prototype ambiguity.*** Based on social identity theory, group prototypes are defined as members’ subjective representation of the attributes, attitudes, and actions that are perceived to be most characteristic of the group at the individual level (Bartel & Wiesenfeld, 2013; Hogg & Terry, 2000; Tajfel & Turner, 1986). The important function of prototypes is providing a common standard to which members can be evaluated against and to see if they match the set of attributes that define the group. Bartel and Wiesenfeld (2013) focus on group prototype ambiguity, i.e., when doubts arise in the group as a whole about the manifestation of collective identity at the individual level, but also discuss the existence of doubts of individual members about his or her fit with the group’s prototypical characteristics.

To identify with the entrepreneurial team can be challenging when the team members lack familiarity with each other in the new context (Blatt, 2009) and do not fully understand the fundamental, enduring, and unique characteristics of the venture (Aldrich & Fiol, 1994; Bartel & Wiesenfeld, 2013). To date, only a few studies on the identity of entrepreneurial teams have been published (Ben-Hafaïedh, Micozzi, & Pattitoni, 2018; Brannon, Wiklund, & Haynie, 2013; Cardon, Post, & Forster, 2017; Powell & Baker, 2017). For example, Ben-Hafaïedh et al. (2018) suggest the occurrence of identity duality between academics and practitioners in entrepreneurial teams of academic-spin offs. The diverse background can involve a lack of understanding of the other’s position or opinion and result in the creation of faultlines as well as reduction of innovation performance. Additionally, Brannon et al. (2013) investigated how family relationships in entrepreneurial teams can create identity conflicts and affect the likelihood of achieving first sales. Using a social identity lens, the authors suggest that identity conflicts, both

within and between individuals, likely occur when the role as entrepreneur intersects with the identity as a family member. Specifically, team members might be insecure about their social standing or behavioral expectations through the simultaneous activation of multiple roles. The findings show that couples are more capable of flexibly adapting to identify with their role in the entrepreneurial team and achieving first sales than team members with biological linkages. Prior research has discussed negative consequences of uncertainty about a shared identity on the individual (Hogg, 1992) and the team level, such as reduced efficient member coordination, effective resource allocation and the ability to accomplish strategic goals (Bartel & Wiesenfeld, 2013).

This review of various uncertainties lays an important foundation for understanding the challenges entrepreneurial team members face within the boundaries of new ventures. Researchers have considered that these uncertainties are often rooted in the collaboration and interdependence among entrepreneurial team members. However, they have focused in their studies on the task context within new ventures as source of uncertainty. For example, Beckman and Burton (2008) show that entrepreneurial team members' limited range of functional experiences and the lack of initial functional structures shape firm development. The authors address the challenge for entrepreneurial teams of not filling all relevant functional positions. In addition, we know that entrepreneurial team members lack understanding of their roles and positions within the team (Wasserman, 2012). This work implies the relevance of interpersonal aspects in the emergence of uncertainties within the boundaries of new ventures for entrepreneurial teams. However, management and entrepreneurship research still provide a preliminary understanding of the true nature of uncertainty stemming from the relationships between entrepreneurial team members as well as the underlying mechanisms of how they perceive and manage such uncertainty. This gap is critical to lessen because the interpersonal

relationships between entrepreneurial team members are considered to be a fundamental, but fragile, pillar for building a successful team and new venture (Blatt, 2009). Therefore, I turn now to the relational uncertainty literature which considers the perception and management of uncertainty stemming from interpersonal interactions and relationships and integrate it into the discussion about uncertainties within the boundaries of new ventures. This work shows that interactions and relationships with others is one of the most inherently uncertain endeavors for individuals (Afifi & Weiner, 2004; Berger & Calabrese, 1975; Brashers, 2001; Knobloch & Solomon, 1999) and underpins a necessity to take the critical role of relational uncertainty between entrepreneurial team members into consideration.

### **Relational uncertainty**

In the fields of human communication and social psychology, researchers have advanced the study of uncertainty management within interpersonal contexts. Uncertainty reduction theory by Berger and Calabrese (1975) laid the groundwork and established uncertainty as a phenomenon of interpersonal communication. This uncertainty refers to individuals' inability to predict others' behavior as well as the appropriateness of their own behavior in social interaction (Berger & Calabrese, 1975). Berger and Bradac (1982) distinguish between two types of uncertainty in interpersonal interactions: behavioral and cognitive uncertainty. Behavioral uncertainty refers to individuals' actions and that they may not know what to say or do in an interaction, whereas cognitive uncertainty refers to individuals' beliefs and that they may not know particular content. Central to the theory is the idea that individuals attempt to reduce uncertainty through communication (Berger, 1987; Berger & Calabrese, 1975; Berger & Gudykunst, 1991). Following Heider's (1958) attribution theory, individuals are expected to aim for both proactive prediction and retrospective explanation of others' thoughts, feelings, and

behaviors (Berger & Calabrese, 1975). As such, individuals employ information-seeking strategies to manage uncertainty which involve passive (i.e., observing uncertainty generating individual), active (i.e., asking others about uncertainty generating individual), and interactive (i.e., asking uncertainty generating individual) measures to find out more about others (Berger & Bradac, 1982; Berger, 1979). Alternatively, individuals may manage uncertainty in social situations through planning or hedging (Berger, 1997).

The uncertainty reduction theory was traditionally considered to illuminate communication processes in first meetings. However, conceptual and empirical progress has been made within as well as across the field and further research has demonstrated the theory's applicability to relational processes beyond initial encounters. For example, the theory has informed research on relationships between romantic partners (Boucher, 2015; Knobloch & Solomon, 2002b), friends (Afifi & Burgoon, 1998; Planalp, Rutherford, & Honeycutt, 1988) and family members (Afifi & Schrodt, 2003; Bevan et al., 2006) as well as in organizational (Kramer, 2009; Walker et al., 2013), health (Brashers et al., 2000), intercultural (Gudykunst, 1995), and online contexts (Gibbs, Ellison, & Lai, 2010). Specifically, to address uncertainties as relationships develop, Knobloch and Solomon (1999) focus on romantic partnerships and coin the term relational uncertainty. It is defined as "*the degree of confidence people have in their perceptions of involvement within close relationships*" (Knobloch & Solomon, 1999, p. 264) and comprises doubts about an individual's and the partner's level of involvement as well as the nature of the relationship itself (Boucher, 2015). Relational uncertainty captures the natural shift in focus away from assessing situational behaviors of an individual toward the assessment of norms for appropriate behavior with the individual, mutuality of feelings as well as the definition and future of the relationship (Knobloch & Solomon, 1999). Which means, the uncertainty is rather placed in an individual and the relationship than in situational interactions. This position is

close to the position of social psychologists. Sorrentino et al. (1995, p. 314) define uncertainty in relationships as “*doubts and ambivalence about whether their partner really is the ‘right’ person for them, someone who is able to meet their particular needs*”. This literature stream emphasizes the important role of uncertainty in shaping mental representations of relationships and acknowledges uncertainty reduction as the basis for trust between partners (Brehm, 1988; Murray & Holmes, 1993; Rempel, Holmes, & Zanna, 1985; Sorrentino et al., 1995).

Although much research on uncertainty within interpersonal contexts treats uncertainty as an aversive state and emphasizes individuals’ attempt to reduce it (Baldwin, 1992; Berger, 1987), some researchers have considered addressing uncertainty to be more complex than merely reducing it (Afifi, 2010; Brashers, 2001; Kramer, 1999; Sorrentino et al., 1995). Such work has drawn attention to the cognitive appraisal process that assesses the meaning of the uncertainty based on its relevance to individuals (Brashers, 2001; Kramer, 1999). For example, both predicted outcome value theory (Sannafrank, 1986) and problematic integration theory (Babrow, 2001) describe uncertainty as a neutrally valenced construct which individuals assess as positive or negative depending on the situation. Brashers et al. (2000) developed the uncertainty management theory in the context of individuals living with HIV and focus on the variability in uncertainty meaning for individuals. This theory suggests that individuals may value uncertainty for maintaining hope in challenging circumstances. Thus, individuals not only engage in information seeking behavior to reduce their uncertainty, but also may avoid information and adapt to uncertainty under such circumstances (Brashers, 2001). Additionally, individual differences in appraising and responding to uncertainty can be attributed to dispositional factors, such as intolerance of uncertainty (Carleton, Norton, & Asmundson, 2007), uncertainty orientation (Sorrentino et al., 1995), depressive symptoms (Knobloch, Knobloch-Fedders, & Durbin, 2011), and attachment tendency (Jang, Smith, & Levine, 2002). For example, in their

study about communication patterns and relational outcomes after discovering deception in romantic relationships, Jang et al. (2002) found that individuals with a secure attachment style tend to deal constructively with the negative feelings and talk directly about the event that has increased uncertainty. In contrast, individuals with an anxious/ambivalent or avoidance attachment style often talk around the uncertainty increasing event because they fear it may place their relationships in jeopardy or even avoid communication which increases the likelihood of the termination of the relationships.

The findings of research on relational uncertainty have demonstrated important, though predominantly detrimental, consequences for individuals and their relationships. For example, relational uncertainty has been associated with reduced liking (Kellermann & Reynolds, 1990) and attraction (Gudykunst, 1985; Gudykunst, Yang, & Nishida, 1985). Additionally, individuals in romantic relationships perceive their relationships to be more turbulent (Knobloch, 2007) and tend to become more irritated from the partner's behavior (Solomon, 2004; Theiss & Solomon, 2006) as well as more threat to unexpected events (Knobloch & Solomon, 2002b). Knobloch, Miller, and Carpenter (2007) focus in their study on emotional outcomes and propose that uncertainty makes individuals feel more negative emotions, such as anger, sadness, and fear. Higher levels of relational uncertainty are considered to result in conflicts (Siegert & Stamp, 1994), restricted information processing (Knobloch & Solomon, 2005) and information production, such as topic avoidance (Afifi & Burgoon, 1998; Bevan et al., 2006; Knobloch & Carpenter-Theune, 2004) as well as in decreased relational closeness, satisfaction in sibling relationships (Schrodt & Phillips, 2016), and stability in romantic relationships (Arriaga, Reed, Goodfriend, & Agnew, 2006). Finally, studies have revealed that relational uncertainty may lead to the eventual termination of relationships (Parks & Adelman, 1983). However, researchers have offered a refinement to the assumption that relational uncertainty is fundamentally aversive. For

example, Knobloch and Solomon (2002a) imply that romantic partners could benefit from relational uncertainty to resolve ambiguities and reaffirm commitment. Indeed, Kelley and Burgoon (1991) show that spouses were more satisfied when they perceived uncertainty in the form of positively valenced violations of their expectations, i.e., pleasant surprises and Baxter and Montgomery (1996) proposed that uncertainty revitalizes stagnating partnerships when it has been associated with novelty and spontaneity.

The concept of relational uncertainty has also been applied to the organizational context. For example, researchers found that relational uncertainty reduces job seekers' willingness to apply to an organization (Walker et al., 2013) and increases the likelihood that an organization defects from an alliance partner (Bruyaka, Philippe, & Castañer, 2018).

## **Summary**

This dissertation focuses on the perception and management of relational uncertainty between entrepreneurial team members. This review of uncertainty in entrepreneurship, and in particular in entrepreneurial teams, provides a comprehensive understanding of the nature and role of different types of uncertainty that entrepreneurial actors face. However, it also suggests the need for insights on how they are concerned with interpersonal challenges within their entrepreneurial teams and to expand our understanding on entrepreneurial actors' more agentic role in generating as well as managing uncertainty (Bandura, 2001; Griffin & Grote, 2020; Packard & Clark, 2020).

Interpersonal concerns likely to surface in such teams (Theiss et al., 2009) since entrepreneurial teams need to build up an effective working relationship without established routines (Blatt, 2009) and team members need to work together in a highly interdependent way (Harper, 2008). As there is little research on social sources of uncertainty in entrepreneurship and

we do not know to what extent it unfolds within entrepreneurial teams, I propose the following research question:

*RQ1: How do individual entrepreneurial team members perceive relational uncertainty toward their teammates?*

A thorough understanding of the nature of uncertainty forms the basis for managing uncertainty. Research has shown that uncertainty management is critical for entrepreneurial actors and different types of uncertainty require different approaches to manage it (McKelvie et al., 2011; Packard & Clark, 2020; Packard et al., 2017). Across various fields of research, the perception of uncertainty has typically been seen as a threat and the motivation to reduce uncertainty has been a central theoretical premise (e.g., Berger & Calabrese, 1975; Hogg, 2007; Jauch & Kraft, 1986; March & Simon, 1958; Shepherd et al., 2007). For example, some pioneering work in behavioral economics has advocated the importance of decision-making heuristics, organizational search, and routines in order to reduce the detrimental and inevitable effects of uncertainty on organizational outcomes (e.g., Cyert & March, 1963; March & Simon, 1958; Simon, 1956). Accordingly, the overarching goal of most management and entrepreneurship theories has been to help organizational and individual actors to resolve uncertainty (Townsend et al., 2018). Such work has devised strategic tools for entrepreneurial action that pertain to uncertainty management and emphasizes two prevailing strategies to pursue organizational success. The first strategy suggests being flexible and adaptive to the changing environment and to effectively navigate uncertainty (Packard & Clark, 2020). If the future is unknowable, entrepreneurial actors are expected to strategically organize since it may be preferable for them to rapidly process information to shape the environment rather than

predicting it (Mintzberg, 1978; Wiltbank et al., 2006). Unpredictable futures also provide the fundamental logic of effectuation theory in entrepreneurship (Sarasvathy, 2001). Sarasvathy (2001) proposes that effectual entrepreneurs employ a certain pattern of reasoning to obtain some extent of control of an unknowable future and to increase the attainment of a preferred outcome. The second strategy focuses on uncertainty reduction which has been the dominant paradigm for decades and emphasizes the importance of planning and predicting future outcomes (Knight, 1921; Kuechle, Boulu-Reshef, & Carr, 2016; Packard et al., 2017; Wiltbank et al., 2006). This view suggests that the acquisition and exploitation of information is the remedy to uncertainty (Packard & Clark, 2020). Entrepreneurial actors who have advances in knowledge are considered to achieve predictive superiority, and thus competitive advantage (Wiltbank et al., 2006). Uncertainty reduction is key to research streams on organizational learning (Argyris & Schön, 1978; March, 1991) as well as entrepreneurial learning (Holcomb, Ireland, Holmes Jr, & Hitt, 2009). For example, Holcomb et al. (2009) propose that entrepreneurs employ certain heuristics in the face of uncertainty which provide guidance for accumulating new knowledge and applying it to new situations.

However, researchers have given less attention to the psychological mechanisms and our understanding at the micro-level as well as the aspects of generating and managing uncertainty within the boundaries of new ventures. In a recent review, however, Griffin and Grote (2020) draw from a more agentic perspective on uncertainty regulation (Bandura, 2001) that involves the active creation of uncertainty. This work offers new insights into the role of human agency in both generating and responding to uncertainty related to work tasks. Similarly, Packard and Clark (2020) called attention to the importance of human action in the management of uncertainty in entrepreneurship. The authors suggest that uncertainties entrepreneurial actors must manage are largely attributable to human agents, e.g., customers, investors, and entrepreneurial team

members, and additional research is needed to examine human-sourced uncertainty in entrepreneurship. I propose that entrepreneurship has yet to fully explore the actual management process of human-sourced uncertainty with which entrepreneurial actors are confronted, particularly when such uncertainty may never be fully reducible. Therefore, I formulate the following research question:

*RQ2: How do individual entrepreneurial team members manage relational uncertainty and what are the outcomes for the entrepreneurial teams?*

## **2.2. Entrepreneurial team member relationships**

Research has emphasized the emergence of relational uncertainty in the early phases of relationships (Berger & Calabrese, 1975; Solomon & Theiss, 2008), but also acknowledges the role of relational uncertainty in later phases of relationships (Boucher, 2015; Knobloch & Solomon, 2002b). Specifically, this work suggests that individuals may experience disappointment and the fear that the partner may not be the ‘right’ person as relationships progress (Honeycutt, 1985; Knobloch, 2005; Sorrentino et al., 1995). These assumptions set the stage for understanding the emergence of relational uncertainty within entrepreneurial teams. Moreover, these suggest the need to understand how entrepreneurial team members establish and maintain their relationships and which interpersonal challenges they experience. Therefore, in this section, I first introduce research on entrepreneurial team formation, the process through which team members build an entrepreneurial team to start a new venture (Lazar et al., 2019). Then, I focus on the development of entrepreneurial team member relationships and elaborate on

the particular challenge for team members to balance the instrumental and interpersonal dimensions of their relationships.

### **Formation of entrepreneurial teams**

One of the key characteristics of entrepreneurial teams is the embryonic self-selection process, as Lazar et al. (2019) emphasize in their recent review. The members select with whom to work and organically form the team. The authors suggest that this characteristic distinguishes the teams from others in organizational settings, which are usually imposed by an external source. Thus, entrepreneurial teams provide a unique setting for understanding an organic team formation process. The literature on entrepreneurial teams has differentiated between two predominant strategies how team members select each other – a rational model driven by economic, instrumental criteria, and a social psychological model driven by interpersonal criteria (Lazar et al., 2019).

The resource-seeking strategy emphasizes the complementary fit between team members and suggests the selection of each other based on the resources and assets needed to manage new venture creation and development (Lazar et al., 2019). In essence, the resource-seeking strategy follows the tenet of “*filling the gaps*” (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006, p. 227) and implies that the idea precedes the team formation process (Cooney, 2005). This strategy is grounded in the resource-dependence perspective which holds that organizations’ success is depending on the access to or control over scarce and/or strategic resources through transactions with their environment (Pfeffer & Salancik, 1978). Given the limited resource base of new ventures, adding entrepreneurial team members serves as an excellent vehicle to acquire such resources. Elaborating on the resource-seeking strategy, Kamm and Nurick (1993) proposed a decision-making model of team venture formation. The model suggests that based on the idea,

the entrepreneur or existing team systematically assess their resources to decide whether to add a new team member in order to access the resources needed. Adding a new team member prompts further considerations about “*where to find partners; how to choose the best one(s); and how to convince them to participate*” (Kamm & Nurick, 1993, p. 21). Prior research has drawn on human and social capital theory to explain resource-seeking behavior in the entrepreneurial team formation process (Forbes et al., 2006; Wasserman, 2012). In the following, I will elaborate on the role of human and social capital in entrepreneurial teams.

Human capital refers to skills, knowledge, and experience that individuals possess (Jin et al., 2017). Entrepreneurial teams’ human capital is a unique, valuable, and difficult to imitate resource that can create competitive advantage (Barney, 1991) and enable them to recognize and exploit opportunities (Shane & Venkataraman, 2000; Unger, Rauch, Frese, & Rosenbusch, 2011). The upper echelon theory provides evidence that the pool of human capital within top management teams partially predicts organizational performance (Hambrick & Mason, 1984). Drawing from this work, a large spectrum of human capital attributes has been employed to studies in the field of entrepreneurship and has been linked to new venture outcomes (Unger et al., 2011). The studies have focused on broad experience types, such as functional experience (e.g., Beckman & Burton, 2008), educational background (e.g., Foo, Sin, & Yiong, 2006), entrepreneurial experience (e.g., Delmar & Shane, 2006), industry knowledge (e.g., Barney, Busenitz, Fiet, & Moesel, 1996; Boeker & Wiltbank, 2005; Chandler et al., 2005) as well as more specific experiences and skills, such as marketing and service design capabilities (Zhao, Song, & Storm, 2013). Further findings of such research show that venture capitalists have also attached high importance to the management skills and experiences of entrepreneurial teams in their investment decisions (Zacharakis & Meyer, 2000). In line with the upper echelon tradition, entrepreneurial team research has not only focused on aggregated human capital attributes but

also on heterogeneous entrepreneurial team human capital. Such work has addressed diversity in educational and functional background (e.g., Amason, Shrader, & Tompson, 2006; Chandler et al., 2005), and industry experience (e.g., Eisenhardt & Schoonhoven, 1990), entrepreneurial experience (e.g., Ucbasaran et al., 2003), as well as the perceived diversity in such characteristics (Bjornali, Knockaert, & Erikson, 2016; Knockaert, Bjornali, & Erikson, 2015). Meta-analytic work has been done to investigate the effects of different entrepreneurial team characteristics on the performance of new ventures (Jin et al., 2017; Stewart, 2006). Although the authors found that the magnitude of the effect of heterogeneity is smaller in comparison to other entrepreneurial team composition characteristics, it appears to be most beneficial for the highly dynamic and uncertain environment of new ventures. Entrepreneurial teams commonly face novel and complex information-processing and decision-making tasks which fuel the need for compositional differences among entrepreneurial team members (Van Knippenberg & Schippers, 2007). For example, (Knockaert, Ucbasaran, Wright, & Clarysse, 2011) focus on academic-spin-offs and found that tacit knowledge transfer is most effective when teams are composed of both team members with technical background and with commercial experience. In addition, the cognitive distance among the team members should be relatively small. The resource-seeking strategy aims to select team members with a more diverse pool of resources and leads to rather heterogeneous teams along functional or educational attributes (Wasserman, 2012). Human capital resources alone, however, are *“useless without the social capital of opportunities in which to apply it”* (Burt, 1997, p. 339).

Social capital arises from relationships between and among actors in a network and enables them to access critical resources embedded within these networks (Fischer & Pollock, 2004). The entrepreneurial teams' network relations can be distinguished into external or *“bridging”* and internal or *“bonding”* forms of social capital (Adler & Kwon, 2002, p. 19). The

bridging social capital perspective focuses on the relations entrepreneurial team members maintain with external networks. Prior research suggests that networking is vital to entrepreneurial teams to be successful (Florin, Lubatkin, & Schulze, 2003) and to survive over time (Huggins, 2000). According to the resource-seeking strategy, critical aspects of new team members involve their social resources, such as access to investors, customers, advisors or other valuable relations to hone the strategic position of the venture (Forbes et al., 2006). Entrepreneurial team members with a heterogeneous set of backgrounds receive additive opportunities from less overlapping contacts (Burt, 1997).

Although human and social capital attributes have been identified as critical resources to entrepreneurial team and new venture performance, little research has addressed the underlying mechanisms by which entrepreneurs select team members who they perceive to be most valuable to their new venture. Only a few studies offer insights into the relevance that entrepreneurial team members ascribe to individual attributes in the actual selection process of new teammates. For example, Shah, Agarwal, and Echambadi (2019) conducted a qualitative study on team building processes of employee entrepreneurs and identified three key elements entrepreneurs seek in their team members: complementary knowledge and skills, problem-solving ability, and similar values. Other studies investigated entrepreneurial team members' preferences for competence components within their teams depending on their own experiences (Kollmann, Häsel, & Breugst, 2009) and product characteristics (Häsel, Kollmann, & Breugst, 2010). Finally, further research posits that the decision to create a spinout induced nascent and novice academic entrepreneurs to involve teammates with entrepreneurial (Vanaelst et al., 2006) as well as business experiences (Clarysse & Moray, 2004) in order to develop the venture. Both human and social capital theory imply that entrepreneurial team members should attract teammates who allocate appropriate resources and are most beneficial for the new ventures' success. Team

members are expected to search more widely for qualified people if specific human or social capital attributes are required for new venture success. Forbes et al. (2006) elaborate on three different approaches to become aware of potential teammates, namely through direct contacts, indirect networking, and impersonal search processes. The resource-seeking strategy suggests that instrumental considerations are placed over interpersonal ones (Barney et al., 1996; Mosakowski, 1998) and well-qualified strangers might rather be chosen than less-qualified family or friends (Aldrich & Kim, 2007). Aldrich and Kim (2007) consider strangers, identified through impersonal search processes, as most interesting potential team members.

However, prior research shows evidence that entrepreneurial teams are rarely formed on an instrumental basis. Instead, the selection of entrepreneurial team members usually relies on interpersonal criteria (Ruef et al., 2003; Wasserman, 2012). This strategy has been referred to as interpersonal-attraction strategy (Lazar et al., 2019) and it focuses on the supplementary fit between team members. It refers to the selection of team members based on perceived similarities and the sentiment of liking. Specifically, entrepreneurs tend to select similar team members in terms of external (e.g., gender, age, and ethnicity), internal (e.g., values, norms and beliefs), and achieved (e.g., educational background, work experience, and formal group memberships) characteristics (Lazar et al., 2019). Scholars have taken psychological and sociological perspectives explaining the formation process of entrepreneurial teams based on interpersonal attraction.

Psychological theories have been fundamental to the field of entrepreneurship (Baum, Frese, Baron, & Katz, 2007). Much of our understanding of entrepreneurship has been built upon studies examining how trait, cognitive, and motivational characteristics of individuals contribute to business opportunity identification and exploitation (Frese & Gielnik, 2014; Shane & Venkataraman, 2000). Following this emphasis on individuals, research on entrepreneurial team

formation has drawn on the social identity theory (Tajfel, 1978) and similarity-attraction paradigm (Berscheid & Hatfield-Walster, 1969; Byrne, 1971) which both describe cognitive processes related to individuals' perceptions of their social environment. Social identity theory suggests that an individual's self-concept is partly shaped by their membership in a social group along with the value and social significance that are attached to it (Tajfel, 1978). Individuals engage in social comparisons and differentiate between the own social group (in-group) and other groups (out-group) based on relevant social categories. Such differentiation motivates individuals developing a close and trustful relationship with other members of their in-group (Hogg & Terry, 2000). Relatedly, self-categorization theory explains which social categories become salient for this differentiation (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Both theories provide important insights into some of the cognitive and motivational processes underlying the formation of entrepreneurial teams. For example, Brannon et al. (2013) draw on social identity theory suggesting that the family represents a strong in-group and entrepreneurs prefer family members in their teams. The similarity-attraction paradigm states that individuals are attracted to, and are inclined to form a group with, those they perceive to be similar to themselves. Such perceptions of similarity between team members may be based on various factors including demographic characteristics, values, beliefs, and attitudes (Berscheid & Hatfield-Walster, 1969). For example, Grossman, Yli-Renko, and Janakiraman (2012) studied the effects of age and gender similarities on the perceived value of network relations (e.g., team members). This tendency to select similar team members is driven cognitively by the desire for smoothly functioning team processes as interpersonal forces within entrepreneurial teams facilitate conditions of high trust and social support (Discua Cruz, Howorth, & Hamilton, 2013; Francis & Sandberg, 2000; Wasserman, 2012). Souitaris and Maestro (2010) focused on entrepreneurial team members' similarity regarding their work preferences and behavioral tendencies and found

that polychronicity enables teams to put less emphasis on analysis and to faster reach a strategic decision.

Sociologists provide a related conceptual explanation for entrepreneurial team formation. Grounded in the social-network tradition (Simmel, 1955), the sociological lens focuses on how social structures influences the selection of team members and in essence, follows the principle of “*birds of the same feather flock together*” (Lazarsfeld & Merton, 1954, p. 37). Homophily is the central concept behind and refers to the probability of contact and argues that consistent socialization with like others leads to much higher rates of contact with similar than dissimilar individuals (McPherson & Smith-Lovin, 1987). Similar individuals are more likely to know each other and to entrench in concentrated social networks where everyone knows everyone else. Aldrich and Kim (2007, p. 153) put it simply “*‘friends of our friends’ are already our friends*”. Accordingly, entrepreneurial team members frequently recruit teammates through direct contact or indirect networking (Forbes et al., 2006) and form homogenous teams sharing similar characteristics (Ruef et al., 2003; Wasserman, 2012). Using the PSED (Panel Study of Entrepreneurial Dynamics) dataset, Ruef et al. (2003) found that among 830 nascent entrepreneurs ethnically homogenous teams were considerably more common than mixed-ethnicity teams. Further studies documenting the interpersonal-attraction strategy have acknowledged existing strong relationships among entrepreneurial team members based on family (Discua Cruz et al., 2013) and friendship ties (Francis & Sandberg, 2000) as well as preexisting networks of work colleagues (Zheng, 2012), employees (Iacobucci & Rosa, 2010), or business associates (Clarysse & Moray, 2004). Resulting from existing strong relationships, familiarity and shared experiences play an important role in team formation (Ruef et al., 2003). It implies that individuals who have been associated with one another become more likely to continue the association also under different conditions (Aldrich & Kim, 2007). Frequent prior

interaction allows potential team members to not only discuss ideas about starting a new venture but also to observe trustworthiness and reliability of one another (Ruef et al., 2003). For example, Eisenhardt and Schoonhoven (1990) suggest that previous shared work experiences among entrepreneurial team members improve growth among new ventures. However, Ucbasaran et al. (2003) found that team members with family ties are rather equipped with overlapping and redundant resources as well as networks.

Team member selections based on similar characteristics are not always focused on resources and assets. Instead, the decisions may be rather guided from altruism and the idea of positive relationships (Jehn & Shah, 1997). Past research indicates that team composition is relevant to cognitive (i.e., transactive memory system) as well as socioemotional mechanisms (i.e., higher levels of trust) and subsequently influential to team and venture performance (Francis & Sandberg, 2000; Wasserman, 2012; Zheng, 2012). For example, while more heterogeneous teams tend to have access to broader range of skills and knowledge and draw on more comprehensive information and experiences (Amason et al., 2006; Forbes et al., 2006), more homogeneous teams speak a common language that enhances effective communication (Wasserman, 2012) and speed in decision-making and execution (Eisenhardt & Schoonhoven, 1990). Tryba and Fletcher (2019) showed that shared prior experiences of transition among team members facilitate the evolvement of shared entrepreneurial cognition and shapes decision behavior within teams. Finally, in a study about friendship between team members, Francis and Sandberg (2000) found that higher degrees of friendship lead the team members to rely more on implicit agreements and refrain from formal contracts. However, in general, interpersonal-attraction motives may be stronger drivers of entrepreneurial team formation than resource-based intentions. Casciaro and Lobo (2008) draw attention to trade-offs individuals make when they consider a colleague as a person to enjoy working with. The authors suggest that positive

interpersonal affect increases an individual's reliance on competence as a selection criterion for a task partner and may result in an overestimation of competence.

A recent review stresses that the two formation strategies are not mutually exclusive and should not be treated in isolation (Lazar et al., 2019). A few studies have documented that even within the constraints of needed resources, the set of entrepreneurial team members' selection criteria can still be affected by similar characteristics, relationships, and networks (Forbes et al., 2006; Grossman et al., 2012; Kamm & Nurick, 1993). The strategies can be combined either in a simultaneous (i.e., hybrid strategy) or sequential (i.e., shifting strategy) approach during the formation process (Lazar et al., 2019). For example, Shah et al. (2019) show that new ventures in the disk drive industry were more successful when the teams of employee entrepreneurs adopted a hybrid formation strategy. Specifically, the teams formed based on complementary knowledge and skills but shared similarities in that they possessed superior problem-solving ability and common values.

### **Multiplex relationships between entrepreneurial team members and expectation formation**

Building on the formation of entrepreneurial teams, existing research also emphasizes the importance of the maintenance of positive relationships between entrepreneurial team members to foster their path to success (Blatt, 2009). Drawing on the definition of work relationships (Ferris et al., 2009), entrepreneurial team member relationships refer to patterns of exchange between two members directed toward building a successful new venture. Researchers taking a psychological perspective on entrepreneurial teams emphasize the role of cognitive and affective emergent states in explaining team processes and performance (Klotz et al., 2014). Studies in this stream have paid attention to various concepts, such as shared strategic cognition (Ensley & Pearce, 2001), transactive memory systems (Zheng, 2012), team cohesion (Ensley & Hmieleski,

2005; Ensley et al., 2002), distinct collective mood (Perry-Smith & Coff, 2011), and team entrepreneurial passion (Cardon et al., 2017). Other researchers adopting a sociological perspective highlighted the relevance of dense interpersonal connections among team members, benefiting from team intimacy and consensus, on team outcomes (Aldrich & Kim, 2007; Forbes et al., 2006; Francis & Sandberg, 2000).

To elaborate on entrepreneurial team relationships, I draw from social network theory which posits that the purpose of a relationship shapes the kind of interaction (e.g., friendly or professional), resources, and information that are channeled through this relationship (Erikson, 2013; Liu, Park, Hymer, & Thatcher, 2019). Specifically, I take a multiplex perspective to build on the dual perspective of entrepreneurial team formation and to elaborate on the content of the developing entrepreneurial team member relationships and how it informs their interactions. This perspective provides a strong foundation for advancing our understanding of entrepreneurial teams as the members particularly face the challenge to balance instrumental and interpersonal dimensions of their relationship. For example, Wasserman (2012) studied entrepreneurial teams of high-potential start-ups and found that 40 percent included at least one set of team members who were friends and 17.3 percent who were family members. Additionally, Ruef et al. (2003) demonstrates that the majority were married couples that jointly started a venture. Finally, the emotional “*roller-coaster journey*” (Cardon, Foo, Shepherd, & Wiklund, 2012, p. 3) may provide fertile grounds for growth of friendship between previously unknown team members.

Multiplexity is a structural property of the social network between two individuals that involves the simultaneous presence of two or more different types of relationships between them (Wasserman & Faust, 1994). A social network approach considers individuals as nodes and relations between these individuals as ties. According to Granovetter (1973, p. 1360) the strength of a tie is based on “*the amount of time, emotional intensity, intimacy (mutual confiding), and*

*reciprocal services which characterize the tie*” and is often determinant for evaluating a relationship within a network. Ibarra (1993) distinguishes between two archetypes of network content: instrumental and expressive ties. Instrumental ties are considered as the means through which task-related advice, resources, and information flow (Nebus, 2006). Such ties tend to be cognition based, nonreciprocating, less binding, and aim at leveraging knowledge relevant to complete a task (Nebus, 2006; Umphress, Labianca, Brass, Kass, & Scholten, 2003). Expressive ties are channels of affective relational elements and may be positive (i.e., friendship) or negative (i.e., difficulty) (Krackhardt, 1992; Labianca, Brass, & Gray, 1998; Lincoln & Miller, 1979; Schulte, Cohen, & Klein, 2012). Liking and affection for an individual form the basis for friendship ties that tend to be normatively based. These ties are sources of social support, transmit normative expectations, and are reciprocal as well as more stable over time (Coleman, 1988; Nebus, 2006; Umphress et al., 2003). Friendship relationships take more time to build but once formed they become more enduring and difficult to break (Umphress et al., 2003). Difficulty ties are characterized by a sense of discomfort or disapproval of an individual. The difficulty and friendship ties may rather parallel exist and not necessarily contrasting with each other (Schulte et al., 2012).

The overlap of instrumental with expressive ties is a pervasive phenomenon in organizational settings (Ingram & Zou, 2008). Scholars across various theoretical lenses have examined the appearance of multiplex relationships. While a social network lens offers insights into the content (e.g., strength and duration) and structure of such relationships, other theoretical lenses, organizational studies in particular, have been useful in advancing our understanding of the nature and dynamics of multiplex relationships, e.g., workplace friendships (Ingram & Zou, 2008). This stream of literature focuses on individual perceptions and behaviors that shape organization-level and individual-level outcomes. Friendships at the workplace have been

associated with various positive outcomes (Methot, Lepine, Podsakoff, & Christian, 2016). For example, workplace friendships enhance perceived job significance (Mao, Hsieh, & Chen, 2012) as well as successful newcomer integration and organizational commitment (Morrison, 2002). However, other findings of research on working relationships paired with friendship indicated negative consequences (Pillemer & Rothbard, 2018). At the organizational level, the quality of information between individuals may be restricted because friends are concerned about the health of their relationships (McDonald & Westphal, 2003). At the individual level, these relationships can be exhausting because friendships demand time and personal resources (Methot et al., 2016). Accordingly, when starting a new venture together, interactions between team members are likely to be heavily laden with interpersonal dynamics and to lack focus on instrumental issues. In their study about entrepreneurial teams containing family relations, Brannon et al. (2013) emphasize the two-fold challenge of balancing the disparate roles they hold.

In general, multiplex relationships are considered being beneficial in terms of stability and efficiency (Ingram & Roberts, 2000; Uzzi, 1996). Although the two dimensions of multiplex relationships are conceptually distinct, social network researchers propose that the dimensions are interdependent and “*one type of tie often entails another*” (Ferriani, Fonti, & Corrado, 2013, p. 9). An existing tie allows to draw on knowledge obtained in one dimension to benefit in another and provides a feeling of security and predictability (Uzzi, 1996). For example, scholars suggest that relying on existing ties provides organizational actors with more confidence to be protected against hidden agendas of potential partners and that deep levels of trust will shape these relationships (Ferriani et al., 2013; Uzzi, 1996). In particular, much of this work has focused on the importance of existing expressive ties as priming mechanism in facilitating the emergence of multiplex relationships.

However, relationships are considered to be resistant to change and transitioning into a multiplex relationship may jeopardize an existing uniplex relationship (Kuwabara, Luo, & Sheldon, 2010; Li & Piezunka, 2020). Specifically, the transition to multiplex relationships may entail a transition to new roles on the one dimension and may disrupt role hierarchies and existing interactions on the other (Li & Piezunka, 2020). This is because the role hierarchy and habitualized patterns of interaction on one dimension were naturally transposed into the other and results in stronger expectations for the other dimension about each other's behavior, reliability, and the belief to act in the best interest (Gulati & Gargiulo, 1999; Li & Piezunka, 2020; Uzzi, 1996). For example, Li and Piezunka (2020) investigated intergenerational leadership successions in Chinese family firms and show how an uniplex third party (i.e., the founder's wife/mother) can help two actors (i.e., the founder/father and the successor/son) to successfully transition into a multiplex relationship without disrupting the existing relationship. The authors claim that the founders of the family firms (i.e., fathers) often expect from their successors (i.e., sons) the same deference in the firm as in the family. In addition, Baron, Burton, and Hannan (1996) suggest that friends who start a venture together often expect from one another the same egalitarian treatment in business as in their friendship. Additional research has paid attention to the development of entirely new multiplex relationships and suggests that the extent to which an individual engage in initial informational (e.g., technical demonstrations and financial information about the venture) and interpersonal (e.g., engaging in open communication and mirroring the other's view) signaling determines the initial strength of and expectations on the instrumental and expressive dimensions of the relationships (Huang & Knight, 2017; Kim & Aldrich, 2005). Huang and Knight (2017) propose a theoretical model about multiplex entrepreneur-investor relationships. The authors emphasize the dynamic nature of the interplay between the instrumental and expressive dimensions of their relationships that has important implications for forming

expectations between entrepreneurs and investors. Specifically, using an exchange theory perspective, they describe how exchanges of social and financial resources and feedback loops contribute to strengthening or weakening the dimensions and updating the expectations over time. Additionally, research in organizational behavior suggests that multiplex relationships tend to develop stronger and more complex expectations between individuals. For example, Ingram and Zou (2008) propose that in workplace friendships the simultaneous roles of being friend and colleague may create conflicting expectations and result in incompatible goals and misunderstandings. A limited body of research articulates the inherent tensions that arise under such circumstances (Bridge & Baxter, 1992; Ingram & Zou, 2008; Methot et al., 2016; Pillemer & Rothbard, 2018).

While this research emphasizes the role of expectations in the establishment and development of relationships, it has rarely studied underlying mechanisms of the formation of expectations. Research in social psychology provide a solid foundation to better understand expectations in relationships in general (Lemay Jr & Venaglia, 2016). Researchers in this field offer insights into some of the cognitive and motivational processes underlying the development of expectations in romantic relationships (Kelley, 1983; Lavner, Karney, & Bradbury, 2013; Lemay Jr, Lin, & Muir, 2015). Although partners' positive expectations have been found to affect perceptions of the relationship, the direction of this effect is not consistent (Lemay Jr & Venaglia, 2016). Some researchers propose positive outcomes of positive expectations about the relationship and the partner (Helgeson, 1994; Murray & Holmes, 1997; Murray, Holmes, & Griffin, 1996). For example, Murray et al. (1996) found in their study that, in search of security and well-being, individuals tend to idealize their partners and the perception of them appear to reflect a combination of reality and illusion. The authors suggest that, even in the presence of conflicts and doubts, relationships were most likely to persist when partners idealized each other.

However, other researchers argue that positive expectations about the relationship and the partner result in disappointment and marital dysfunction (Kelly, Huston, & Cate, 1985; Lavner et al., 2013; McNulty & Karney, 2004; Neff & Geers, 2013). For example, Kelly et al. (1985) suggest that partners who were initially most in love experienced steeper decreases in love for their partners after marriage. In addition, McNulty and Karney (2004) propose strong positive expectations about the relationship and the partner to be related to lower relationship satisfaction in early years of marriage, in particular when paired with high levels of interaction behaviors and relationship attributions.

## **Summary**

As this review underscores, the relationships between entrepreneurial team members are critical to team and venture performance. Existing research provides important insights into the formation of entrepreneurial teams and the development of the relationships between team members. Research on entrepreneurial team formation suggests two predominant formation strategies (i.e., resource-seeking strategy and interpersonal-attraction strategy) as a basis to understand the foci of entrepreneurial team members' selection. However, we know relatively little about the ways in which team members adopt and combine these two strategies (Lazar et al., 2019). This review suggests the need to thoroughly understand the underlying mechanisms and interpersonal challenges of the organic formation process of entrepreneurial teams. In particular, what remains to be explored is, how entrepreneurial team members imagine and eventually select the ideal teammate as well as how to treat the perception of a less than perfect teammate. In addition, research on romantic relationships informs us about how disappointments can potentially occur over the course of a relationship, threaten feelings of security, and increase the fear that the partner may not to be the "*right*" person after all (Knobloch, 2005; Sorrentino et al.,

1995). To date, we still have a limited understanding of how entrepreneurial team members evaluate to have selected the “*right*” teammate for starting a new venture and how to process these perceptions. More specifically, although existing research on entrepreneurial teams indicates that relational uncertainty likely exists in the early phases of the relationships (Blatt, 2009), research has not yet fully unpacked how relational uncertainty emerges during team formation but also team collaboration phases. Thus, the third research question posed is:

*RQ3: How and in what ways does relational uncertainty emerge between individual entrepreneurial team members?*

### 3 METHOD

To address my research questions, I conducted an inductive, qualitative study which allowed for a deeper understanding of relational uncertainty between entrepreneurial team members. Qualitative research is particularly useful for answering the questions “*how and why things happen as they do*” (Miles, Huberman, & Saldana, 2014, p. 11). The focus of my study is on how entrepreneurial team members perceive and manage relational uncertainty toward their teammates. Qualitative methods enabled me to delve into the phenomenon of relational uncertainty and make sense of the meanings entrepreneurial team members bring to it. Inductive research is appropriate to elaborate and build a theory around relational uncertainty in the context of entrepreneurship. While previous literature on uncertainty in the fields of management and entrepreneurship has predominantly focused on an exogenous perspective (Packard et al., 2017; Townsend et al., 2018), literature on an endogenous perspective with particular focus on relationships within entrepreneurial teams has remained scarce (Blatt, 2009; Cordery et al., 2010; Sine et al., 2006). Drawing on the tradition of Eisenhardt (1989), theory elaboration suggests on the one hand the consciousness of preexisting theoretical concepts and on the other hand the importance of an open mind when entering the field. Literature on relational uncertainty (Berger & Calabrese, 1975; Knobloch & Solomon, 1999) provides a sensitizing framework for the initial exploration. The iterative movement between data and literature provided guidance for developing theory. In the following chapter, I give a detailed description of the methodological approach for my dissertation.

### **3.1. Research setting and sample**

Following recommendations for qualitative research, I selected the research context and sample in a deliberate manner to facilitate a deep and sufficient understanding of the phenomenon of interest. The research question is closely intertwined with the research context and helps to set a focus and boundaries for sampling decisions.

#### **Research context**

The context of new ventures is a unique setting for teams and provides a rich context that theoretically suits the research questions for my dissertation. Entrepreneurial teams are quite distinct from other types of teams in an organizational context, e.g., top management teams, project teams, and virtual teams because the conditions for nascent organizations fundamentally differ from the conditions in established organizations. First, entrepreneurial team members are involved in the founding phase of a new venture and formally establish and share ownership as well as control (Huovinen & Pasanen, 2010; Kamm et al., 1990). This allows them to make membership decisions and endogenously form the entrepreneurial team. Instead of being exogenously assigned the team members have the freedom to select who to work with (Lazar et al., 2019). In doing so, entrepreneurs are able to utilize different types of prior network ties: family members and friends (strong ties), colleagues, fellow students, and acquaintances (weak ties) as well as strangers (Granovetter, 1973; Ruef et al., 2003; Wasserman, 2012). Second, starting a venture is an emotional endeavor (Cardon et al., 2012). During the founding phase entrepreneurs develop a strong attachment to their venture and often refer to it as their “*babies*” (Cardon, Zietsma, Saporito, Matherne, & Davis, 2005). Similarly, the entrepreneurial team members build a strong bond between each other and often draw comparisons to romantic

relationships (Wasserman, 2012). Finally, new ventures are typically shrouded in uncertainty as they are “*free of memory*” (Langlois, 2007, p. 1119). That is, the entrepreneurial teams lack familiarity (Blatt, 2009) and cannot rely on existing knowledge (Busenitz & Barney, 1997) to deal with challenging situations.

### **Research sample**

In my study, the sample was not predetermined but rather evolved throughout the fieldwork (Miles et al., 2014). I followed a deliberate sampling approach and purposefully selected entrepreneurial teams. Purposeful sampling allows for the selection of cases that provide rich information and illuminate the research question. The approach demands some prior information and sensible evaluation (Patton, 2002). When I began my research, I focused broadly on understanding the relationships within entrepreneurial teams and specified three important sampling criteria. First, according to my definition of entrepreneurial teams, the participants of the study led a new venture with at least one teammate. All team members had a significant financial stake and were involved in strategic decision making as well as ongoing operations of the new venture during the first round of interviews (but not necessarily during the second round of interviews). Over the course of my study, I observed some dissolution of entrepreneurial teams. Some teams reported about prior team members who had already left the entrepreneurial teams before I began my study. I was interested in the relationship to the prior team member and the reason for the dissolution to understand the holistic team narrative and to draw comparisons. However, prior team constellations were not considered in developing the theoretical model of my study. Second, I focused on new ventures affiliated to major start-up hubs in the metropolitan area of my home institution. These entrepreneurial teams were likely to access similar networks, resources, and training which made it easier to approach them for my study. Furthermore, the

proximity to my home institution helped me to frequently formally and informally engage with the entrepreneurial team members, easily access the teams' environments, and eventually develop a close and familiar relationship with the teams over the course of my study. Third, the study participants were from nascent ventures with a maximum firm age of three years (Preller, Patzelt, & Breugst, 2020). I was particularly interested in the team formation and development process. The teams of nascent ventures were not only likely to recall initial organizing processes but could also inform me about the development of their relationship over time. This is consistent with prior work suggesting that uncertainty can fluctuate over time (Arriaga et al., 2006; Theiss & Knobloch, 2011) and can (re-)surface in long-time relationships, such as married couples (Knobloch, Miller, Bond, & Mannone, 2007) or siblings (Bevan et al., 2006). I set out by approaching the incubator manager at my home institution and asked for appropriate potential study participants meeting my criteria. The incubator at my home institution houses technology-driven start-ups which are guided by start-up coaches and the incubator manager. Thus, the incubator manager was well situated and informed to support me to contact potential information-rich entrepreneurial teams. Over time I made use of the developing network and asked various people who else to talk to across the network of the major start-up hubs in the metropolitan area of my home institution (Patton, 2002).

In addition, I employed a purposeful sampling approach to account for maximum variation along the critical dimension of prior ties between the entrepreneurial team members. By using maximum variation sampling I aimed to provide as much insight as possible into the phenomenon of relational uncertainty by capturing and describing common patterns that emerge despite great variations (Patton, 2002). My sample included entrepreneurial team members with all kinds of prior ties between each other—siblings, married couples, friends, and friendly fellow

students (i.e., strong prior ties) as well as colleagues, acquaintances, and strangers<sup>2</sup> (i.e., weak prior ties) (Granovetter, 1973; Ruef et al., 2003; Wasserman, 2012). I aimed to take into account different levels of familiarity that entrepreneurial team members can have before they start a venture together (Forbes et al., 2006). Entrepreneurial team members with strong prior ties are considered to already understand each other and to have more confidence in a positive development of a trustful relationship (Wasserman, 2012). In contrast, team members with weak prior ties or those who are strangers move into unfamiliar territory and need time to learn about each other. Thus, I was able to ensure that the team members ranged from family members to strangers as a way of potentially capturing variation (as well as shared patterns in the perception and management) of relational uncertainty through the level of initial familiarity.

Overall, I contacted 28 entrepreneurial teams and asked for interviews with all team members. Of these teams, 25 entrepreneurial teams agreed to give me insights into their team member relationships and I conducted initial interviews with 68 team members. I expected to gain holistic insights from multiple perspectives and repeated observations of the entrepreneurial teams. I did not conduct follow-up interviews with eight entrepreneurial teams because I was not able to recruit all entrepreneurial team members as informants in the first round of interviews and with other three teams because I did not reach at least one of the team members for the second round of interviews.

Once I began the data analysis in tandem with data collection, I noticed the theoretical importance of relational uncertainty between the team members for my study. The incidents of relational uncertainty were defined on the basis of the theoretical premises of uncertainty

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<sup>2</sup> Observing similar patterns, I treated team members who were strangers before starting the venture like team members with weak prior ties (i.e., acquaintances). For example, in both cases, some team members, i.e., Ben and Bryan (strangers) as well as Frank and Florian (acquaintances), likewise emphasized the relevance of having a direct network contact (i.e., common friend) for selecting their teammates.

reduction theory from Berger and Calabrese (1975). I employed a theoretical sampling approach to carefully select entrepreneurial teams for my final sample based upon the need to gather in-depth data to understand the phenomenon of relational uncertainty (Patton, 2002). Some team members did not provide fine-grained and insightful data about the relationships within the entrepreneurial teams to truly map out the phenomenon of interest. For example, some of them tended to portray the ideal relationships and critical reflections on the relationships were left sketchy in the interviews. I aimed at accessing the experiences and feelings of the entrepreneurial team members toward their teammates. Specifically, the perception of relational uncertainty toward a teammate is a highly sensitive topic and some interviewees might have been reluctant to communicate openly about it. I excluded five entrepreneurial teams from my analysis since I was not able to learn specific insights about relational uncertainty. As the theory-based exclusion of some teams might raise concerns about potential selection issues, I collected additional data about two of the excluded teams. For example, one team member evaded some critical questions and hesitated to elaborate on team insights. This team member answered my question about discrepancies *“Ehm, yes, but in our team something like this leads, ehm, well you actually can rely on everyone in our team. ... We always try to help each other in a good and nice way.”* The whole interview with the team member only lasted about eight minutes. However, later on I was told by another research assistant from my department that a team coach who worked with this team mentioned this team as an example of a team with conflicts. This information caught my particular attention and I was still interested in the development of the team, even though I had already excluded the team from my sample. For the purpose of my teaching duties at my home institution, I maintained a constant collaboration with the mentioned team member and conducted a more personal follow-up interview. Indeed, I received insights about the perception of relational uncertainty toward teammates and the way that the team member managed it. Another team

member of an excluded team revealed similar experiences during an additional more personal follow-up interview. The team members' experiences fit to the theoretical model of my study. Thus, the additional data collection allowed me to meet concerns regarding the replicability of the results in consideration of the need to exclude some teams.

Carefully analyzing the data, I developed the inductive model in an iterative process (see description below). I realized that I reached theoretical saturation after the inclusion of nine teams and additional teams would not have provided any new information. The key concepts were well-developed and told a conclusive theoretical story. Thus, I relied on the nine teams as my final sample. Table 1 illustrates the team and venture characteristics for all ventures.

### **Entrepreneurial team descriptions**

In the following section, I provide detailed information about the formation and development of the nine entrepreneurial teams in my final sample.

*Team A.* Anthony and Adam had been best friends since early childhood. They accidentally came up with the idea of an innovative product in the food segment in summer 2014 and founded the venture in spring 2015. Both team members studied management and technology before Anthony worked for a corporate company and Adam for a start-up company. In contrast to Anthony, Adam previously gained entrepreneurial experiences through getting an entrepreneurship scholarship and starting a venture with fellow students. The team members separated the fields of responsibility into production and sales (Anthony) as well as marketing, strategy, and finance (Adam). Adam owned a larger equity stake in the venture than Anthony. The venture achieved rapid sales growth and employed more than 20 people at the end of data collection.

**Table 1. Team and venture characteristics**

Team members	Prior ties	Educational background	Year founded/initiated (year terminated)	Industry	Team membership over time			
					Original	Late	Remaining	Separated
<b>Team A</b>								
Anthony	Friend	Management and engineering	2015	Services (food)	x		x	
Adam	Friend	Management and engineering			x		x	
<b>Team B</b>								
Bart	Fellow student (Blake) / stranger (Ben and Bryan)	Engineering	2014	Hardware (medtech)	x		x	
Ben	Friend (Blake) / stranger (Ben and Bryan)	Nursing sciences			x		x	
Blake	Fellow student (Bart) / friend (Ben and Bryan)	Engineering			x		x	
Bryan	Friend (Blake) / stranger (Bart and Ben)	Management				x	x	
<b>Team C</b>								
Connor	Sibling (Charlie) / stranger (Carl)	Management	2014	Software (construction)	x		x	
Charlie	Sibling (Connor) / stranger (Carl)	Management			x		x	
Carl	Stranger	Management and informatics				x	x	
<b>Team D</b>								
David	Stranger	Management	2014	Services (nutrition)	x		x	
Dexter	Stranger	Management			x		x	
Daniel	Stranger	Management			x			x
Dominic	Stranger	Nutrition sciences				x	x	
<b>Team E</b>								
Elijah	Fellow student (Eric) / stranger (Ethan)	Engineering	2014	Hardware (transportation)	x		x	
Eric	Fellow student (Elijah) / stranger (Ethan)	Engineering			x			x
Ethan	Stranger	Management				x		x
<b>Team F</b>								
Finn	Stranger	Informatics	2016	Software (entertainment)	x		x	
Frank	Acquaintance (Florian) / stranger (Finn and Felix)	Physics and engineering			x			x
Felix	Stranger	Management			x			x
Florian	Acquaintance (Frank) / stranger (Finn and Felix)	Management				x	x	
<b>Team G</b>								
Garrett	Fellow student (George) / stranger (Gwen)	Informatics	2014	Software (knowledge)	x		x	
George	Fellow student (Garrett) / stranger (Gwen)	Informatics			x		x	
Gwen	Stranger	Management				x		x
<b>Team H</b>								
Henri	Stranger	Informatics	2015 (2016)	App (entertainment)	x			x
Hugh	Stranger	Management				x		x
<b>Team I</b>								
Isaac	Sibling	Management	2015 (2016)	Hardware (fashion)		x		x
Ida	Sibling	Hair and Beauty				x		x

**Team B.** The team initially formed in fall 2014 including the team members Ben, Blake, and Bart. Ben had a background in nursing sciences and came up with the idea of an innovative product in the health field. Ben and Blake have been friends for about 4 years and Ben approached Blake with the idea because of his background in engineering. Blake approached his fellow student and friend Bart whom he has also known for about 4 years, because of his complementing skills in patent engineering. Additionally, Blake suggested his childhood friend Bryan in winter 2015 as additional team member because of his complementing skills in sales engineering and he eventually joined fulltime in spring 2017. The fields of responsibility were divided from the outset according to the competences into health expert and sales (Ben), research and development (Blake), finance and intellectual property (Bart) as well as marketing and sales (Bryan). Ben, Blake, and Bart held each a 30 percent equity ownership position and Bryan held 10 percent equity. In the end of data collection, the team was about to launch the product soon.

**Team C.** The initial team members Connor and Charlie were brothers and already started two ventures together during their studies. In 2011, the team members came up with a new idea of a software solution in the tourism field and founded the initial venture in 2014. The brothers met Carl during the participation in an accelerator program in summer 2013. Carl initially joined the venture as an investor and eventually as CTO in fall 2014. The team failed with the idea six months later and jointly came up with the idea of a software solution in the construction field. The team members clearly divided roles and positions within the venture: Charlie has been CEO and responsible for sales, Connor has been COO and CFO and responsible for operations, marketing, controlling and finance, and Carl has been in the role of the CTO and responsible for the technical product development. During the interviews, the team members did not talk about the exact distribution of shares. They only mentioned that Carl increased his equity stake when he changed from the role of an investor to an entrepreneurial team member and then the shares were

distributed almost equally. The venture experienced a rapid growth in sales and had 24 employees at the end of data collection.

**Team D.** The team initially consisted of David, Dexter, Daniel, and Dylan (the latter was not a participant in my study). The team members met for the first time during an entrepreneurship course at the university in fall 2013. They were randomly assigned to a business opportunity in health care and decided in spring 2014 to further pursue the opportunity. All team members had a background in management. Dominic joined the team in spring 2015 because of his background in nutrition science. All team members have not known each other before. Dylan was not sufficiently committed to the team as well as the venture and had to leave the team in June 2015 (the incident refers to the prior team constellation, and thus was not included in the analysis of my study). The team received a start-up scholarship in fall 2015 and started to work full-time for the start-up until fall 2016. The team did not receive additional funding and continued to work part-time for the venture. Daniel had to leave the team in spring 2017 because he did not show sufficient commitment to the team and the venture. At the beginning, the team members David and Dexter were CEOs of the venture and in spring 2017 Dominic overtook the role of the CEO. The team had difficulties in defining internally clear roles and the fields of responsibility. The roles only became clearer over time and then Dominic was mainly responsible for product development and sales, Dexter for finance, David for business operations. The team members David, Dexter, and Dominic continued to work part-time for the venture and were still dealing with the separation from teammate Daniel at the end of data collection.

**Team E.** Elijah and Eric met during a student project in fall 2014 and came up with the idea of an innovative product in mobility. Both team members had a background in engineering. They met and recruited Ethan as a team member in winter 2015. Ethan had a background in management and filled the competence gap to apply for a start-up scholarship. All team members

only got to know each other through the venture. However, Elijah and Eric already worked together as fellow students for the initial project and built up a friendly relationship for one year before Ethan joined the team. At the beginning, the team had no clear division of roles and fields of responsibility and only over time Eric assumed the responsibility for business development, Elijah for product development, and Eric for sales and marketing. The team had an equal equity distribution. Eric suddenly left the team at the end of 2016 because of a lack of commitment to the venture. Ethan also decided to leave the team when the start-up scholarship ended in spring 2017. Elijah was the only team member left and he planned to further develop the product but was not sure about the future continuation of the venture at the end of data collection.

*Team F.* Finn, Frank, Felix, and Fred (the latter was not a participant in my study) formed the initial team F and started to jointly work on an innovative idea of a software solution for communication and entertainment in spring 2016 when they were still students. The idea was built on a licensed technology from a science institute. Felix and Frank knew each other since fall 2015 through an entrepreneurship scholarship and met Finn in spring 2016 through the demo of the technology at the science institute. Fred also joined the team in spring 2016 but left again three months later to pursue another idea (the incident refers to the prior team constellation, and thus was not included in the analysis of my study). Florian knew Frank through friends and joined the team in summer 2016 because of his interest in the idea. Some of the team members had different educational backgrounds—Frank studied physics and engineering, Finn studied informatics, Felix and Florian were students in management—but all of them completed the same entrepreneurship scholarship which was a relevant selection criterion for them. On the one hand, Finn was clearly responsible for technical product development and on the other hand, Frank for sales, Felix for marketing and Florian for finance, whereas their roles were rather flexible and changed. Frank left the venture in spring and Felix in the end of summer 2017 because they could

not sufficiently commit to the venture anymore. The team members aimed for a fair distribution of shares and made it dependent on the time of team entry. Finn and Florian already acquired customers but were still in the process of defining the business model and applied for an international accelerator program at the end of data collection.

**Team G.** Garrett, George, and Grayson (the latter was not a participant of in study) initially formed team G. The team members met in spring 2014 during their studies through an entrepreneurship study program and decided in autumn to start a venture together. All initial team members had a background in informatics and searched for an additional team member with a background in management. Garrett met Gwen end of 2014 during a hackathon and she eventually joined the team in spring 2015. Grayson was not sufficiently committed to the venture anymore and left the team in summer 2015 (the incident refers to the prior team constellation, and thus was not included in the analysis of my study). The team members pivoted away from the initial idea and focused on software in knowledge management in summer 2015. The team members early defined clear roles and fields of responsibility—Garrett was CEO and responsible for product and design, George was CTO and for technical product development, and Gwen was in the position of the COO and responsible for marketing, sales and finance. The team had an equal equity distribution. Gwen left the team in summer 2017 because of disagreements within the team. The team members George and Garrett were in the process of making another pivot and planned to convert the free users to paying customers, while they were still dealing with the separation from team member Gwen at the end of data collection.

**Team H.** The team was formed in the end of 2015 by Henri and Hugh. Henri had a background in informatics and came up with the idea of an app for communication. After one year of programming, he searched for a team member with a background in marketing and management to release the app. The team members did not know each other before and Hugh

became aware of the position through Henri's posting on social media. From the beginning Henri was responsible for the technical product development and Hugh for marketing. Hugh held 25 percent of the venture and Henri 75 percent because he came up with the idea and already started working on it one year before. The team members could not successfully position the app on the market and decided to terminate the venture in the end of 2016. When Henri was working with Hugh, he already started to pursue a new idea with another team and was still working for the new venture at the end of data collection.

*Team I.* The team consisted of the siblings Isaac and Ida. Ida started in 2010 to create apparel for outdoor activities as a hobby and later on started to make a business of it. Her brother Isaac joined the venture in beginning of 2015 to further expand the business. Ida had a background in hair and beauty and was responsible for the product development and production of the apparel. Isaac had a background in sports and management and was responsible for sales and marketing. The team members planned to recruit another team member to support sales and marketing, but eventually he did not join the team. The venture was terminated in the end of 2016 because Ida could not sufficiently commit to the venture anymore. The team members agreed to put the venture on hold for now but have not continued working at the end of data collection.

### **3.2. Data collection**

I drew on multiple sources of evidence to collect qualitative data. Specifically, I used semi-structured interviews as well as secondary and observation data to sufficiently understand the phenomenon of relational uncertainty.

## Interviews

My primary source of data was derived from semi-structured interviews. One of the key strengths of interviews is that they allow participants to openly and freely share experiences from their perspective and context. Following recommendations for qualitative research, I conducted semi-structured interviews with an interview guideline consisting of open-ended questions (Yin, 2015). The guideline provided me with orientation around the phenomenon of interest and allowed me to follow up on specific issues that emerged during the interviews. A crucial limitation of interview data stems from retrospective and informant biases through the lack of introspection of participants (Eisenhardt & Graebner, 2007). For example, participants may selectively neglect some uncomfortable details about negative experiences within the team that are important or just have differing understanding of the experiences. Eisenhardt and Graebner (2007) suggest acquiring diverse and well-informed study participants to gain a holistic perspective on the phenomenon of interest. Thus, I conducted semi-structured interviews with all members of the entrepreneurial teams for the first round of interviews. Additionally, I spoke to people who were involved in the organizing process (i.e., mentors, coaches, and employees) to view the entrepreneurial teams from an outside angle. These various participants decrease the likelihood of “*convergent retrospective sensemaking and/or impression management*” (Eisenhardt & Graebner, 2007, p. 28). I conducted the interviews primarily at the teams’ offices to learn more about the teams’ environment. Some interviews also took place in the offices of my home institution because the teams did not have own offices. As the perception of relational uncertainty is a highly sensitive and personal issue, I spoke to each team member separately. I conducted two rounds of interviews with the participants several months apart. I learned that some teams (four out of nine teams) separated from a teammate during that period and tried to

interview these teammates for a follow-up interview (three out of five were available for another interview) for more information.

Initial interviews with entrepreneurial team members shaped my thinking regarding the data collection for this study and the interview guideline evolved based on the acquired information during these interviews. The guideline was still continually adjusted to include aspects emerging during the process of data collection (Edmondson & McManus, 2007). For example, the team members have not felt as comfortable on questions with negative connotation. For example, “*Have you, at any point of time in your collaboration, raised doubts about your team members?*”. Thus, I reformulated some questions for further interviews: “*Have you always felt certain that your teammate is your perfect match?*” Additionally, to get access to authentic team scenarios, I included appropriate questions to allow them to share characteristic anecdotes about their teams. The first round of interviews was designed to understand the relationship between the entrepreneurial team members. I structured the first round of interviews with the entrepreneurial team members into seven sections: (1) background information on the interviewee and the venture; (2) the entrepreneurial team and the team formation process; (3) the collaboration and relationship between the team members as well as the accompanying challenges; (4) the individual team members’ roles and responsibilities; (5) the individual team members’ monetary and time contribution; (6) the individual team members’ commitment to the team and the venture; (7) the expected future of the team and the venture. The second round of interviews primarily concentrated on key themes that emerged during the first round of interviews and preliminary analysis with particular focus on the development of the team constellation. In most cases, I learned about the separation from the teammate before I conducted the second round of interviews through the team members or other informants, e.g., shared network. I adjusted my interview guideline depending on the entrepreneurial teams’ current

circumstances and the individual team members' position. I began each of the second interviews by following up in general on what has happened since the first interviews. In these interviews, I particularly focused on the relationships between the team members and its development. The guideline of the second round of interviews covered the following seven sections: (1) review of the last months since the first interview; (2) the current entrepreneurial team constellation; (3) the process of the separation from the teammate (if required) (4) the development of the collaboration between the team members as well as the accompanying challenges; (5) the development of the individual team members' commitment to the team and the venture; (6) the development of the relationships between the team members; (7) the expected future of the team and the venture.

In total, 117 interviews were conducted with 82 team members and seven additional informants for six teams (for two teams I had two informants and one informant was familiar with two teams)<sup>3</sup>. The interviews range in length from 8 to 84 minutes and amount to 4,112 minutes of audio records. In developing my theoretical model, I focused on 27 first round interviews (1,083 minutes), 23 second round interviews (843 minutes) with entrepreneurial team members, as well as eight interviews (338 minutes) with additional informants.

### **Secondary and observation data**

Beyond the interview data, I collected additional data as a further approach to mitigate limitations resulting from recall and rationalization biases through considerable time lags between reflection and the incidents of interest (Yin, 2015). Specifically, I made extensive use of

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<sup>3</sup> Harald Leibinger helped me collect the data and conducted a second round interview with one team member of my final sample and further interviews with members of teams that are not in my final sample.

secondary data with the aim of triangulation to validate my primary data and to gain supplementary information about the teams. I collected newspaper and online magazine articles about the ventures and the entrepreneurial teams, entries in the Commercial Register as well as data generated by the teams, including website and social media content, PowerPoint presentations (e.g., pitch decks and student project presentations), and reports (e.g., student project reports and final theses). I was the supervisor of various student projects in collaboration with the teams on the ventures' current challenges, such as technology development, business development analysis as well as formulation of a marketing and sales strategy. Since the students closely collaborated with the team members and interacted frequently with them, their experiences provided me additional insights into the entrepreneurial teams and their ventures. The triangulation material helped me to follow recent developments of the ventures, evaluate the validity of the interviewees' statements, build important timelines as well as better understand the teams' desired external image of the formal roles and structures. Finally, I spoke to two interviewees from the original sample and, as already mentioned above, to two interviewees from excluded teams to validate the emerging theoretical model. Three interviewees (team members) were able to identify themselves in the perception of relational uncertainty and in one of the different uncertainty management trajectories. Interestingly, one team member described in our interview after her separation from the entrepreneurial team that she experienced to follow one uncertainty management trajectory in this entrepreneurial team (included in the analysis of my study). However, she experienced to follow another uncertainty management trajectory in her new entrepreneurial team (not included in the analysis of my study) because of different perceived relational levels toward the teammates. One interviewee (coach) confirmed that he observed such uncertainty management processes in the teams he worked with from my sample and shared insights about similar experiences with other teams.

Moreover, when I conducted the interviews at the entrepreneurial teams' offices, I took notes on important observations around the teams and their working environments. In addition to the interviews, I met some entrepreneurial teams on other occasions and was able to make additional observations. These observations were intended to provide me further insights into the collaboration and relationship within the entrepreneurial teams. For example, some entrepreneurial team members were guest speakers in my classes and pitched their entrepreneurial stories giving me an idea of how the teams present themselves to outsiders. Some of the entrepreneurial teams were part of my home institution's incubator program and had their offices in the same building. This setting allowed me to engage in occasional hallway conversations about the venture and the team as well as to establish a more personal relationship with the team members. Thus, I was able to observe the team members on site in their natural working environments and typical working situations. For example, a conversation with one team member revealed a recent separation from another team member and, thus, helped me to arrange interviews with all team members in the short run to speak about the fresh experiences. I grouped the data gathered from the multiple sources by the entrepreneurial teams and considered all relevant information during the analysis. Table 2 provides an overview of my comprehensive data sources.

### **3.3. Data analysis**

I employed an inductive analytic approach and initially focused broadly on understanding the development of the relationships between the individual team members. Accordingly, I developed my theoretical ideas as I continued to collect and analyze data. I decomposed the analysis into four main phases.

**Table 2. Data sources**

<b>Informants</b> (number of interviews)	<b>Triangulation material</b>
<b>Team A</b>	
Anthony (2) Adam (2) Employee (1)	Website, team member CVs (2), social media (Facebook, Twitter, Instagram; 1,567 posts), news articles (39), videos (5), internal documents (280 pages), business information (Commercial Register, annual financial statement), field notes
<b>Team B</b>	
Bart (2) Ben (2) Blake (2) Bryan (2) Mentor (1) Coach team B/team E (1)	Website, team member CVs (4), social media (Facebook; 10 posts), news articles (14), video (1), other interview data (85 pages), business information (Commercial Register, annual financial statement), field notes
<b>Team C</b>	
Connor (2) Charlie (2) Carl (2)	Website, team member CVs (3), social media (Facebook, Twitter, LinkedIn, Instagram; 545 posts), news articles (41), videos (6), internal documents (47 pages), business information (Commercial Register, Crunchbase, Gründerszene, Munich Start-up), field notes
<b>Team D</b>	
David (2) Dexter (1) Daniel (2) Dominic (1) Mentor (1)	Website, team member CVs (4), social media (Facebook, Xing; 16 posts), video (1), internal documents (1 page), other interview data (147 pages), business information (Commercial Register, Gründerszene, Munich Start-up), field notes
<b>Team E</b>	
Elijah (2) Eric (1) Ethan (2) Employee (1) Coach team B/team E (1)	Website, team member CVs (3), social media (Facebook, LinkedIn, Xing, Twitter; 14), news articles (4), other interview data (86 pages), internal documents (80 pages), field notes
<b>Team F</b>	
Finn (2) Frank (2) Felix (2) Florian (2) Mentor (1)	Website, team member CVs (4), social media (Facebook, Twitter, LinkedIn, Instagram, Wordpress; 186 posts), news articles (16), videos (6), internal documents (546 pages), business information (Commercial Register, Munich Start-up), field notes
<b>Team G</b>	
Garrett (2) George (2) Gwen (2) Mentor (1)	Website, team member CVs (3), social media (Facebook, Twitter, LinkedIn, Xing; 256 posts), news articles (13), video (1), internal documents (75 pages), business information (Commercial Register, Crunchbase), field notes
<b>Team H</b>	
Henri (2) Hugh (2)	Website, team member CVs (2), social media (Facebook, Twitter, LinkedIn; 228 posts), news articles (12), video (1), other interview data (13 pages), business information (Commercial Register), field notes
<b>Team I</b>	
Isaac (2) Ida (1)	Website, team member CVs (2), social media (Facebook; 168 posts), videos (1), business information (trading mark registration), field notes
<b>Additional data</b>	Interview data model validation (4)

## **Unit of analysis**

I investigated relational uncertainty from the perspective of an incident of relational uncertainty between entrepreneurial team members. An incident of relational uncertainty is the occurrence of an individual team member's doubts and ambivalence toward another teammate. My analysis of relational uncertainty encompasses the individual team member's emerging perception of relational uncertainty toward another teammate, the process of uncertainty management of the individual team member or the whole team as well as the uncertainty outcome for the whole team. In doing so, I considered individual team members' cognitions and behaviors as well as emotions of individual team members or whole teams. The perception of relational uncertainty toward the teammate was predominantly, but not necessarily, one team member's exclusive perception. Some team members of one team reported the same perception of relational uncertainty toward the teammate. In such cases, even though each team member told me about their initial individual perception, I treated these as one incident of uncertainty because the uncertain team members consulted each other (but not the uncertainty generating teammate) and commonly responded to the uncertainty, and thus described similar cognitions and emotions in our interviews. I discuss the team members' interim step of consulting each other in a separate paragraph in my findings. At the same time, one individual team member's perception of relational uncertainty was usually, but not necessarily, directed toward one teammate. However, when the uncertainty generating teammates appeared as a strong unit (e.g., team members joined an existing team or had siblings as teammates), some team members perceived relational uncertainty toward these teammates equally. I considered these incidents not separately because the uncertain team members' cognitions, behaviors, and emotions behaved in the same way toward these teammates. Ultimately, I employed the incident of relational

uncertainty as the unit of analysis, whether originated by one or more team members. Table 3 provides an overview of the incidents of relational uncertainty of all teams.

### **Analysis of relational uncertainty over time and across teams**

In the first stage of coding, I stayed close to the data and initially used simple first-order-codes keeping the context around the statements (Boje, 2001). This approach helped me to become acquainted with the data and to get a strong sense of actions and processes within the teams. I revised and refined the codes incorporating new data and filtered for the most relevant issues from the data. In this analysis I identified uncertainty within the team as a key issue and focused on explicit references to team members' relational uncertainty. Despite some interviewees' initial challenges to speak about negative aspects of their teams, all interviewees revealed some relational uncertainty with respect to their entire team or one/some teammate/s in different phases of the team collaboration. My analysis sometimes required contextual interpretation and reading between the lines (Monin, Noorderhaven, Vaara, & Kroon, 2013) because I realized that team members sometimes avoided the word "*uncertainty*" but referred implicitly to the perception of relational uncertainty. Importantly, my sensitivity for the meaning of the data has grown over the course of the data analysis (Corbin, Strauss, & Strauss, 2015). For example, team member Ben explained "*Yes, [at the beginning] there was still this certain respect or you just can't take a measure and that made you kind of nervous and put you under stress.*" He avoided not only the word "*uncertainty*" but also avoided referring to a certain teammate. Eventually, the combination of his complete interview as well as his team members' and the mentor's interviews allowed me seeing the big picture and complemented my understanding of the situation. Similarly, when Ida described the development of the relationship

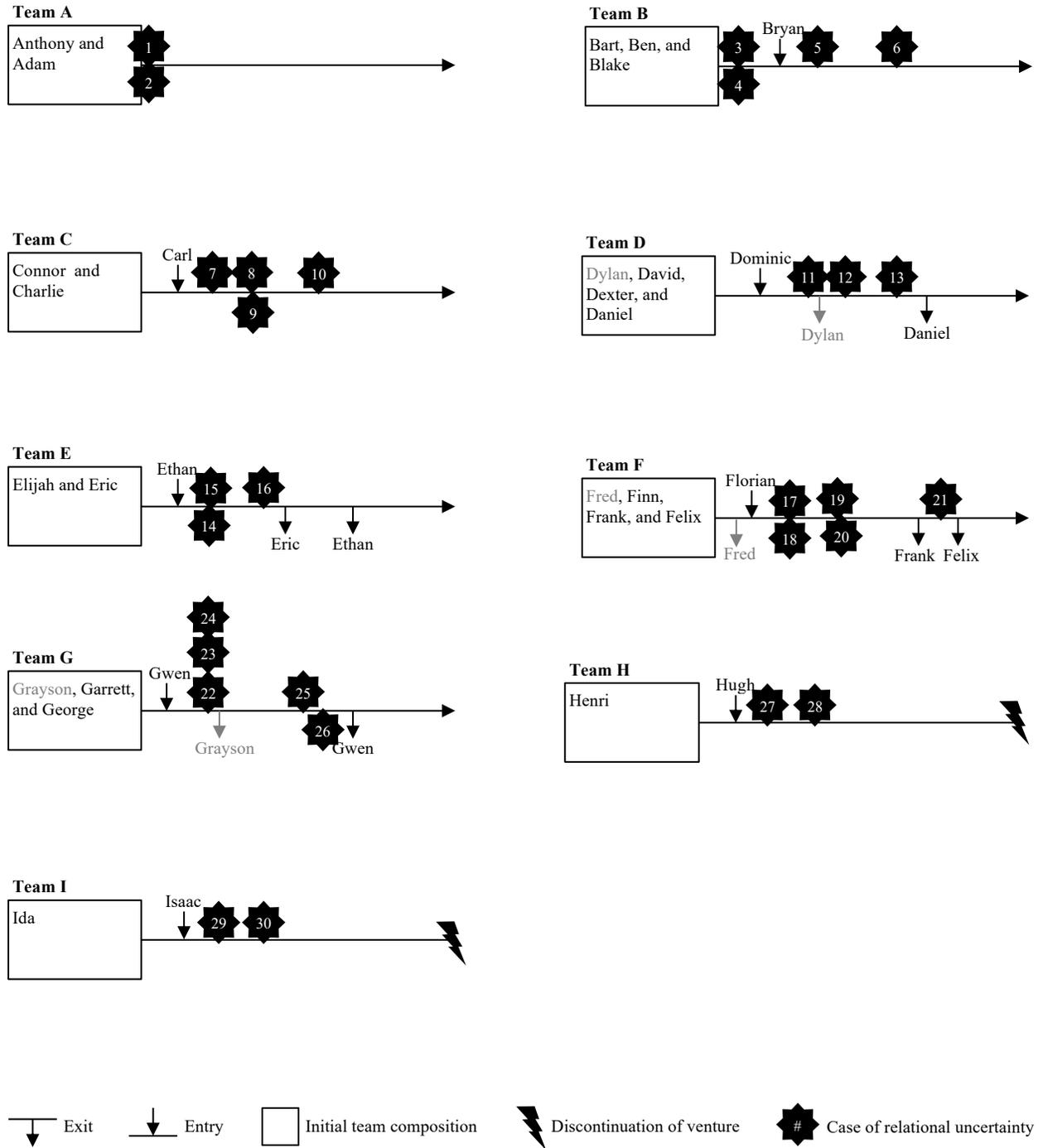
**Table 3. Overview of incidents of relational uncertainty**

Case	Uncertain team member(s)	Uncertainty generating teammate(s)	Relational uncertainty	Relational level	Trajectory	Uncertainty outcome
<b>Team A</b>						
1	Anthony	Adam	Norms (initial)	Equality	Disclosing	Repair
2	Adam	Anthony	Abilities (initial)	Equality	Disclosing	Repair
<b>Team B</b>						
3	Bart	Ben	Commitment	Equality	Disclosing	Repair
4	Ben	Bart	Norms	Inequality	Concealing	Perseverance
5	Bryan	Others	Norms (initial)	n/a	n/a	n/a
6	Blake / Ben / Bryan	Bart	Commitment	Equality	Disclosing	Repair
<b>Team C</b>						
7	Connor	Carl	Abilities (initial)	Mixed	Concealing	Perseverance
8	Charlie	Carl	Commitment	Mixed	Concealing	Perseverance / Reappraisal: Perseverance
9	Carl	Others	Norms	Inequality	Concealing	Perseverance / Reappraisal: Perseverance
10	Charlie	Connor	Norms	Equality	Disclosing	Repair
<b>Team D</b>						
11	Dominic	Others	Norms (initial)	Inequality	Concealing	Perseverance
12	David	Daniel	Commitment	Equality	Disclosing	Repair
13	David / Dexter / Dominic	Daniel	Commitment	Mixed	Concealing	Reconfiguration
<b>Team E</b>						
14	Eric / Elijah	Ethan	Commitment (initial)	Mixed	Concealing	Perseverance
15	Ethan	Others	Norms (initial)	Inequality	Concealing	Perseverance
16	Elijah	Eric	Commitment	n/a	Concealing	Perseverance / Reappraisal: Reconfiguration
<b>Team F</b>						
17	Florian	Others	Norms (initial)	Inequality	Concealing	Perseverance
18	Finn	Florian	Norms (initial)	n/a	n/a	n/a
19	Frank	Others	Norms	Inequality	Concealing	Perseverance
20	Florian	Frank	Abilities	Inequality	Concealing	Perseverance
21	Florian / Finn	Felix	Commitment	Mixed	Disclosing	Reconfiguration
<b>Team G</b>						
22	Garrett	Gwen	Commitment (initial)	n/a	Concealing	Perseverance
23	George	Gwen	Commitment (initial)	n/a	Concealing	Perseverance
24	Gwen	Others	Norms (initial)	Inequality	Concealing	Perseverance
25	Garrett / George	Gwen	Abilities/Commitment	Mixed	Disclosing	Reconfiguration
26	Gwen	Others	Norms	Inequality	Concealing	Reconfiguration
<b>Team H</b>						
27	Hugh	Henri	Norms (initial)	Equality	Disclosing	Repair
28	Henri	Hugh	Abilities	Inequality	Concealing	Perseverance / Reappraisal: Reconfiguration
<b>Team I</b>						
29	Isaac	Ida	Commitment	Inequality	Concealing	Reconfiguration
30	Ida	Isaac	Norms	Inequality	Concealing	Perseverance

with her teammate and brother Isaac, she created an impression of arising doubts over time. Hence, I asked her directly about the arising doubts and she surprisingly answered: *“I must say, there aren’t really doubts”*. At the same time, she described during the interview that she fell out with her best friend when they started a business together and now she was *“afraid it [damage to relationship] would also happen to me and my brother”*. I created for each team a timeline and assembled the coded pieces of data from all members of a team to reconstruct the teams’ histories and detect the most important events. The timelines provided a comprehensible experience of my research setting in great detail and helped me to identify gaps of information which I was able to fill in through the second round of interviews and the collection of further data (Miles et al., 2014). Figure 1 shows the timelines of the team’s formation and incidents of relational uncertainty.

In this process, I delved into the different facets of relational uncertainty of the individual team members. To better understand the emerging construct of relational uncertainty, I cycled back and forth between the data and the existing theory, in particular theory on relational uncertainty in romantic partnership (Afifi & Burgoon, 1998; Boucher, 2015; Knobloch & Solomon, 1999). With that in mind, first-order-codes were sorted and synthesized as well as broader theoretical categories generated (second-order codes). I contrasted first-order-codes for similarities and differences within these broader theoretical categories to clarify relationships and boundaries between the codes as well as theoretical categories. I identified and elaborated on three main facets of relational uncertainty relevant for my theoretical model: (1) uncertainty about the teammate’s commitment, (2) uncertainty about the teammate’s abilities, and (3) uncertainty about the teammate’s norms.

**Figure 1. Team formation and incidents of relational uncertainty**



Not participant of my study

### **Analysis of antecedents and consequences of relational uncertainty**

The second phase of my analysis comprised an in-depth study of antecedents and different consequences of the perception of relational uncertainty for the individual team member and the team. Based on the individual perception of relational uncertainty, I created visual maps of the different scenarios of antecedents and consequences of relational uncertainty (Gehman et al., 2017). The visual representation of my data allowed showing the sequence of incidents in time and across team members as well as teams. Based on prior insights on relational uncertainty (Berger & Calabrese, 1975), I became aware of individual tendencies to reduce uncertainty, and thus I paid particular attention to the team members' descriptions of mechanisms that aimed at managing uncertainty (first-order codes) and compared them with existing literature. This iterative process helped me to better understand how these management mechanisms might function over time. In doing so, I again clustered the first-order codes into second-order codes representing broader theoretical categories. As a result, I distinguished between two different uncertainty management trajectories: (1) disclosing and (2) concealing the uncertainty. When I started to contrast the two different uncertainty management trajectories, I noticed that the trajectories followed by the team members were related to the relational level between the team members. The relational level is defined as a team member's perception if he or she is on par with the teammate. To better understand the relationship between uncertainty management trajectories and relational level, I went back to the interviews and identified each team members' relational level toward his or her teammates.

### **Analysis of emotions**

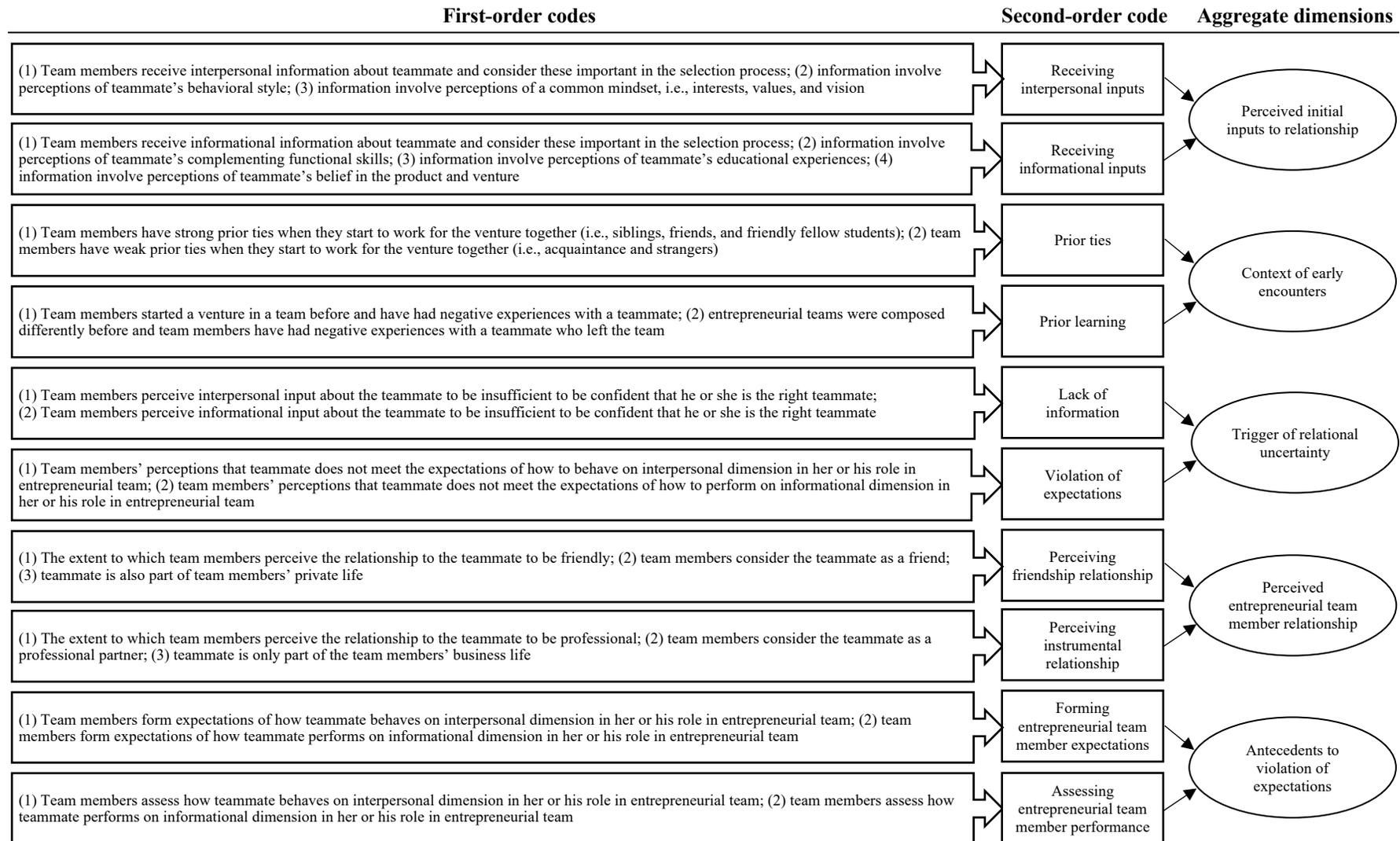
As the analysis progressed, I identified the relevance of the team members' emotions tied to relational uncertainty. Thus, in a third phase, I assessed the emotions based on the extent to

which the team members' perception and management of uncertainty generated emotional responses. Uncertainty is usually associated with negative emotions, such as worry and anxiety, but has also been associated with positive emotions, such as excitement and hope (Brashers et al., 2000; Gao & Gudykunst, 1990; Wilson, Centerbar, Kermer, & Gilbert, 2005). I captured the team members' emotion descriptions and clustered them by the valence (i.e., positive or negative emotions associated with uncertainty) and the intensity (i.e., intense or mild) of emotions (Cacioppo, Petty, Losch, & Kim, 1986; Pekrun, Vogl, Muis, & Sinatra, 2017; Williams, Thorgren, & Lindh, 2020). For example, mild negative emotions involved confusion, annoyance, and disappointment. Capturing the emotions in qualitative research can be challenging. In my study, the emotions are primarily illustrated through the uncertain team members' interview transcripts but non-verbal communication (e.g., voice tonality) during the interviews and interviews with their teammates were essential in identifying and understanding the emotions (Williams et al., 2020).

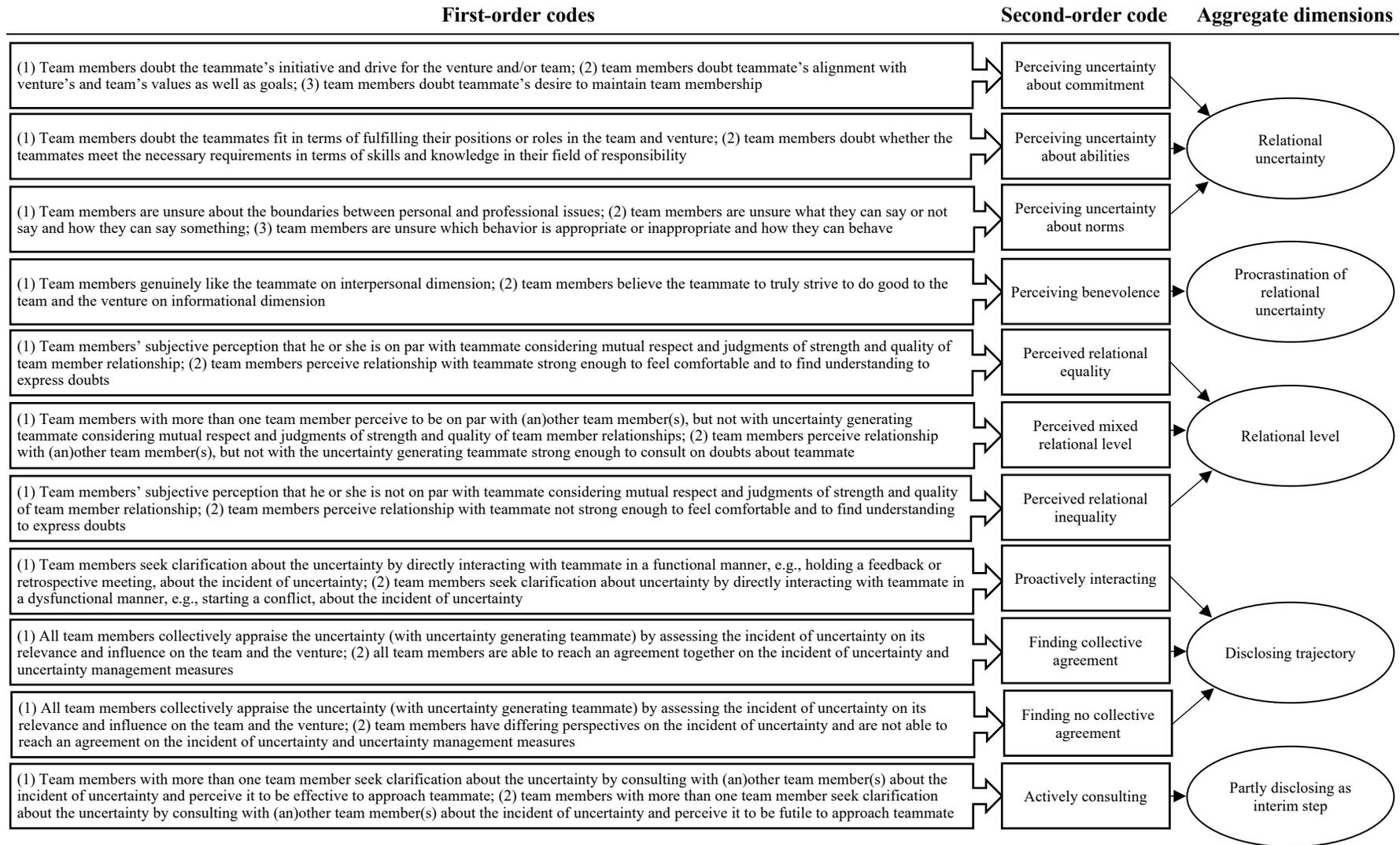
### **Development of theoretical model**

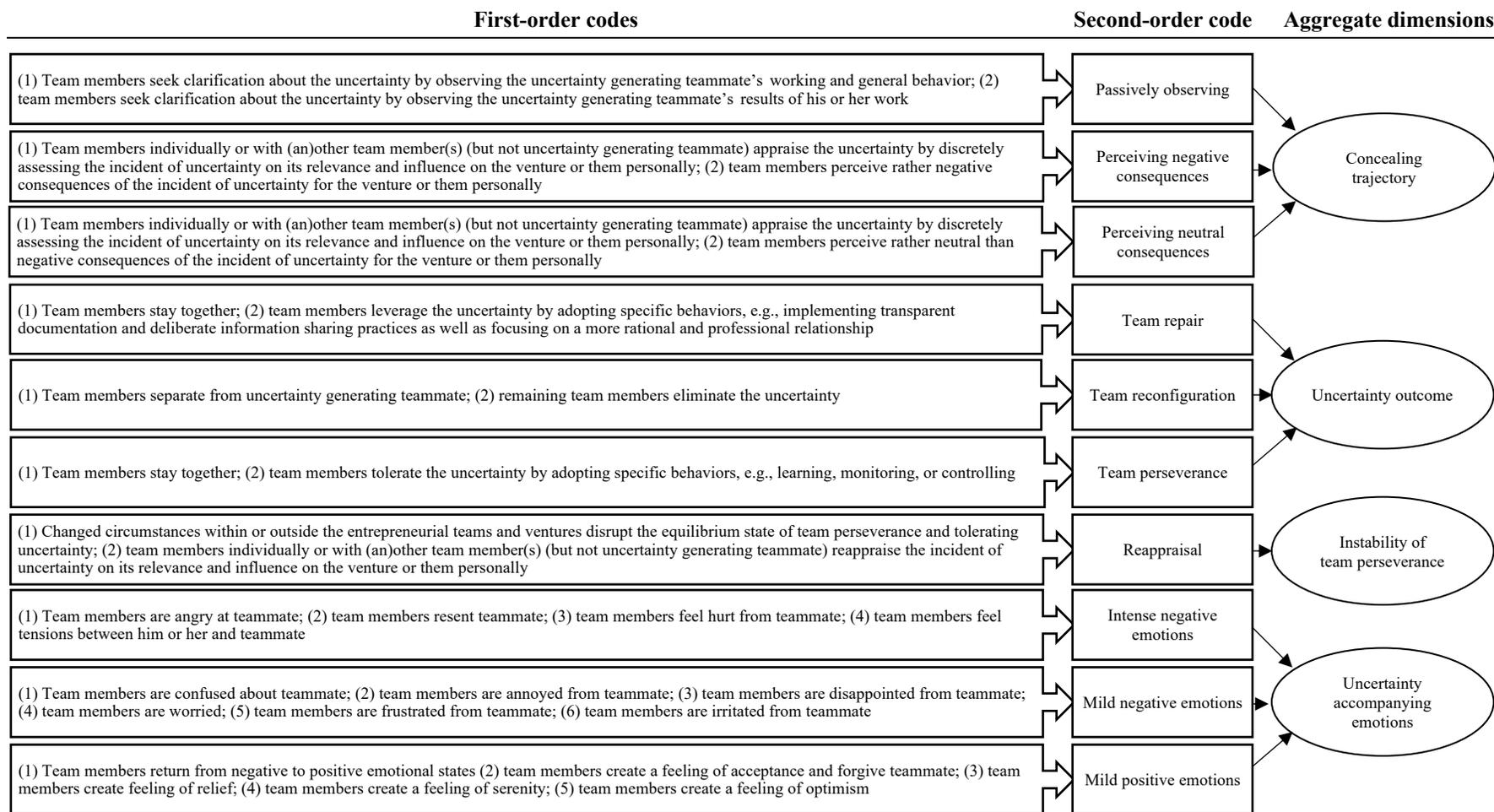
Finally, I merged the second-order codes into dimensions, as shown in Figures 2 and 3. I developed from our data a general model and proceeded to analyze the different dynamics. This methodological approach encouraged the development of a conclusive theoretical story and follow-up meetings with original interviewees enabled me to validate my model.

**Figure 2. Data structure for entrepreneurial team member relationship**



**Figure 3. Data structure for relational uncertainty and uncertainty management**



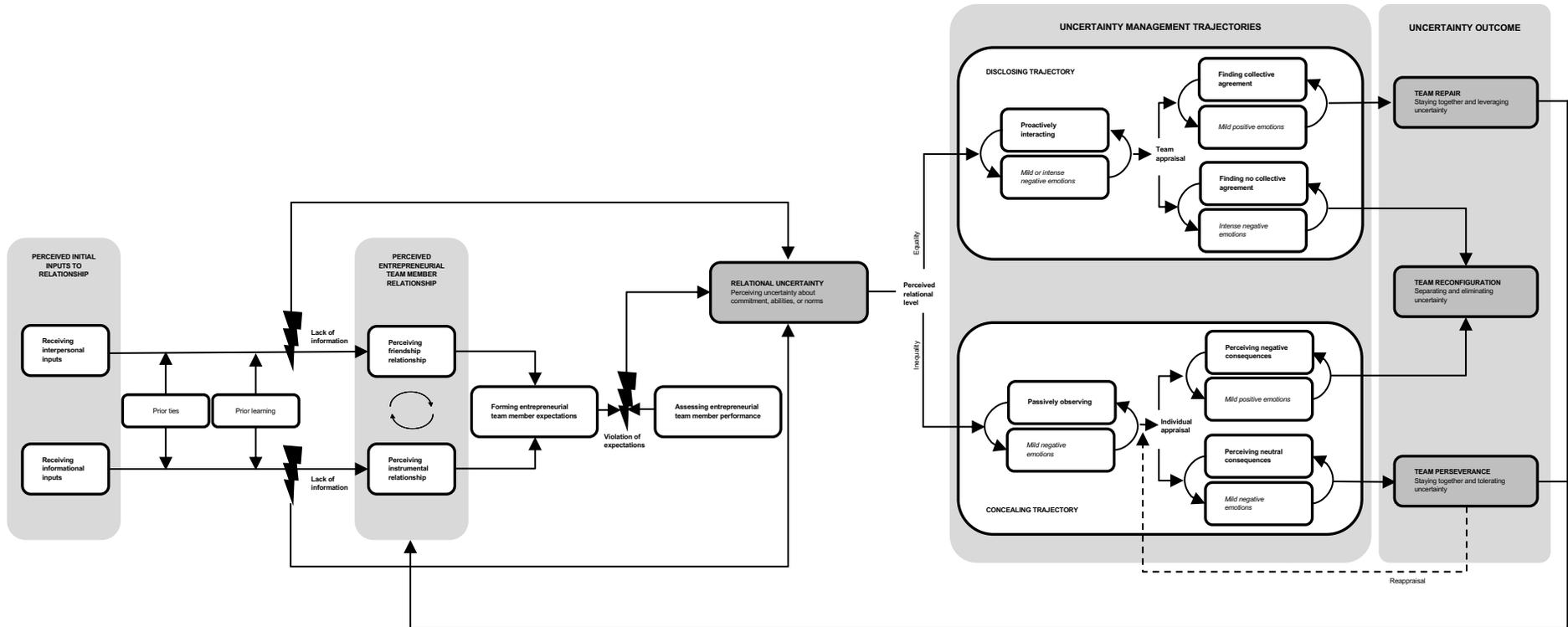


## 4 FINDINGS

In this section, I detail how relational uncertainty emerges and how it is subsequently perceived and managed by the entrepreneurial team members in my sample. Therefore, based on the chronological sequence of the two phases of the relational uncertainty process, I first discuss (2) the emergence of relational uncertainty and then elaborate on (1) the perception and management of relational uncertainty. Figure 4 illustrates the holistic theoretical model of the phenomenon of relational uncertainty between entrepreneurial team members. The starting points of my model are the interpersonal and informational inputs to the perceived entrepreneurial team member relationship. My data revealed that this relationship involved two dimensions, i.e., friendship and instrumental relationships, and nurtured the entrepreneurial team member expectations of their teammate. However, the team members still lacked information about the teammate or experienced violations of expectations and subsequently perceived relational uncertainty – the heart of my model. This first part of the theoretical model addresses the question: *How and in what ways does relational uncertainty emerge between individual entrepreneurial team members?* Subsequently, I unpack two different trajectories of how individual team members managed relational uncertainty—disclosing or concealing the perceived relational uncertainty. The trajectory pursued by an individual team member was shaped by his or her perception of relational level, i.e., the subjective perception to be on par, toward the uncertainty generating teammate. I found that each of the trajectories involves two uncertainty management moves—seeking clarification and appraising relational uncertainty—that result in the outcomes team repair, team reconfiguration, or team perseverance. This second part of the theoretical model focuses on the questions: *How do individual entrepreneurial team members*

*perceive relational uncertainty toward their teammates? and how do individual entrepreneurial team members manage relational uncertainty and what are the outcomes for the entrepreneurial teams?*

**Figure 4. Holistic model of relational uncertainty between entrepreneurial team members**



#### **4.1. Emergence of relational uncertainty between entrepreneurial team members**

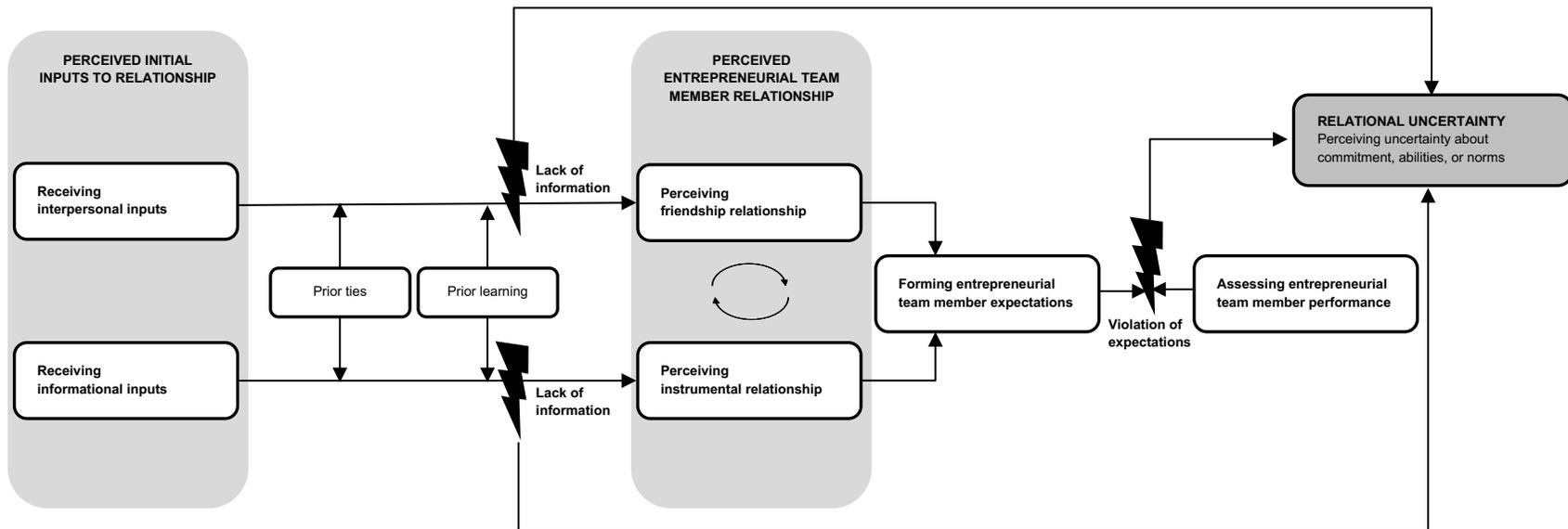
I investigated the precursors of the perception of relational uncertainty toward another teammate to better understand how it emerged. Figure 5 shows the first part of the theoretical model which encompasses the emergence of relational uncertainty between entrepreneurial team members. My data revealed that the perceived entrepreneurial team member relationship between the team members turned out to be fundamental to the emergence of relational uncertainty.

##### **Perceived initial inputs to the relationship between team members**

The perceived initial inputs to the relationship are the starting point of my model because these laid the foundation of the perceived entrepreneurial team member relationships and early precursors of relational uncertainty. The perceived initial inputs are the kind of information that team members received from their teammates and considered important in the selection process. When I asked in my first round of interviews why and how the team members selected their teammates, each team member recounted several input factors which were important to them. Drawing on prior research indicating that entrepreneurial team members either use interpersonal-attraction or resource-seeking formation strategies (Lazar et al., 2019), I distinguished between two dimensions of inputs to the relationship and labeled these interpersonal inputs and informational inputs.

***Interpersonal inputs.*** The interpersonal inputs involved the individual entrepreneurial team member's perception of the teammate's mindset and behavioral style. The team members assessed from the interpersonal inputs how they might get along with each other. I observed that team members with strong prior ties (Anthony, Adam, Connor, Charlie, Isaac, and Ida)

**Figure 5. Theoretical model of the emergence of relational uncertainty**



emphasized trust as critical positive initial interpersonal input factor for a promising entrepreneurial team member relationship. For example, Connor described: *“I think trust is an incredibly important aspect when you start a venture together and you need to get along very well ... for that reason I think it is a massive advantage to start a venture with my brother.”* Other team members specified likability (*“... he [Henri] is for an IT guy very outgoing but still not a self-exposer ... and I really enjoyed that”* Hugh) as well as homogeneity between each other. Homogeneity referred to similar attributed characteristics such as interests (*“... he [Elijah] has the same interests, he finished his studies at the same time, he also engages in the start-up environment, and probably many principles are aligned from the beginning. Thus, it also was a personal fit.”* Eric), values (*“following the same line of thought”* Ethan), and visions (*“We [Garrett and Gwen] talked the same language and had the same visionary thoughts to move things forward and solve really important problems.”* Gwen). Some of the team members with weak prior ties additionally perceived sharing the same network as a positive interpersonal input factor. For example, Ben knew his new teammate Bryan through his other teammate and friend Blake and explained: *“I would have feared to acquire an external who no one knows.”*

***Informational inputs.*** Informational inputs focused on the individual team member’s perception of the teammate’s quality of skills. The team members assessed through the input factors how the teammate could enhance the entrepreneurial team’s pool of resources and contribute to the success of the venture. Most of the team members primarily perceived the teammate as the ideal complement of competences within the team (*“He [Ethan] has filled exactly the competence gap.”* Eric). When I asked for input factors which indicated the teammate as the perfect match, the team members’ perceptions involved the teammates’ functional abilities (*“He [Carl] has programmed before and ... has dared to do it [to take over the role of the CTO].”* Charlie) and commitment to the product and venture (*“... it [adding Gwen as a team*

*member] was about a confederate, someone who believes in the things we are doing.”* Garrett).

Some of the team members with weak prior ties (e.g., Bart and Ben, Charlie and Carl, David and Dominic, Eric and Ethan, Felix and Florian, Garrett and Gwen as well as Hugh and Henri) particularly appreciated the teammates’ functional experiences (“*He [Bart] is quite good with industrial property rights and did an internship with a lawyer and we [Blake and Ben] said ‘perfect, he fits in well’.*” Ben) as well as educational background (“*He [Florian] was pre-filtered through the [entrepreneurship scholarship] program ...*” Felix) and considered it as an indication of the quality of skills.

### **Context of early encounters and lack of information**

I found that the potency of the two different dimensions of inputs predominantly depended on the context of early encounters between entrepreneurial team members, i.e., the strength of prior ties between the team members, and laid the foundation for the perceived entrepreneurial team member relationship. The prior ties in my study ranged from strong (i.e., siblings, best friends, and friendly fellow students) to weak (i.e., acquaintance and strangers). On the one hand, strong prior ties strengthened the potency of the interpersonal dimension of inputs and of the friendship dimension of the perceived entrepreneurial team member relationship. Specifically, team members with strong prior ties highly valued the interpersonal input factors (“*the most important thing is trust*” Anthony) and initially focused on a friendship relationship between each other (“*You cannot be friends today and business partners tomorrow, it rather is a slow process.*” Anthony). On the other hand, weak prior ties strengthened the influence of the informational dimension of inputs on the perceived entrepreneurial team member relationship. These team members were particularly receptive to informational input (“*The decision was based on the fact that they [Eric and Elijah] had an engineering and ... I had a management*

*background.*” Ethan) which had a stronger effect on the instrumental dimension of the relationship during initial interactions. For example, Ethan explained: *“In the beginning, it [the perceived entrepreneurial team member relationship] was definitely very professional because I didn’t know the two [Eric and Elijah] before [venturing together]”*.

Depending on the prior ties, the team members had access to a different amount of information about each other. Not surprisingly, team members with strong prior ties perceived a broader range of inputs, whereas team members with weak prior ties perceived rather limited inputs about their teammates. In other words, team members with strong prior ties had a holistic understanding of their teammates (*“we know each other backwards”* Connor about Charlie) but team members with weak prior ties only knew specific aspects of the teammate. However, some team members with strong prior ties still perceived starting a new venture together as a game changer of such ties. For example, Ida who started a venture with her brother Isaac reflected: *“You get to know each other anew. Things you might not have thought of.”* Thus, importantly, I observed that team members perceived an initial lack of information about their teammates regardless of the prior ties between each other. This finding is consistent with previous work (Breugst, Patzelt, & Rathgeber, 2015) that in the process of starting a new venture as a team, the team members experience a new type of relationship, even if they did know each other before. As a result, the team members perceived relational uncertainty toward their teammate when they lacked information on at least one input dimension. This lack of information was a main trigger for initial relational uncertainty and subsequently set one of the relational uncertainty management trajectories in motion (details about relational uncertainty and relational uncertainty management are discussed in the following chapter).

Beside the prior ties between team members, I observed that prior learning of team members acted as an additional catalyst to trigger initial relational uncertainty. Specifically,

negative experiences with teammates in prior ventures triggered particularly strong concerns when lacking information. In such cases, the emergence of relational uncertainty was not only driven by the teammate per se but appeared to be more abstract. For example, Adam admitted in our first interview that he has been “*a burnt child*” through negative experiences with teammates when he had another venture with fellow students before he started the venture with Anthony. Some teammates were not committed enough, and thus he did not feel comfortable working with them anymore. He explained: “*It [the negative experiences] shaped me extremely. In the sense of being more suspicious before getting involved with someone professionally.*” Thus, even though he had a great understanding of his teammate and best friend Anthony, he still questioned him as his teammate. Similarly, when I asked George about his feelings when Gwen joined the team, he explained that he learned from a prior negative experience with a teammate who was a friend and stated: “*you just never know*” and “*you cannot predict how it will develop*”.

### **Perceived entrepreneurial team member relationship**

Importantly, the inputs to the relationship manifested the preliminary perceived entrepreneurial team member relationship, which was usually neither perceived purely as a friendship relationship nor as an instrumental relationship, as Anthony explained: “*It [the friendship dimension and instrumental dimension of the relationship] is very much intertwined. I think you cannot completely isolate it.*” Rather, the relationship was multiplex and entailed degrees of friendship as well as instrumentality perceptions. The degrees heavily depended on the prior ties and varied among the entrepreneurial teams in my sample.

The dynamic nature of the perceived entrepreneurial team member relationship was not only observable among teams, but also over the time of the team collaboration. The degrees of friendship as well as instrumentality perceptions shifted in response to shared experiences within

the teams. Specifically, the perception and management of relational uncertainty had an important influence on shifts in the perceived entrepreneurial team member relationship. Table 4 shows representative quotations substantiating perceived initial inputs and the perceived entrepreneurial team member relationship.

### **Entrepreneurial team member expectations and violation of expectations**

I observed that the team members' perceptions of their teammates' inputs and the initial manifested relationship also created initial expectations about the teammate. Both the friendship and instrumental dimensions of the relationship nurtured such entrepreneurial team member expectations of their teammate. I defined entrepreneurial team member expectations as expectations a team member has of how the teammate will behave and perform in her or his role in the entrepreneurial team (Chen & Klimoski, 2003). For example, Gwen initially perceived "likeability", "competence", "visionary thoughts" and "desire for the idea" about Garrett and she appeared to form initial expectations that starting a venture with him would be emotionally as well as technically rewarding. All team members continuously gained new information, attained a more sufficient understanding of the teammate, and subsequently adapted their entrepreneurial team member expectations of the teammate. The team members updated the expectations based on the actual behavior and performance of the teammate. In our interviews, the team members described different experiences regarding their expectations. The team members reported positive experiences when their teammate exceeded their expectations, as Connor explained "*It appeared that he [Carl] surpassed himself and does a terrific job.*", or just fulfilled their expectations, as Gwen told me in our first interview about her teammates Garrett and Georg "*I've never thought 'wow he [Garrett and George] has changed' or it [the collaboration] is so different than expected. I think both are authentic and don't wear masks.*" However, team members described

**Table 4. Representative quotations for perceived initial inputs and perceived entrepreneurial team member relationship**

Categories and exemplary quotations substantiating friendship dimension	Categories and exemplary quotations substantiating instrumental dimension
<p><b>Receiving interpersonal inputs to entrepreneurial team member relationship</b></p> <p><i>“The personal factor must be right, so that you talk the same language and you are able to continue working together after conflicts. You need to nourish a basic likeability for each other. If you need to work your way into the relationship, then you just invest too much work into it instead of investing in the product, the business, or the employees.” (Carl – Interview 1)</i></p> <p><i>“I didn’t know him [Florian] well. But what I really appreciated was the fact that he was a friend of my friends. So, I had the feeling it fits.” (Frank – Interview 1)</i></p> <p><i>“[I thought it is the right thing to start a venture with my brother] because we are really honest with each other.” (Ida – Interview 1)</i></p>	<p><b>Perceiving informational input to entrepreneurial team member relationship</b></p> <p><i>“... the release [of the product] was coming up and of course then you need good marketing. I just realized there is no chance to do everything by myself. Therefore, I looked for someone [with marketing experiences]. ... I searched for someone with whom I get along well, I think that’s important. Well, and at that time I still thought marketing experiences [Hugh’s field of responsibility] was the most important aspect.” (Henri – Interview 1)</i></p> <p><i>“I knew that he [Florian] worked for the same student consultancy, and thus he was good.” (Frank – Interview 1)</i></p> <p><i>“He [Isaac] has exactly the know-how, which I don’t have. I thought it would be the right balance.” (Ida – Interview 1)</i></p>
<p><b>Strong prior ties</b></p> <p><i>“I knew Blake from my circle of friends.” (Ben – Interview 1)</i></p> <p><i>“He [Isaac] as my family has always been supportive and thought it was a good idea.” (Ida – Interview 1)</i></p> <p><i>“I know Connor, certainly because he is my brother, but also businesswise ... as we already started some ventures together. ... A unit has been formed and we just took on the next topic. ... I’m glad to have Connor because I have someone on board I can fully trust.” (Charlie – Interview 1)</i></p>	<p><b>Weak prior ties</b></p> <p><i>“I didn’t know Bart at all and only met him through Blake.” (Ben – Interview 1)</i></p> <p><i>“I think it was cool that I had the feeling he [Florian] is a fit especially because I didn’t know him well.” (Frank – Interview 1)</i></p> <p><i>“When we met [through the entrepreneurship course in which the idea was initiated], we didn’t know each other ... It was like in a sports class, we were the last ones left [in an initial team building game].” (David – Interview 1)</i></p>
<p><b>Prior learning</b></p> <p><i>“I was much better prepared starting a venture with Anthony than starting with the others [team members in prior venture] who I didn’t know that well. But still, we had huge ambitions, Investors were already waiting. And then this situation [changing circumstances on the market that pose a threat to the business model] came. Everything became doubtful. I noticed how people moved away from the whole thing [the venture] and no longer stayed focused. For me, for me personally starting another venture [in a team with Anthony] right away was not easy.” (Adam – Interview 1)</i></p> <p><i>“There was Fred, he was also part of the team at the very beginning. He also left at some point and we had already gone with him through the exact same process. We also said we want to found the venture now. ... But he also said that he isn’t quite sure.” (Finn – Interview 2)</i></p> <p><i>“I used to do work [on an own venture] with my best friend and we unfortunately started a war when it was about the money. ... Now I’m afraid it [damage to relationship] would also happen to me and my brother.” (Ida – Interview 1)</i></p>	

<b>Lack of information</b>	
<p>“... you cannot just eliminate the remaining doubts. If you don’t know each other for a longer time, if you don’t know yet how he [Ethan] thinks, and how he behaves in certain situations. Then, these doubts might be always there until you have worked together or be friends for some time.” (Eric – Interview 1)</p> <p>“When I joined the team, I knew Frank, but I didn’t know the others [Finn and Felix]. And certainly, I had concerns if it really fits.” (Florian – Interview 1)</p> <p>“... particularly, given the extreme conditions encountered in a start-up with ups and downs. Sometimes it goes bad, sometimes it goes well. It means a general set-up where you don’t know yet how different people [Gwen] behave in certain situations.” (George – Interview 1)</p>	
<b>Perceiving friendship relationship</b>	<b>Perceiving instrumental relationship</b>
<p>“Anthony is like a brother, and thus we sometimes bitch at each other. We also like each other very much. We have disputes in our collaboration, which I probably wouldn’t have with a co-founder, who I just met and professionally collaborate with. The disputes wouldn’t be so open and emotional.” (Adam – Interview 2)</p> <p>“Well, considering that we weren’t friends at the beginning and got to know each other first, I would say that a certain friendship has developed. For example, I invited them to my wedding because I really like them and with one of them, I took dance lessons together with our partners.” (Gwen – Interview 1)</p> <p>“We had constant exchange the whole time in the team. And it [the entrepreneurial team member relationship with Gwen] has developed so that it’s like, ok you work together and then it’s just more and more, and then ok, you are actually also friends. And that’s how it is now, so both [friendship and instrumental relationship] I would say.” (George – Interview 1)</p>	<p>“It was friendly for a long time – too friendly. But I think it became more professional over time. Even if we are still friends.” (Dexter – Interview 1)</p> <p>“Yes, I would say it’s rather professional. We like each other but we don’t spend private time together, only for events. ... For example, it is characteristic [of our relationship] that when we wait alone before an event, we don’t have these awesomely great conversations like you have with a best friend or something like that, but rather small talk. It isn’t deep, which isn’t bad, but just characteristic.” (Henri – Interview 1)</p> <p>“... and then it gets dawdling. I think if we would be straighter and both sides see it more professional, then it would be easier.” (Isaac – Interview 2)</p>

negative experiences when the teammate violated their expectations. For example, Blake described a situation between his teammates Bart and Ben: *“Bart developed extreme expectations of Ben and Ben created the feeling that he just couldn’t do things right. He felt he wasn’t doing enough or just with not enough drive.”* Importantly, the team members created different expectations among the different dimensions of the relationship. The multiplexity of the relationship simultaneously allowed for a fulfillment of the expectations on one dimension but a violation of expectations on the other dimension of the relationship. The violation of any expectation raised concerns about the teammate, and thus was another important trigger of a team member’s perception of relational uncertainty toward a teammate. Like the lack of information, violation of expectations set the relational uncertainty management trajectories in motion. Table 5 represents quotations substantiating the emergence and perception of violation of expectations.

**Table 5. Representative quotations substantiating the emergence and perception of violation of expectations**

<b>Exemplary quotations substantiating team member expectations and performance</b>	
<b>Forming entrepreneurial team member expectations</b>	<b>Assessing entrepreneurial team member performance</b>
<p><i>“As soon as we decided to work part-time for the venture, it [working with Daniel] didn't work anymore at all. You need a lot of self-discipline to put in 5-10 hours a week in addition to your actual job.”</i> (Dominic – Interview 2)</p> <p><i>“At an early stage, when it [the venture] still has been a student project we already developed some sort of attachment to the project, but it was still different to what it is now. It's not comparable. He [Felix] knew early on that he wants to go there [semester abroad]. It was his dream. So, it was clear for us [Florian and Finn] that he will be gone for half a year, and thus it was not an issue. Before he left, we [Florian and Finn] talked to him and asked him if he would be able to fully commit after his semester abroad. He always said yes, it would be fine. But when he was abroad something started to change. We skyped once a week to talk about some topics, but he was operationally basically out.”</i> (Finn – Interview 2)</p> <p><i>“There is quite a good example of a student who also completed the same university's entrepreneurship scholarship [like Felix]. He also went for a semester abroad [at university which is in the center of a high technology and innovation hub] with this scholarship. When he was there [in the center of a high technology and innovation hub], he didn't do anything for his master thesis, he only looked for investors and he got about 23 million funding. But he's the completely opposite of Felix. Felix didn't do anything for our venture from day one and only worked on his thesis. ... It was completely different.”</i> (Florian – Interview 2)</p>	<p><i>“So, [my commitment] to Ethan is 100 hundred percent because of his way of working. He just really is a doer. And he also said that he definitely wants to sit on the phone until the end of the start-up scholarship to sell the thing [the venture's product]. And if it doesn't work then he at least tried everything. Well, Eric is more skeptical. He has the opinion that it [the venture] might not be worth the time [until the funding for the venture ends].”</i> (Elijah – Interview 1)</p> <p><i>“Finn and I just realized, of course he is a semester abroad, of course he has his thesis to work on, but if he is really committed then he could have done more [for the venture].”</i> (Florian – Interview 2)</p> <p><i>“He [Franc] just didn't perform that well. Not like, for example, Finn. When Finn does something then it's just really well-conceived and good.”</i> (Florian – Interview 2)</p> <p><i>“So, we've [Garrett and George] been evaluating it [work results of Gwen's field of responsibility] over a longer period of time. It came to our attention when we started to evaluate it more data-driven and tried to understand how much time we put into it and what did we achieve.”</i> (George – Interview 2)</p>
<b>Violation of expectations</b>	
<p><i>“... it's like in a marriage. Everyone [Blake of Bart] has high expectations and you are [Blake] just personally hurt when these weren't fulfilled [by Bart].”</i> (Ben – Interview 2)</p> <p><i>“They [Connor and Charlie] are an extreme case, they spend 95 percent of their time with each other. I had to learn to deal with the fact that I cannot be part of every conversation.”</i> (Carl – Interview 1)</p> <p><i>“At the beginning, I thought my sister [Ida] would assume the creative part and I would assume the business part which means 50:50. But the reality was ... a 10:90 distribution of work. I don't have a problem with work, but my sister showed little willingness to become more involved.”</i> (Isaac – Interview 2)</p>	

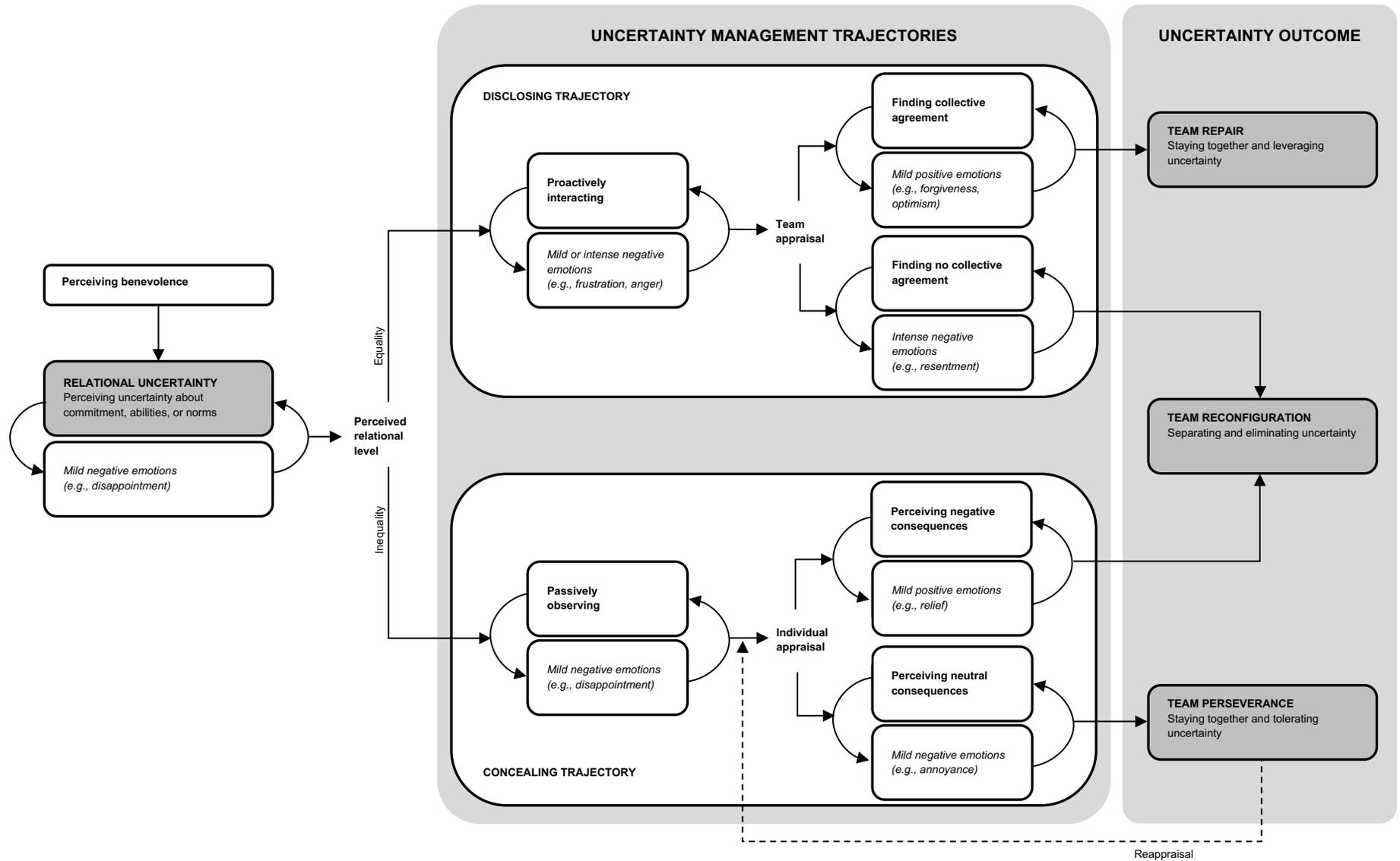
#### 4.2. Entrepreneurial team members' perception of relational uncertainty

My interviews revealed that indeed all team members experienced relational uncertainty within their entrepreneurial teams at different points in time of their collaboration—early on through the lack of information or later through the violation of expectations. The perception of relational uncertainty introduces the second part of the theoretical model. Figure 6 shows the

theoretical model of the perception and management of relational uncertainty. The uncertainty that emerged in my study was grounded in the perception of doubts toward an individual teammate. Specifically, relational uncertainty in this study derives from doubts about a teammate's commitment toward the team or venture (i.e., do you want this?), abilities (i.e., can you do this?) as well as norms (i.e., how can we do this together?). Table 6 illustrates team members' statements about their perceptions of relational uncertainty.

I observed that the boundary between the friendship and the instrumental dimensions of the relationship became indistinct in the perception of relational uncertainty. The individual facets of relational uncertainty were not clearly allocable but rather involved notions of both the friendship and instrumental dimensions of the relationship. As I will describe in the following sections, the perception of such relational uncertainty triggered the team members' uncertainty management trajectories. Specifically, the perception of at least one of the facets of relational uncertainty set the uncertainty management trajectories in motion. Most of the interviewees highlighted some degree of initial relational uncertainty with respect to their new teammates. They perceived uncertainty during the team formation and at the beginning of their collaboration, as Ethan ironically signified "*it was not really love at first sight*". As mentioned above, the initial relational uncertainty was caused by the lack of information of either interpersonal or informational inputs in such a way that the team members were not able to gain a sufficient understanding of the teammate. For example, team member Garrett hardly knew his teammate Gwen before starting the venture and described:

**Figure 6. Theoretical model of the perception and management of relational uncertainty**



**Table 6. Representative quotations substantiating the perception of relational uncertainty and accompanying emotions**

<b>Categories and exemplary quotations substantiating the perception of relational uncertainty</b>		
<b>Perceiving benevolence</b>		
<p><i>“Isaac is a peculiar person, but I love him, and I don’t want to lose that [the close bond].” (Ida – Interview 1)</i></p> <p><i>“It has less been an issue [being more suspicious before getting involved with someone professionally] with Anthony because I knew exactly what to expect [when starting a venture with Anthony]. But still, you question some things.” (Adam – Interview 1)</i></p> <p><i>“The problems [i.e., Daniel’s lack of commitment] haven’t been addressed because of the friendly relationships ... We pursued the feel-good atmosphere that in the end didn’t get us anywhere.” (Dexter – Interview 1)</i></p>		
<b>Perceiving uncertainty about commitment</b>	<b>Perceiving uncertainty about abilities</b>	<b>Perceiving uncertainty about norms</b>
<p><i>“Then I just realized that some people [Daniel] were not motivated anymore to execute their daily tasks, so that I was wondering how it [the venture] will go on.” (David – Interview 2)</i></p> <p><i>“I was certain about some people [in the team regarding their commitment] but I was not certain about some other people [Daniel].” (Dexter – Interview 1)</i></p> <p><i>“At first came these doubts, that one of us [Felix] just didn’t fully commit. For example, when we met our mentor and Felix just couldn’t tell us if the notary appointment is okay with him. Then I realized there is something going on.” (Finn – Interview 2)</i></p> <p><i>“Indeed, [I have experienced] the uncertainty if this team constellation [with Ida] really is the best option. I think I already experienced it [the uncertainty] at the beginning and it has always been present.” (Isaac – Interview 2)</i></p>	<p><i>“Certainly, we questioned if it would work out with Carl. Most of the time you can’t tell upfront. ... If you have a different background, it’s difficult to really evaluate his technical competence.” (Connor – Interview 1)</i></p> <p><i>“He [Frank] is really a good friend but to be honest I wouldn’t co-found [a venture] with him again. ... I don’t know. I sometimes was annoyed how he worked. I think working with him just didn’t work out that well. Finn really thought the things through and we both knew we are on the same track. Frank sometimes did things and I just thought – why?” (Florian – Interview 2)</i></p> <p><i>“My roommate was also working in online marketing [Gwen’s field of responsibility]. He followed the development of our venture and always suggested ‘why are you not doing this and this’. Then I always had this feeling, ‘mmh good question, why we aren’t doing all these things.’” (George – Interview 2)</i></p>	<p><i>“Yes, at the beginning [I hesitated more] when I wasn’t as much involved yet. [I had the feeling] when I suggested ideas, these weren’t taken equally seriously or weren’t pursued [by Bart and Blake], as if Bart or Blake communicated ideas by themselves.” (Ben – Interview 1)</i></p> <p><i>“... Connor definitely moves into a position, where he says ‘I don’t want to accept a subordinate role anymore’. He also wants to call the shots and that causes conflicts. These conflicts definitely give rise to problems.” (Charlie – Interview 1)</i></p> <p><i>“I had the feeling I worked differently than they expected me to work. This created a strong imbalance and made me even more uncertain. I didn’t know how I should change or how I should change my work to satisfy them.” (Gwen – Interview 2)</i></p> <p><i>“Sometimes I personally find it, well, I personally find I don’t always work goal-oriented and that’s sometimes difficult for me. I’m always there for the company, I’m actually always on the road and sometimes I ask myself what the actual outcome is. ... It’s emotional stress for myself. I don’t know. I think the others, they may not see it this way. But I do. ... Sometimes it’s difficult for me to find the balance [to speak about the self-doubts with his teammates] because it’s such a personal feeling. It’s really difficult for me to bring it up because it’s such a, um, when I say ‘Yeah, I feel this way.’ Then I’m afraid it could be too personal sometimes.” (Frank – Interview 1)</i></p>

**Mild negative emotions**

*"I was very uncertain and I felt it partly unfair. Therefore, I felt uncomfortable with the situation."* (Gwen – Interview 2)

*"Certainly, you build up tensions or even inner aggressions. I don't know how to call it. I just had the feeling we don't pull together anymore."* (Dexter – Interview 1)

*"It was probably just this personal disappointment [of Blake from Bart]. ... You [Blake] are so passionate about it and when your expectations weren't fulfilled [Bart] – certainly, you are disappointed, angry, maybe also mad, then you just have these feelings."* (Ben – Interview 2)

*“At the beginning I rather would say uncertainty .... Because you just don’t know. For example, we haven’t had any extreme situations with Gwen. When you are sitting there, you have to reach a deadline and being on the edge, then there are conflicts and disagreements. This is hard to simulate or to figure out before it really occurs. It was definitely uncertainty and I was aware of the fact that it [the collaboration] might not work out.”*

However, relational uncertainty did not only appear at the beginning of the team member relationships but continued to surface over time. Relational uncertainty emerged as a dynamic construct that fluctuated throughout the collaboration. I found that doubts could even emerge at later stages of the collaboration. In such incidents, relational uncertainty was caused by the violation of expectations. For example, Gwen described in our interviews changing perceptions of relational uncertainty throughout the collaboration with her teammates Garrett and George. She told me in our first interview about an initial perception of uncertainty toward Garrett and George through the lack of information, but she has been able to tolerate this uncertainty. The uncertainty appeared to be on a low level at the time of our first interview. In the second interview she confirmed that for a long time she has been confident about the team as

*“I always thought we are of one mind. Everyone on the outside had the impression everything is going well. So did I. Me and my co-founders often said that the team is the least we have to worry about when it comes to the failure of the start-up. All of us were always confident about it because we personally really got along with each other.”*

but she added *“It suddenly took a turn.”* She abruptly felt extremely uncertain toward her teammates Garrett and George again. To understand the content of the team members’ doubts and concerns toward their teammates, I provide in the following section a detailed review of the three different facets of relational uncertainty.

***Uncertainty about commitment.*** I observed that uncertainty arose when team members had doubts whether one of their teammates showed the necessary commitment toward the team or the venture. Commitment is defined as *“the relative strength of an individual’s identification with and involvement in a particular organization”* and is connected to his or her willingness to invest

effort for the goals of the organization (Mowday, Porter, & Steers, 1982, p. 27). In my study, “*the organization*” referred to the venture as well as the team. I asked the team members in our interviews independently for the commitment to the venture and the commitment to the team. The answer by team member Garrett is typical of my sample “*In the same way. It [the team] is the venture. In my opinion, we are the DNA of the venture .... We are the venture.*” Consistent with the literature (Mowday et al., 1982), my data revealed that different aspects characterized the uncertainty about the teammate’s commitment, i.e., (i) the intensity of involvement and willingness to devote a considerable amount of effort into the team and venture, (ii) believe in and embrace the goals and values of the team and venture as well as (iii) the desire to endure team membership. First, some team members raised doubts about the teammate’s initiative and drive for the venture and team. For example, an incident of uncertainty in team B was caused by teammate Ben’s working effort. The team members Bart and Ben had different educational backgrounds. While Ben used to work in a caring profession, Bart had a university degree in engineering. The divergent experiences and approaches resulted in differing understanding and expectations about the working effort. Ben was less often present at the office and did not yield the expected results. Thus, another team member Blake described the incident of uncertainty: “*Yes, yes, we had problems. It wasn’t clear for Bart what Ben was doing the whole day and then it came to a severe crisis.*” Second, some team members questioned the teammate’s alignment with the venture’s and team’s values as well as goals, e.g., Garrett doubted whether his teammate Gwen truly stands behind the venture after an important meeting:

*“Gwen has always claimed that the objectives weren’t clearly defined and she has therefore not failed to achieve the objectives of her work .... However, my gut feeling told me there is something wrong. I had the feeling she didn’t tell the truth. And for the first time, I wondered if we’ve really had the same goals and values. We’ve built the venture and the product together. I thought it has been our common desire to give our best for the venture.”*

Finally, some team members were uncertain if the teammate really intends to remain with the team and venture on the long run. For example, Elijah had doubts about his teammate Eric's continuance in the team and explained:

*“He [Eric] has the opinion that it [the venture] might not be worth the time [until the funding for the venture ends]. So, if he is like that and his commitment to the team is just not appropriate anymore, then my commitment toward him is also not appropriate anymore .... The commitment is crucial. If he doesn't show full commitment to the team, then I won't show full commitment to him or to his interests when he needs something from me.”*

***Uncertainty about abilities.*** Another facet of relational uncertainty related to team members' doubts if the teammate was a good fit in terms of (i) fulfilling the position or role in the team and venture as well as (ii) meeting the necessary requirements in terms of skills and knowledge in the field of responsibility. For example, Adam had doubts at the beginning if his teammate and best friend Anthony really possessed the qualities of a founder: *“Of course, I was concerned because Anthony brought no start-up experiences along.”* Additionally, Henri had over time increasingly questioned his teammate Hugh's competence and capabilities in his field of responsibility. In our first interview, he was repeatedly describing exemplary scenarios when—in his eyes—Hugh failed in his field of responsibility and added

*“I get doubts that it [an enduring collaboration] will work out. There are so many start-ups out there and if you [Hugh] aren't entirely motivated and you just give a shit what people think about you, then you won't have a chance in marketing [Hugh's field of responsibility].”*

***Uncertainty about norms.*** While the uncertainty about a teammate's commitment and abilities focused on this individual teammate the third facet of uncertainty existed at a different abstraction level. The perspective of the uncertain team member was broadened and focused on the relationship between the teammate and themselves. The team members raised doubts about the norms in the relationship and whether the teammate and themselves shared the same set of norms to successfully collaborate for the good of the team and the venture. Norms are defined as

legitimate, socially shared standards of accepted and expected behavior of group members (Birenbaum & Sagarin, 1976). Analogous to this definition, my data revealed that team members questioned the behavior patterns and whether the teammate had the same understanding of the standards and rules within the team as he or she had. The standards and rules embraced the (i) relationship boundaries, (ii) the communication, as well as (iii) the rules of conduct toward each other. First, team members were concerned how and where to draw boundaries between personal and professional issues. For example, Ida started a venture with her brother Isaac and told me in our interview with regret that their relationship *“has definitely changed”*. She explained that the team members took professional disputes personally and she was increasingly worried about their private relationship: *“The private relationship suffers. It’s always just about the business.”* and *“You get to hear things you don’t want to hear. At this point you need to separate personal aspects and business.”* Second, team members raised doubts on what they can say or not say to each other and also how they can express these potentially sensitive topics. For example, the team members Connor and Charlie were brothers and Charlie described how challenges have arisen in their communication between our first and second interview: *“Because we shouldn’t just pick up on certain topics and assume we understand these, although the other person meant it in a completely different way. I think this has been a tremendous problem.”* Finally, team members did not know which behavior was appropriate or inappropriate and how they could behave toward each other. For example, Dominic joined team D at a later stage. In our interview, he told me about insecurities how to behave in specific situations in the team such as decision-making processes and reasoned: *“Yes of course [I was uncertain], at the beginning when I didn’t know the others [David, Dexter, and Daniel] that well yet and of course I also didn’t know the working mode. For example, I didn’t know what makes David tick.”*

The perception of uncertainty advanced over time and the team members could only tolerate the perception for a limited period. Although the length of the period of the perception of uncertainty appeared to differ in incidents, all team members transferred from this cognitive (i.e., thinking about the uncertainty) to a behavioral (i.e., acting on the uncertainty) state at some point. I observed that the team members initially responded with mild negative emotions to the perception of relational uncertainty. It appeared as an unpleasant state for the team members and they were “*annoyed*” (Dominic), “*feeling at a disadvantage*” (Bart) or had a “*bad feeling*” (Garrett). Garrett further elaborated on the “*bad feeling*”:

*“I think I had [a bad feeling before the incident of uncertainty was voiced]. I’m not quite sure anymore but this is how I explain it to me in hindsight. But it was not so concrete yet. I don’t know much about marketing [Gwen’s field of responsibility] and I wasn’t able to evaluate it appropriately. At some retrospectives I had a feeling it appears to not go properly. But it was rather vague and I cannot really describe it. It was just a gut feeling.”*

Over the period, the perception of relational uncertainty and the negative emotions reinforced one another. The intensified presence of the perception of uncertainty and negative emotions during the collaboration served as an internal trigger to transfer from the cognitive to the behavioral state. For example, Blake described a dispute between Bart and Ben and that the incident still “*was dragged on*” for another year because it has never been appropriately resolved. The atmosphere in team B was tense during this time. Team B’s coach described that “*You could feel [the unresolved incident of uncertainty] when you entered the room. On good days everything was yeah and on bad days you just felt something was wrong.*” The incident of uncertainty was entering a downward spiral as Bart developed “*extreme expectations of Ben*” (Blake) until Bart could not tolerate the uncertainty anymore and the situation “*just exploded*” (Blake).

My data indicated that in some incidents the team members’ perception of benevolence toward the teammate could procrastinate the transfer to the behavioral state. Benevolence refers to the extent to which the teammate is liked by the team member at a personal level and believed

to strive to do good to the team and the venture (Mayer, Davis, & Schoorman, 1995). The perception of benevolence induced team members to whitewash relational uncertainty and to procrastinate to act on the uncertainty. George reflected he had *“blind trust and thought things are alright”* but *“retrospectively we should have raised awareness for our concerns much, much earlier”*. He justified the procrastination that he and his teammate Garrett *“like her [Gwen] a lot at a personal level and there are things she does very well, that might have been covered some weaknesses”*. In addition to the reinforcement of the perception of uncertainty and negative emotions as an internal factor, external factors could trigger the transfer from the cognitive to the behavioral state when perceiving benevolence. For example, Finn explained that he has *“given a hell of thoughts”* to Felix’s commitment but felt it *“difficult”* to act about the uncertainty *“because some sort of friendship has developed”*. He conjectured *“it [the uncertainty] would have never been openly discussed and toughly voiced ‘you need to fully commit now’”* until a mentor of the team finally addressed the question of the team members’ commitment. It was a fundamental discussion for Finn and he concluded *“Through the one impulse, we talked quite honestly and without falsifying anything.”*

#### **4.3. Perceived relational level toward the teammate**

When the team members transferred into the behavioral state and acted on the perception of relational uncertainty, they followed specific trajectories to manage their uncertainty. My rich data set allowed me to explore why entrepreneurial team members followed different uncertainty management trajectories. A critical antecedent that emerged from my data was the team members’ perception of the relational level toward the teammate. The relational level is a team member’s subjective perception that he or she is on par with the teammate. The perception of the

relational level involves but goes beyond the absence of the perception of status hierarchy. Status hierarchy is defined as “*patterned inequalities of respect, deference, and influence among a group of people*” (Ridgeway & Walker, 1995, p. 281) and primarily focuses on judgments of expertise and competence of individuals (Magee & Galinsky, 2008). Specifically, status hierarchy refers to perceived differences in the amount of mutual respect between team members (Magee & Galinsky, 2008). The relational level also considers judgments of the strength and quality of the team member relationship, which encompasses the comfort of expressing doubts and the feeling of finding understanding. The strength and quality of the relationship appeared to be particularly critical as questioning a teammate appeared to be a highly sensitive and negatively connoted issue for the team members. I observed that some team members had bad consciences and moral scruples about the perception of relational uncertainty toward their teammate. For example, Florian reaffirmed in our interview “*it must remain completely anonymous*” when he admitted his perception and behavior toward Frank to me. In my study, the formal instituted inequality (i.e., power hierarchy) usually differed from the informally developed relational inequality. For example, some teams agreed on an equal equity split and formally voting rights which was not necessarily reflected in the informally deployed voting rights. Similar to status hierarchy, I observed that the perception of the relational level was arbitrary conferred by others (Magee & Galinsky, 2008), i.e., the uncertain team member about the uncertainty generating teammate, and was mutable over time (Bendersky & Shah, 2012), i.e., changes occurred in response to the accumulation of experiences between the team members. For example, team D perceived relational equality in the early phase of their collaboration. Specifically, David described in our first interview that the struggle of dismissing former team member Dylan and receiving negative feedback on the product made him and the other initial team members Dexter and Daniel “*stick together like brothers*”. Dominic joined the team later and was at the beginning

of the collaboration rather on the outside. However, circumstances for the team changed when they received a start-up scholarship and started working full-time for the venture. During this time the team members appeared to experience a shift at the relational level. David acknowledged that Dominic has proven to be a competent as well as essential team member and he has developed a feeling of relational equality toward him. Dominic has even assumed the role of the CEO and main responsibility at the time of the second interviews. In contrast, Daniel showed increasingly unreliable behavior and David as well as Dexter and Dominic appeared to have developed a feeling of relational inequality toward him. David alluded to Daniel's unreliable behavior and described the situation "*I think the team members who show a greater effort [all team members except Daniel] have a greater possibility to influence it [decision-making processes].*" As a result, David followed along with Dexter and Dominic a different uncertainty management trajectory when Daniel's behavior triggered the perception of relational uncertainty another time.

My analysis revealed that the perception of the relational level behaved differently within and across the entrepreneurial teams which was manifested in two trajectories: (i) some team members did not perceive any differences toward the teammate, i.e., they perceived relational equality, and (ii) some members perceived him/herself at a different level than the teammate, i.e., they perceived relational inequality. Importantly, these differences shaped how team members behaved in response to the perception of relational uncertainty.

First, when team members perceived relational equality toward the teammates, as Anthony and Adam, Bart, temporarily Ben, Blake, and Bryan, Charlie (toward Connor), temporarily David (toward Daniel), Finn and Florian (toward Felix), temporarily Garrett and George (toward Gwen), and Hugh, they typically followed the disclosing trajectory. For example, when asked about the decision to start a venture with his best friend Adam, Anthony described:

*“You need to trust each other blindly and be willing to go through fire and water for each other—and that is true for us. ... If one of us doesn’t like something, we’re able to address the things openly and honestly as friends and take it more as advice than criticism. We appreciate each other very much and can accept criticism.”*

His teammate Adam shared similar views and explained about his initial uncertainty: *“I can talk with him [Anthony] about such doubts ... and he just understands it in the right way.”* Similarly, all members of team B and their mentor described in our interviews a balanced relational level between the team members. For example, Blake made comparisons with the relationship between family members and drew on the culture of dispute to describe the relationship between the team members:

*“You sometimes say something like ‘Hey you jerk, what do you think you are doing? Get your shit together.’ You might be pissed for a day, but you can go into to weekend without worrying about it. You come back on Monday and just say ‘I was an idiot.’ and the other says ‘It’s all right, I was an idiot, too.’”*

One exception is Ben at the beginning, when he was not yet fully involved in the new venture.

Second, some team members perceived to be at a different relational level than the teammate, i.e., the team members perceived the other teammate to be higher at the relational level (temporarily Ben, Carl, temporarily Dominic, Ethan, temporarily Florian, Frank, Gwen, and Ida) or lower on the relation level (Connor, Charlie (toward Carl), David, Dexter, and Dominic (toward Daniel), Dominic, Eric and Elijah (toward Ethan), Elijah (toward Eric), temporarily Florian (toward Frank and Felix), temporarily Garrett and George, Henri, and Isaac). When team members perceived themselves in this exposed situation at a different relational level than the uncertainty generating teammate, he or she tended to follow the concealing trajectory. For example, Isaac felt to be higher at the relational level than his sister and teammate Ida and claimed: *“I rather set the agenda and I have the feeling she does not work hard enough because Ida prefers to agree with my opinion.”* Similarly, team G’s mentor explained the relations within the team by using a metaphor of driving a car:

*“There is a driver, where I see Gwen sitting and stepping on the gas. I see Garrett sitting next to her and holding the map to set the direction and way of driving. George is sitting in the back and is also influencing the direction and way of driving with comments and actions.”*

In our second interview, Gwen also gave the impression that George was caught in the middle between Garrett and her. However, *“George developed more and more toward Garrett”*. Table 7 presents representative quotations from my data for team members’ perception of the relational level toward the teammate.

**Table 7. Representative quotations substantiating perceived relational level**

Categories and exemplary quotations substantiating perceived relational equality toward teammate	Categories and exemplary quotations substantiating perceived relational inequality toward teammate
<p><i>“We are much faster in many things [with strong prior ties between the team members] and we come to decisions quickly. You know, it’s also in discussions, for example, when we are in an important negotiation, a situation we just had a few days ago, we don’t even need to look at each other to understand what the other thinks and how he reacts.” (Adam – Interview 1)</i></p> <p><i>“All four of them [Bart, Ben, Blake, and Bryan] are definitely behind the decisions. Even when one of them is not convinced, they try to consider and include the other arguments. ... There was recently a decision [made by Blake] and the others were like ‘mmh is it really necessary, but okay as long as it doesn’t go wrong’. He could just do it without discussions. ... It went wrong but still all of them were behind it.” (mentor team B)</i></p> <p><i>“We have situations ... like ‘Yes, I will take care of it, don’t piss me off. ... Then you have to think, ‘okay, we still got four weeks’ and I will let him just do it for four weeks. It usually resolves automatically if it gets critical because the person just honestly approaches you and says ‘It gets critical, would you mind to give me a little help.’” (Blake – Interview 2)</i></p>	<p><i>“Carl is someone who swallows his anger and you can see he is offended or pissed. But he doesn’t have the strength of character to react against him [Charlie].” (Connor – Interview 2)</i></p> <p><i>“For example, Florian and I sometimes had different opinions ... and I think I sold myself short.” (Frank – Interview 2)</i></p> <p><i>“I really get the measure of him [Isaac], and thus I also know when he has his opinion then he insists on his opinion. Then, it becomes difficult to communicate or to argue against it in a good way. Well, to oppose him somehow. I am just a different kind of person and I often have a hard time prevail against him.” (Ida – Interview 1)</i></p>

#### 4.4. Uncertainty management trajectories

My analysis revealed two uncertainty management trajectories which I label disclosing trajectory and concealing trajectory. Each of the team members followed one of the trajectories when they perceived relational uncertainty.

## Disclosing trajectory

The first uncertainty management trajectory, the disclosing trajectory, is associated with those team members who attempted to manage the relational uncertainty together with the uncertainty generating teammate. When team members perceived to be at the same relational level than the teammate, they felt confident to proactively approach the teammate (Anthony and Adam, Bart, Blake, Bryan, and temporarily Ben, Charlie (toward Connor), temporarily David (toward Daniel), Finn and Florian (toward Felix), temporarily Garrett and George (toward Gwen), and Hugh).

***Proactively interacting with the teammate.*** At first, these efforts consisted of proactive interaction in their attempt to acquire information and to seek clarification about the incident of uncertainty that helped them to manage uncertainty. Some team members reported about directly interacting with the teammate in a functional manner, e.g., holding a feedback or retrospective meeting (Anthony and Adam, temporarily David (toward Daniel), Finn and Florian (toward Felix), temporarily Garrett and George (toward Gwen), and Hugh). For example, Anthony mentioned in our first interview his initial uncertainty about norms. Specifically, doubts about where to set the boundaries between the personal and professional relationship with his best friend and teammate Adam. He described:

*“We certainly analyzed the risks [of starting a venture together] and addressed [the uncertainty] whether the friendship can stand it ... whether we are able to start a venture together and what it might do to our friendship if it doesn’t work out.”*

Other team members had a direct interaction in a dysfunctional manner, i.e., the uncertainty was disclosed by starting a conflict (Bart, Blake, Bryan, and temporarily Ben as well as Charlie (toward Connor). For example, Bart experienced doubts about Ben’s commitment after some months of working together and stated: *“It [the uncertainty about his initiative for the venture]*

*definitely created tensions. Well, and then, all hell broke loose between me and him [Ben].*” Ben also experienced the first conflict as *“just yelling without any explanations”*.

The disclosing trajectory was still associated with negative emotions. Most team members on the disclosing trajectory experienced reinforcing negative emotions through the direct interaction with the teammate. Particularly, those team members whose teammate showed a lack of understanding for the incident of uncertainty reported intense negative emotions such as anger and tenseness. Garrett explained in the second interview that at first the perception of uncertainty toward Gwen *“confused”* him and then they hold a retrospective meeting to discuss the incident. The team members were not able to reach a consensus because *“Gwen just didn’t admit that there were lapses and weaknesses”*. Then they were looking at really *“ugly situations”* (Garrett) and it became very emotional during the retrospective meeting. In our interview, the team’s mentor told me about Garrett being upset with Gwen and imitated Garrett’s allegation against her in a harsh tone of voice *“Actually, you [Gwen] haven’t achieved anything at all, not even in marketing [Gwen’s field of responsibility]. The things we wanted to have, are not there, I’ll take care of them myself now.”* Similarly, Bart described in the first interview how they initially *“clashed violently”* through the proactive interaction. However, some team members whose uncertainty generating teammate responded in the direct interaction with understanding for their perception of uncertainty still experienced mild negative emotions (e.g., irritation, frustration, and worry). For example, Finn and Florian doubted Felix’s commitment. While Finn appeared to be irritated about the abeyance of Felix’s team membership in our interview, Florian appeared to be more frustrated when he repeated in our interview how he sharply responded to Felix’s hesitation *“Hey Felix, we are now going to the notary, it is not for free, you need to decide now.”* Similarly, Adam described that his doubts about starting a company with his best friend Anthony *“were*

*constantly discussed*” between them. He further admitted that he was stressed by these thoughts and *“it took a while until I made up my mind”*.

The direct interaction coupled with the negative emotions resulted in a strengthened perception of uncertainty. Beyond this strengthened perception, the teammate’s lack of understanding for the team member’s perception of uncertainty appeared to create a vicious circle of interacting and intense negative emotions, which affected the entire team. In the end, the teams’ collaboration and performance suffered from the unresolved situation. For example, Bart was initially uncertain about his teammate Ben’s commitment, which caused a conflict between the two of them. Ben, the uncertainty generating teammate, explained that after the conflict he felt spiritless in his daily work and it gave him a *“feeling of whether I am still able to work with them after all”*. Similarly, Blake, the other team member, described that the entire team *“really kind of struggled”* and team B’s coach further confirmed that

*“It made Blake sick and he said ‘We are not working on the idea, we behave worse than in kindergarten, we fight each other because one does not trust the other. That is stupid!’ Then he tried to keep out of the fight and said he will leave if they do not sort out the matter.”*

Similarly, the focus on the business and the team’s performance also appeared to have suffered in team G. My triangulation material showed that there were no social media activities (Gwen’s field of responsibility) during the time when the team managed the incident of uncertainty regarding Gwen’s abilities. However, the team has been very active on the social media platforms Facebook and Twitter before and after this time.

***Team appraisal of the incident of uncertainty.*** The unpleasant and paralyzing state on the disclosing trajectory was only temporary. The team members felt the urge to overcome the incident and/or blockade for the benefit of the venture. The proactive interaction on the disclosing trajectory resulted in a collective team appraisal of the incident of uncertainty and its influence on

the venture. The team appraisal involved the assessment of all team members (the uncertain team member, the uncertainty generating, and other team members) of the incident based on its relevance and influence on their team and venture. In doing so, the team members attempted to openly discuss the incident of uncertainty and collectively “*sought a solution*” (George) on how to go on as a team.

The teams transitioned from the proactive interaction to the team appraisal at different paces. I observed that this pace was shaped by the interplay of proactive interaction and negative emotions. An escalation of the interaction and intensive negative emotions hindered some teams in my sample to collectively appraise the incident of uncertainty and to find a permanent way to manage it. For example, in their attempt to find a solution, Team G tried “*to evaluate the underlying problem*” but “*the discussions were very emotional*” and it was “*very difficult to discuss such topics*” (George). Some teams even brought in external stakeholders when they did not make any progress regarding the appraisal and management of uncertainty. Team G was able “*to prepare the way*” but they “*made the final decision about how to go on with Gwen*” (George) in a workshop with a mentor. Similarly, a coach supporting team B witnessed the escalation of the interaction between Bart and Ben and explained in an interview:

*“Bart and Ben clashed violently with each other twice. ... It was very intense during the two times and [the team] almost broke apart. At some point they pulled themselves together and we initiated a mediation with a further external intermediary.”*

In contrast, an interaction associated with mild negative emotions and an understanding for the perception of uncertainty enabled the team members a rather fluent transition from the proactive interaction to the team appraisal and management of the uncertainty. For example, David was uncertain about Daniel’s commitment and reported in our first interview about the initiated feedback meetings that “*it was a bit harder for two hours, but afterwards the fronts were cleared again*”, and the mutual understanding for the incident of uncertainty enabled the

team to make a seamless transition within the first feedback meeting. Similarly, team F's interaction was also coupled with mild negative emotions. Finn and Florian confronted Felix in a functional manner to decide if he is still able to commit to the team and venture. It was important to them for the good of the venture *"to have clarity [about Felix' further team membership] as soon as possible"* (Finn). Florian then stated that it took three days until the team members finally discussed Felix' separation from the team.

While the teams on the disclosing trajectory had a common approach to proactively interact about the incident of uncertainty and appraise it together as a team, the way to manage the uncertainty and the uncertainty outcomes for the individual teams were different. When the teams reached the point to appraise the incident of uncertainty with all team members, the ability to find a collective agreement or not on the incident of uncertainty and the uncertainty management measures, were crucial for the uncertainty outcome and further team configuration.

***Finding a collective agreement.*** The uncertainty outcome team repair occurred when the teams were able to achieve a collective agreement on the incident of uncertainty and uncertainty management measures (Anthony and Adam, Bart, Blake, Bryan, and temporarily Ben, Charlie (toward Connor), temporarily David (toward Daniel) and Hugh). Specifically, the uncertainty generating teammate appeared to show understanding for the team members' concerns and the motivation to add clarification. The teams jointly agreed on the willingness to continue the collaboration and the adoption of specific team measures to ward off arising problems in the future, i.e., the implementation of transparent documentation, deliberate information sharing practices, as well as a focus on a more rational and professional relationship. For example, David further reflected in our first interview that the initiated feedback meeting *"already solved 80 percent of the perceived problems"* with Daniel, because it helped to become aware that Daniel just is a *"contrary character"* in comparison to the other team members and to apprehend *"the*

*difficulties and how to deal with these*". The team agreed on regular feedback meetings to cultivate a transparent feedback culture and to counteract such difficulties. Considering the consequences for the venture, he blamed Daniel that *"he is doing what he wants"* but added that *"there are good results in the end"*. Concerning the incident of uncertainty regarding Ben's commitment, Team B's external intermediary recommended *"to define the fields of responsibility within the team and to establish a feedback culture"* and Blake insisted on adopting the transparent documentation of working hours. Similarly, Adam emphasized the importance to develop a professional relationship with his co-founder Anthony after his initial uncertainty about his ability and described as an example: *"I sometimes find myself telling him, Anthony, that comment isn't meant as a friend, it is meant as a business partner: 'Anthony, you can't do it this way'."*

The team members on the disclosing trajectory who achieved this collective agreement recovered from intense or mild negative emotional states to mild positive emotional states such as forgiveness, relief, and optimism. Their emotions appeared to resolve gradually from the proactive interaction as the team members began to find a way to get along with each other again and to find a collective solution on how to eventually manage the uncertainty. For example, Blake gave insights into the team members' emotional experiences after the conflict between Bart and Ben: *"It needs time and everyone's willingness to get back [to a decent team member relationship]. You can be angry for a long time but at some point, you realize it's okay and then it gets more relaxed."* Anthony was uncertain about the boundaries of the relationship between him and his teammate as well as best friend Adam. He captured the interplay between finding an agreement as the team members *"clearly settled things [i.e., co-founder agreement] in advance"* and his positive emotional state as he further explained in an optimistic tone of voice:

*“And that’s why I can’t really imagine that there will be any problems. We made a commitment to each other, if it comes to any topics [i.e., conflict of friendship and business relationship], the friendship has priority.”*

The interplay of finding a collective agreement and the transition to more positive emotions shaped positive outcomes.

In the end, the achievement of a collective agreement led to the uncertainty outcome team repair. The team members stayed together in the initial constellation and even learned to leverage the uncertainty through the adoption of specific team measures. All team members in my sample who reached the uncertainty outcome team repair not only found a way *“to deal with [the incident of uncertainty]”* (Bryan), but also realized that *“it [the perception and management of uncertainty] was a bit of a learning process”* (Blake). Indeed, Blake described his experience as illuminating because he learned *“... what it actually means to run a business. It is not just an idea, it is more.”* Specifically, while the proactive interaction initially hindered the team collaboration and resulted in a *“deadlock”* (Bryan), the teams eventually appreciated the team appraisal as well as adopted measures and experienced improvements in their collaboration. Bryan considered the team measure (i.e., regular feedback meetings and professional documentation system) particularly beneficial because *“the coordination works better”* and *“everyone is really informed what is going on”*. My findings revealed that reaching the uncertainty outcome team repair did not necessarily result in an elimination of the uncertainty and complete certainty. Rather, it resulted in an equilibrium that enabled the team members to keep the uncertainty low and *“to make up with each other [so that] things are going better now.”* (coach team B).

***Finding no collective agreement.*** The uncertainty outcome team reconfiguration (Finn and Florian (toward Felix) as well as Garrett and George (toward Gwen)) occurred when the team members within the teams were not able to find a collective agreement and had *“varying*

*perspectives*” (George) on the incident of uncertainty and possible uncertainty management measures. For example, in team G doubts arose about Gwen’s abilities in her field of responsibility. George and Garrett persisted in their belief that the observed low performance in Gwen’s field of responsibility was her failure. George criticized in our interview Gwen’s *“abstruse arguments”* and that *“it would have been easier to just admit that some things didn’t work out as imagined”*. Garrett additionally *“... had the feeling that she didn’t act in the best interest for the venture. If she also had wanted the best for the venture, she would have more contributed to find a solution for the good of the venture.”* Gwen confirmed in our interview that she *“saw some fundamental things very differently”*. The *“hardened fronts”* (mentor team G) resulted in the separation from Gwen, and thus a reconfiguration of the team. Similarly, in team F doubts arose about Felix’s commitment to the team and the venture. Finn and Florian expected full commitment and faced Felix with the decision either to fulfill the expectations or to leave the venture. The team appraisal resulted in a disagreement on the level of commitment the team members were willing to make. Finn and Florian both reported in our second interviews that *“the bond has been lost”* (Finn) and Felix decided to leave the venture. Surprisingly, Felix did not mention in our second interview that he left the venture and still described the situation of the venture from the perspective of an active team member. My triangulation material still supported Felix’s separation from the team. I supervised student projects in cooperation with the venture during this time and the students only mentioned Finn and Florian as team members in their reports.

The team members on the disclosing trajectory expressed intense negative emotions (e.g., resentment and hurt feelings) when they were not able to achieve a collective agreement. However, while the intense negative emotions during the proactive interaction were rather *“objectively”* (mentor team G) and on a professional level related to the good of the venture, the

intense negative emotions during the team appraisal became more subjective in nature and on a personal level related to the good of the team collaboration. George explained in our second interview that Garrett was particularly hurt when the team members were not able to find an agreement with teammate Gwen. Garrett perceived her attitude as *“a betrayal of faith”* and *“then he became very, very angry”* (George). He resented Gwen for her intransigence and what he considered unreasonable and disproportionate demands after the decision separating from her (e.g., positive reference letter on her performance in her field of responsibility). Garrett also admitted that *“The moment we eventually decided on the separation was very emotional for me.”* Similarly, Finn explained that the decision for Felix’s exit *“affected Florian deeply”*. Florian was uncertain about Felix’s commitment, but he still did not expect that the team members were not able to agree on a common commitment for the team and venture. He had the feeling of being abandoned by Felix in their joined field of responsibility.

While the uncertainty outcome team repair enabled the team members to keep the uncertainty low, the uncertainty outcome team reconfiguration allowed the remaining team members to eliminate the uncertainty. As time went on, the remaining team members appeared to be relieved of the team reconfiguration after all. They reflected that it eventually gave them the freedom *“to pursue another idea”* (George) and *“to have clear roles”* (Finn). The separation from the teammate was a negative experience for the remaining team members, but at the end they assessed the team reconfiguration as a benefit for the venture. The team members even regretted that they have not earlier disclosed their uncertainty and appraised the relevance and influence of the uncertainty.

## Concealing trajectory

Team members who perceived differences at the relational level toward the uncertainty generating teammate—be it higher or lower in the perceived level—concealed their doubts from these teammates (temporarily Ben, Connor, Charlie (toward Carl), Carl, temporarily David, Dexter, and Dominic (toward Daniel), Dominic, Elijah and Eric (toward Ethan), Elijah (toward Eric), Ethan, temporarily Florian, Frank, temporarily Garrett, temporarily George, Gwen, Hugh, Isaac, and Ida).

*Passively observing the teammate.* In contrast to the disclosing trajectory, these team members chose a passive way to manage relational uncertainty and rather dealt with the uncertainty on their own or with their other team members who they perceived to be on the same relational level (details about the interim step in uncertainty management trajectories when team members perceive a mixed relational level within the team are discussed in chapter 4.6). The uncertain team members on the concealing trajectory initially engaged in passively observing to acquire more information about the uncertainty generating teammate and to seek clarification about the incident of uncertainty. Specifically, the team members described in our interviews that they were more aware of the uncertainty generating teammate's working and general behavior as well as results of his or her work. My data revealed that this behavior was particularly common when a new team member joined an existing team (e.g., Gwen, Ethan, and Dominic). The new team members did not feel like a truly integrated part of the team and perceived differences at the relational level. The unfamiliar situation gave rise to initial relational uncertainty and the uncertain team members kept a low profile. For example, new team member Gwen explained in our first interview that *"I was rather cautious because I didn't want to be too pushy and say 'yeah, we should do it this way'. And so, I stepped back a bit and didn't want to show off."* Similarly, Dominic described: *"Of course, I tried to step back at the first decision making*

*processes and waited to hear the others' opinions instead of having my own point of view. I tried to be neutral.*" However, also other early team members passively observed their teammates. Ethan joined the venture later than the team members Eric and Elijah and Eric shared his perception of uncertainty in our interview: *"Elijah and I were kind of certain, but we still had remaining doubts that it [adding Ethan to the team] just could backfire. Ethan could lose his interest or could get other offers and might just leave."* While Eric and Elijah have never approached Ethan directly about the uncertainty, the following statement by Eric captured the essence of how he demanded from Ethan to prove his commitment: *"But he worked his way up to 100 percent certainty."* The passive observation of the uncertainty generating teammate was not only existent at the beginning of the teams' collaboration but also at a later stage of the collaboration when uncertainty arose. For example, team member Charlie had doubts about Carl's commitment and acknowledged to *"talk with Connor [his brother and other team member] about it [his uncertainty] but not with Carl"* and *"to just listen carefully"* to see what the situation requires. Similarly, team member Isaac admitted that he was uncertain about his sister and teammate Ida's commitment because she *"just didn't show the willingness [to push the venture forward]"*. His uncertainty resulted in observing and tracing her work progress. In our interview, he described the following exemplary situation: *"She insisted 'I didn't find anything [on Google]' but when I googled it, I found something within two minutes"*.

The passive observation on the concealing trajectory was associated with mild negative emotions such as disappointment and irritation. For example, Isaac showed disappointment in Ida when he claimed that *"I would have preferred if she just would have admitted that she didn't have the time instead of asserting 'I searched for hours and didn't find anything'."* Elijah appeared to be rather irritated from observing his teammate Eric's doubtful commitment in specific situations when he stated:

*“Ehm, no [I’m not satisfied with team members’ commitment and efforts for the venture]. ... At the moment, I have to do a lot because the conception and the drafts have to be finished so that we can start the pilot test in February. And when I see that team members [i.e., Eric] aren’t motivated in the same way or don’t have the same amount of commitment, then it just happens automatically that I’m not satisfied.”*

Even though Carl was understanding about the special bond between his teammates Connor and Charlie who are siblings, he admitted that the perception of relational uncertainty *“takes a thick skin”*.

The team members on the concealing trajectory experienced a vicious circle of perceived affirming information from the passive observation and negative emotions which led to a strengthened perception of relational uncertainty and tighten observation measures. For example, in some cases just observing gradually shifted toward controlling the uncertainty generating teammates’ working behavior. When he reflected on how to manage his relational uncertainty, Florian described his measures: *“To be honest, I definitely kept a sharp eye on what he [Frank] was doing because I had some doubts if it was correct. And then I tried to control more what he was doing.”*

***Individual appraisal of the incident of uncertainty.*** Similar to the disclosing trajectory, the initial efforts to manage relational uncertainty on the concealing trajectory (i.e., passively observing) resulted in an appraisal of the incident of uncertainty on its relevance and influence on the venture and/or themselves. Not only the passive observation but also the appraisal involved the lone perspective and judgement of the individual team member or with their other team members who they perceived to be on the same relational level (details about the interim step in uncertainty management trajectories when team members perceive a mixed relational level within the team are discussed in chapter 4.6) on the relevance and influence of the incident of uncertainty. In contrast to the disclosing trajectory, the uncertain team members on the concealing trajectory never revealed the fundamental doubts about the teammate. Thus, I

observed that they hold their own beliefs about the incident of uncertainty and usually perceived through the passive observation to be right in their beliefs. The team members attempted to discretely assess the incident of uncertainty and how to go on with the uncertainty generating teammate. It appeared to be a decisive factor in the individual appraisal whether the uncertain team member anticipated rather neutral consequences or negative consequences of the incident of uncertainty. Importantly, the recipient of the consequences of relational uncertainty differed between uncertain team members who perceived themselves to be higher or who perceived themselves to be lower at the relational level toward the teammate. The team members in my sample who perceived themselves to be higher in the perceived level typically perceived ownership toward the venture because they often had the idea and initiated the venture. Thus, the decisive factor for these team members were the consequences of the incident of uncertainty for the venture. In contrast, the decisive factor for the team members who perceived to be lower at the relational level were the consequences of the incident of uncertainty for them personally. In other words, the team members wondered if the venture or themselves can bear the consequences of relational uncertainty. In the end, the individual appraisal either led to the uncertainty outcome team perseverance or the uncertainty outcome team reconfiguration.

Importantly, my data revealed that the uncertain team members were not entirely concealing their perception of uncertainty. Some team members argued about issues tied to work tasks but were consciously concealing the underlying relational uncertainty. It appeared that the uncertain team members found it difficult to directly approach the uncertainty generating teammate regarding the fundamental doubts about his or her commitment, abilities, or norms. For example, Isaac admitted that he rather “*criticized in a harmonious way*” instead to address his doubts directly to his sister Ida because he “*didn’t want to hurt the relationship*”. In doing so, he turned his criticism into questions such as “*Did you find it difficult? What happened?*” and at the

same time encouraged her “*I still love you and we can do this*”. When I met Gwen again for another interview for the model validation, that is, one year after her separation from the team, she reflected on her perception of relational uncertainty and reported about a breach in her relationship with Garrett what had caused her uncertainty toward him. The breach in the relationship created tensions and induced various disagreements about work tasks between the team members. She admitted that the perception of relational uncertainty was concealed under the guise of task-related disagreements (triangulation). Similarly, Henri doubted his teammate Hugh’s commitment to the venture and explained in our interview that he used a conversation with Hugh about their visions for their professional careers as a pretext to pump him for information about his commitment. Although both team members emphasized that they were able to criticize each other and to directly give positive as well as negative feedback in our first interview, some other statements in our interviews made me realize that they seemed to have conflicting opinions and impressions about each other that they have left unsaid. For example, Henri admitted in the second interview that he had “*never really directly said ‘Hey, I think you are not the hands-on type.’*” Importantly, it appeared to be in his view a necessary skill to be a successful founder. In addition, my last interview question to both team members was whether they could imagine starting a venture with their teammate again and I received contradictory answers (Henri said “*no*” and Hugh “*yes*”).

***Perceiving neutral consequences of the incident of uncertainty.*** The uncertainty outcome team perseverance (Ben, Carl, Connor, Charlie (toward Carl), Dominic, Elijah and Eric (toward Ethan), Elijah (toward Eric), Ethan, Florian (toward Frank), Frank, temporarily Garrett, temporarily George, temporarily Gwen, Henri, and Ida) occurred when the uncertain team members perceived rather neutral than negative consequences of the incident of uncertainty. For example, in our second interview after their team separation, Henri (higher perceived relational

level) regretted that he “*was probably more committed [to the venture]*” than Hugh during their collaboration and reasoned that “*Hugh might not really have the capabilities to be a founder*”. However, in our first interview, Henri explained that he was urgently in need of a team member in Hugh’s field of responsibility. He gave the impression that working with Hugh was a compromise and admitted that he “*probably could have found someone else being better equipped*” if he had time for a more intensive selection process. Interestingly, Henri explained that he did not “*devote [his] life*” to the venture because it was not a high potential idea and “*therefore it was less severe when things [i.e., results in Hugh’s field of responsibility] are not going too well*”. I asked Henri how he would have behaved if it had been a high potential idea and he affirmed that he would have behaved differently if he had perceived that Hugh’s work results would have seriously harmed the venture and explained he “*would have looked for another team member*” with more potential. Similarly, when Charlie (higher perceived relational level) expressed doubts about his teammate Carl’s commitment I asked him about another potential team member and he responded that it would not be a relevant question for him at the moment as “*things [in the venture] are going well as they are*”. In his opinion, Carl was in his technical role a “*lucky find*” and “*a fit*” (Charlie). An additional reason for anticipating the consequences of the uncertainty to be neutral might be the financial dependency on Carl. Thus, the beneficial conditions might have compensated the unpleasant conditions of the perception of relational uncertainty. Carl (lower perceived relational level) expressed concerns about the way of communication within the team. In our interview, it appeared that Carl was continuously struggling with relational uncertainty toward Charlie and Connor. I noticed that he predominantly reflected on the consequences of the uncertainty for himself instead of the venture, as he explained it rather was “*a question of attitude*” and summarized in the end “*I think I have come*

to appreciate them [Charlie and Connor] by now.” Ethan (lower perceived relational level) also deemphasized the importance and impact of the uncertainty on him personally:

*“I was not sure if it was a good fit team-wise. I mean, you never know and I hardly knew them. But at this point in time, it didn’t appear so important to me yet. There are more important things that I prioritized. In particular, if you are looking in the same direction and that is what I saw.”*

In focusing on “*more important things*,” Ethan appraised relational uncertainty as less of a threat as other environmental uncertainties he must face in a young venture.

The uncertain team members still experienced mild negative emotions (e.g., annoyance and frustration) when the incident of uncertainty was not viewed as an immediate threat to the venture or themselves. This individual appraisal, and thus tolerance toward the perception of relational uncertainty appeared to have an adapting effect on the negative emotional response of the team members on the concealing trajectory. They appeared to be permanently aware of the perception of relational uncertainty which blunt the negative emotional response. For example, Charlie explained in an annoyed tone of voice:

*“I’m not going to sit down with Carl and say ‘hey Carl, look Connor and I have built up all this for the last seven years, we are entrepreneurs to the core, and I don’t like it when you turn it into ridicule when something happens that jeopardizes our venture. ... I don’t think it’s ideal, but it’s just his way dealing with it.”*

Similarly, Henri described in our interview a solid and productive collaboration with his teammate Hugh but still appeared repeatedly frustrated by him. A comment by Henri captures this accumulated frustration “*I don’t want to say too many negative things but ...*”, before he continued to share another negative experience “*... I had to accept that he [Hugh] doesn’t want to chip away at his social image for the venture*”. The perception of neutral consequences of the incident of uncertainty coupled with bearable negative emotions motivated the uncertain team members to persevere and continue working with their uncertainty generating teammate for now.

As a result, the individual appraisal led to the uncertainty outcome team perseverance. The teams stayed together and the uncertain team members proceeded to tolerate the uncertainty. Relational uncertainty was ongoing through the course of the collaboration and the participants of my study engaged in different behaviors of tolerating uncertainty, e.g., learning, monitoring, and controlling. Some uncertain team members conceived dealing with uncertainty as “*a learning process*” (Carl) and emphasized the importance of “*the course of time*” (Dominic). In elaborating on this “*learning process*”, Carl described: “*Just as I taught myself coding, I can teach myself handling two brothers.*” Other team members showed lasting controlling behaviors. For example, Charlie reported that he was aware of Carl’s uncertain commitment and if he would anticipate negative consequences of the incident of uncertainty (in case of a reappraisal), he “*would try to take the appropriate measures for the continuance of the venture*”. Henri fundamentally doubted his teammate Hugh’s abilities which resulted in impatience toward his low task performance. To be in control of the perceived low performance, Henri described in our interview how his attempts to direct Hugh’s working style shifted from an explicit – “*at the beginning I used to tell him: ‘do it that way, do it this way, do it that way’*” – to a more implicit controlling behavior – “*It isn’t good if I exert leverage on him. Thus, I tell him let’s do that and at the next meeting I can check if it really happened.*” In addition, Henri admitted that he strongly interfered in Hugh’s field of responsibility and added “*I think he views me as controlling*”. My triangulation material supported his interferences in marketing (Hugh’s field of responsibility) as Henri, who was the CTO of the venture, appeared to represent the venture more often on public events and was remarkably engaged in social media activities. Surprisingly, Hugh appeared to perceive an equal exchange between the fields of responsibility. The uncertainty outcome team perseverance maintains the perception of relational uncertainty in an equilibrium state and allowed the team members to still work together in a productive way. As Carl summarized his

perception: *“There is always uncertainty. The uncertainty never goes away. You are always uncertain but it reduces over time.”* Interestingly, when I asked my last question whether the team members could imagine starting a new venture with their teammate again, some team members on the concealing trajectory (not the team members with initial uncertainty) negated the question (Henri) and were convinced that they *“will go separate ways”* (Charlie).

***Reappraisal of the incident of uncertainty.*** My data suggests that adopted behaviors of tolerating uncertainty could not eliminate relational uncertainty and thus the uncertainty outcome team perseverance did not necessarily last in the long term. Changed circumstances within or outside the entrepreneurial teams and ventures had the potential to disrupt the equilibrium and to stimulate a reappraisal of relational uncertainty. The team members reappraised the incident of uncertainty on its relevance and influence on the venture and/or themselves under consideration of the changed circumstances. On the one hand, the reappraisal could lead to further team perseverance (Charlie and Carl) if the team members still perceive the incident of uncertainty to have neutral consequences for the venture or themselves. For example, in our first interview, Charlie complained that he is not certain if Carl is sufficiently committed. He presumed that at some point Carl will *“abandon the ship”* and will go back to his family firm. In our second interview, Charlie reported about a hazardous situation for the venture due to payment defaults by customers and complained:

*“Carl doesn’t take it [payment defaults by customers] serious. He makes fun of it. Even though it really concerns the future of our venture. But it doesn’t affect him in the way it affects us [Connor and Carl] because of his [financially privileged] background.”*

The venture had grown in employees, and thus the responsibility for the team members, between our first and second interview. As a result, Charlie was afraid that the renewed incident of uncertainty could cause extended consequences on the employees and explained:

*“It’s not appropriate that he makes jokes about the venture’s [hazardous] situation and also makes these in front of our employees. These topics also affect our employees. Our employees also don’t just escape from their responsibilities and say ‘I don’t care, this is the guy’s venture’.”*

However, Charlie intended to continue working with Carl and explained:

*“Currently, I don’t really think about the question [if Carl is the ideal fit] because we are in a good position now. ... I think the team is really good. I think the team is very heterogenous and we ideally complement each other.”*

As a result of the perception of relational uncertainty, the brothers continued to discuss conflicts and challenges of the venture between each other and consciously excluded Carl from it. On the other hand, the uncertain team members’ reappraisal of the incident of uncertainty could entail the perception of negative consequences for the venture or themselves under the changed circumstances and result in a team reconfiguration (Elijah (toward Eric) and Henri). In our first interview Elijah perceived uncertainty about Eric’s commitment. Elijah appeared to follow the concealing trajectory, but he did not address the adoption of specific behaviors of tolerating uncertainty in our interview. However, when I questioned the scenario of a team member leaving the venture, he explained that he has not given it a thought but already revealed that *“it probably wouldn’t be unreasonable”*. In our second interview Elijah told me that Eric had left the venture. Eric decided to go abroad but suggested to still work half time for the venture. The changed circumstances appeared to cause Eric’s reappraisal of the incident of uncertainty and its relevance and influence on the venture. Elijah reported from the decision to separate from teammate Eric as it would not be for the good of the team and venture when Eric works from abroad and Elijah reasoned *“It’s a matter of sink or swim.”*

***Perceiving negative consequences of the incident of uncertainty.*** Like the team members on the disclosing trajectory, team members following the concealing trajectory could also directly reach the uncertainty outcome team reconfiguration. The uncertainty outcome team

reconfiguration (temporarily Gwen and Isaac as well as Elijah (toward Eric) and Henri after reappraisal) occurred when the uncertain team members perceived rather negative consequences of the uncertainty for the venture or themselves. In contrast to the team members on the disclosing trajectory, the uncertain team members on the concealing trajectory appraised the team reconfiguration in absence of the uncertainty generating teammate. For example, Isaac was uncertain about Ida's commitment and realized at some point that her commitment was not enough and that she no longer contributed to the good of the venture. He explained that *"I already knew in advance that she [Ida] won't finish [the assigned tasks] and it certainly caused problems."* Isaac's first efforts on the concealing trajectory involved to consciously *"discharge her from things [work tasks]"* which he knew she would not like. In doing so, he thought they could *"manage that she is only focusing on the things she likes and she is good at, so that she would have a greater commitment"*. I conducted my first interview with Ida two months after the interview with Isaac and she already confirmed that the venture was placed on hold. Isaac explained in our second interview that the *"reliability and collaboration"* with his sister Ida was the main reason for the end of the venture and he *"just didn't see any possibility to manage it [the incident of uncertainty] in a way to become successful."*

The team members appeared to recover from the mild negative emotions experienced during the passive observation of the teammate and the perception of negative consequences of the incident of uncertainty elicited more positive emotional states (e.g., serenity and relief). That is because they saw the teammate as a burden for the venture and themselves which appeared to prepare them for the individual appraisal of the incident of uncertainty. The team members experienced a degree of relief when they subsequently take the separation from the teammate into consideration. The perception of negative consequences associated with mild positive emotions motivated the separation from the teammate and reaching the uncertainty outcome team

reconfiguration. For example, Henri described in our second interview that the end of the collaboration became conceivable. The decreasing pressure on the team members had a positive influence on their relationship and Henri “*reduced the controlling behavior*” toward Hugh. He appeared to be relieved and assured the end “*was quite okay*” and the relationship got “*relaxed*” after the end of the collaboration. He has always been aware that he would end the collaboration with Hugh when the venture would struggle. Isaac also explained the separation was “*harmonious*” because he slightly detached from the venture over two or three months as his focus already shifted on another task in his life. Still, he appeared in general disappointed and found it difficult to end the collaboration with his sister. He explained that he cautiously approached his sister about the separation: “*Hey, we need to talk. ... I think it [the continuance of the collaboration] is too difficult because of this and that reason.*” and preferred to suggest “*Let’s put it on hold.*” but eventually “*It stayed on hold.*” David appeared emotional detached and serene regarding the separation from Daniel when he explained “*Our [David, Dexter, and Dominic’s] level of acceptance has just decreased ... We quickly had the clear opinion that it doesn’t work anymore [with Daniel] ... and quickly confronted Daniel with it [the decision to dismiss him].*” Gwen is an exception because even though the separation from her team “*was not such a surprise*” for her, she was still involved in the team appraisal (disclosing trajectory) with Garrett and George regarding their uncertainty about her abilities which still elicited negative emotions.

In the end, the uncertainty outcome team reconfiguration resulted in the separation from the uncertainty generating teammate which implied for two teams (team H and I) the end of the venture. I still categorized the separation as team reconfiguration because for example, Henri already worked parallel on a new venture at this time but “*has never intended*” to involve Hugh in it. While the team members who reached the uncertainty outcome team perseverance tolerated

the perception of relational uncertainty, the uncertainty outcome team reconfiguration allowed the remaining team members to eliminate relational uncertainty. Table 8 encompasses representative quotations for the disclosing and concealing trajectory as well as table 9 the uncertainty outcomes.

**Table 8. Representative quotations substantiating the disclosing and concealing trajectory**

Categories and exemplary quotations substantiating disclosing trajectory	Categories and exemplary quotations substantiating concealing trajectory
<p><b>Proactively interacting with the teammate</b></p> <p><i>“At first, Blake was completely not in mood for Bart. Ben and I also didn’t understand why Bart acted this way. We also weren’t sure if it really still works in the future, but we quickly agreed that it’s just somehow a different perspective and we have to respect that. We will see and learn how to deal with it. However, it was particularly difficult for Blake and he showed it quite openly, he was really stroppy with Bart. It was partly mean and he needlessly took it out on him.”</i> (Bryan – Interview 2)</p> <p><i>“We [Connor and Charlie] had a lot of conflicts, also at the office. We always communicated but it was actually always a struggle, the communication was always a fight.”</i> (Charlie – Interview 2)</p> <p><i>“We generally were very open in the team. So, we had a retrospective meeting to check all fields of responsibilities in the team—what went well, what went bad over the course of 12 months. We uncovered some things.”</i> (George – Interview 2)</p> <p><i>“We talk about such things [uncertainty about the way of communicating with each other] in an extremely open way.”</i> (Hugh – Interview 1)</p>	<p><b>Passively observing the teammate</b></p> <p><i>“Indeed, [at the beginning] I backed off a bit. I was often not here because of my part-time job. And so, to avoid dispute I was usually the one who said ‘Ok, I’ll go with your decision.’ ... I agreed with the common opinion. ... It [the way of working] was like everyone is just doing their thing and we will see in the presentations if it’s also fine for the others [Blake and Bart]. At least, that’s how it was for me. I preferred to work on my own and tried to do it as perfect as possible. Then I tried to find out through the feedback after the presentations whether it was good or not.”</i> (Ben – Interview 1)</p> <p><i>“Um, I sometimes try to, to, to touch the topic [about self-doubts and what the team members think about it] and then wait and see what the others say about it. Rather carefully. Um, I try to do this sometimes to feel a bit more secure.”</i> (Frank – Interview 1)</p> <p><i>“They told me it would be my field of responsibility but then they continuously interfered in my work and it took a downward spiral. ... They more and more controlled me or wanted to control me. ... I realized soon that we had a different way of thinking and it wouldn’t make sense to try to please them. We had to find another way.”</i> (Gwen – Interview 2)</p>
<p><b>Mild or intense negative emotions</b></p> <p><i>“Because we carried these problems into our private lives. That was simply no longer acceptable. ... It was really stressful.”</i> (Charlie – Interview 2)</p>	<p><b>Mild negative emotions</b></p> <p><i>“It partly really bothered me. ... I didn’t like such a co-founder relationship and didn’t find it ideal.”</i> (Gwen – Interview 2)</p>

<b>Team appraisal: Finding collective agreement</b>	<b>Individual appraisal: Perceiving neutral consequences</b>
<p><i>"We definitely thought about it [the future of the team member relationship]. It had the effect that Blake just said he doesn't want to continue working with Bart. ... But then we told him if you think rationally about it, we couldn't continue without him. The relationship definitely suffered but I'm still fully convinced. That is, what I also told Bart. He also thought about leaving but I told him that I can't imagine it [the venture] would work without him, as much as I can't imagine it would work without Blake or Ben."</i> (Bryan – Interview 2)</p> <p><i>"It was really a difficult time because there were always conflicts between him and I. We now have a coach and already had three or four sessions. Well, it's just, our, our social environment, especially our family and also our friends have said this can't go on like this. ... And that's the reason we agreed on this and it's really good."</i> (Charlie – Interview 2)</p> <p><i>"We early agreed on the fact that we are two stubborn guys and we do argue, we argue a lot, but objectively. ... We also meet and have some sort of retrospective meetings where we don't talk about to-do's but rather just about us. How things have been going so far and how we're getting along with each other and what annoys us about each other."</i> (Hugh – Interview 1)</p>	<p><i>"It is my first start-up and I cannot ... really say that the team is bullshit because maybe the team is always bullshit. I don't know. I'm satisfied with the work and it is good at an interpersonal level, and you just have to get used to conflicts, the ones you probably have everywhere."</i> (Elijah – Interview 1)</p> <p><i>"For me it was like, if I have a positive gut feeling, the competences are a fit, certainly it is crucial that the person [Gwen] is able to fulfill the expectations, and she complements the team, which is given, then you just should not ask too many further questions and think about what if..."</i> (George – Interview 1)</p> <p><i>"It wouldn't have felt natural to me if I had completely participated in every decision at the beginning. I think I just didn't want to presume it [to participate in decisions] yet. It didn't feel right for me. So, I tried to leave as many decisions as possible to them at the beginning. It just has been easier sometimes."</i> (Gwen – Interview 1)</p>
<b>Mild positive emotions</b>	<b>Mild negative emotions</b>
<p><i>"In the past, it felt even exhausting [Daniel's lack of commitment], but the feeling quickly neutralized through the feedback meetings."</i> (David – Interview 1)</p>	<p><i>"I had to deal with it that I just can't be part of every conversation because they are in constant exchange and mostly about the business. ... I learned to deal with it."</i> (Carl – Interview 1)</p>
<b>Team appraisal: Finding no collective agreement</b>	<b>Individual appraisal: Perceiving negative consequences</b>
<p><i>"There were great differences in the way of seeing it. ... In my opinion, there were some things you just couldn't query. There were just some facts."</i> (George – Interview 2)</p> <p><i>"And then there was this pressure because we had to fix the shares. We said to Felix 'Hey, we fix the shares now. That's why we go to the notary and then it's fixed. So, if you have second guesses, tell us now.' And then it came to, we then had, well, he then thought about it for a long time. Like three days. And then he informed us about his decision [to leave the venture because he could not make the necessary commitment]."</i> (Florian – Interview 2)</p> <p><i>"We [Florian and Finn] said 'Hey Felix, you really need to commit now because we're going to the notary. And if it's somehow the case that you also want to leave like Frank, then you'd better say so now. Otherwise, we'll have to go to the notary again.' I think we canceled the appointment because we realized ok, he still needs time or something and then he said ok, he also leaves."</i> (Finn – Interview 2)</p>	<p><i>"It became obvious that Daniel didn't have the time and motivation to do something [work part-time for the venture] any longer. That's why we rather consensually said that only the three of us will continue [David, Dominic, and Dexter]."</i> (Dexter – Interview 1)</p> <p><i>"The more we discussed, the more I realized what this conflict means. I got the feeling it would be the best for them and for me to leave [the team]. So I was not totally shocked when they ... told me that one option would be for the two of them to continue together. I just responded that it already would hang in the air and be obvious."</i> (Gwen – Interview 2)</p> <p><i>"No, but I've actually never thought that [to pivot and continue working with Hugh if this idea fails] either. I always thought, when I start a new project, I need someone who – just someone else. I need someone who does things differently and somehow bolder. I don't know. Just someone who has the skills which I missed."</i> (Henri – Interview 2)</p> <p><i>"He proposed me the decision [to leave the venture]. But if he wouldn't had come to me, I would have then actually, well, if someone says he goes abroad, and yes opportunity costs, super wishy-washy arguments, then I actually don't want to convince anyone anymore. Because then he, then he is no longer, or if he is no longer convinced then he is no longer working properly on it. I have already noticed in the last few weeks or maybe even a bit longer and I can't use someone like that."</i> (Elijah – Interview 2)</p>

<b>Intense negative emotions</b>	<b>Mild positive emotions</b>
<i>“At the beginning, it [Felix’s decision to separate from the team] was a moment of shock.”</i> (Florian – Interview 2)	<i>“Personally, I didn’t find it [decision to separate from Daniel] particularly emotional because it was more of a professional decision.”</i> (Dexter – Interview 1)

**Table 9. Representative quotations substantiating the uncertainty outcomes**

<b>Categories and exemplary quotations substantiating uncertainty outcome</b>		
<b>Team repair</b>	<b>Team reconfiguration</b>	<b>Team perseverance</b>
<p><i>“We implemented a tracking system of the working hours and we agreed that we start at 9 am and leave at 4 pm.”</i> (Bart – Interview 1)</p> <p><i>“Then we implemented these weekly meetings and it is actually okay ever since. You know what everyone is doing and you are able to talk about it, if it is good or if it is bad or if there is something more important and it enhances transparency.”</i> (Blake – Interview 2)</p> <p><i>“It’s [coaching sessions] really helpful. We exchange views and we learn things about each other which we would never have exchanged in such a personal way. We learn from each other. We learn to understand each other. We learn how communication works best between us, how the other understands it, and how to improve it. We are more conscious of each other’s strengths and weaknesses, and we learned how to deal with these. We realized how he complements me in some fields and how I might be supportive in other fields to him. It’s very good.”</i> (Charlie – Interview 2)</p>	<p><i>“It again came to the situation that we had to tell one of our co-founders that we have no desire to work with him anymore and he wasn’t prepared for that.”</i> (David – Interview 2)</p> <p><i>“I personally prefer to engage with Frank as a friend than as a colleague ... I wouldn’t found a venture with him again”</i> (Florian – Interview 2)</p> <p><i>“The relationship really got worse as soon as the decision was made that I will leave [the team]. We actually finally agreed on the separation. However, I still fought that I could stay and that we try to ... But then it really started when I tried not to look stupid when it came to the compensation payment.”</i> (Gwen – Interview 2)</p>	<p><i>“It [the initial uncertainty] changed in the course of time. ... There was not this key moment. But still, when our first application for funding was declined and we still decided to further try it, ... it was some kind of commitment from everyone to see a serious chance to make it big.”</i> (Dominic – Interview 1)</p> <p><i>“I think the step toward ... the new idea was a big one [to manage the uncertainty], when the three of us came up with the idea. ... I strongly contributed ... and clearly voiced my opinion.”</i> (Gwen – Interview 1)</p> <p><i>“What I found particularly interesting is that when you add someone [Carl] to your team who is responsible for the technical topics, it’s difficult to assess how good someone really is. If you don’t have a background in this field yourself, then you don’t have a basis for an assessment, and that’s why this was primarily based on trust, so that we could say that we believe what you say you can do.”</i> (Connor – Interview 1)</p>

#### **4.5. Uncertainty outcomes and perceived entrepreneurial team member relationship**

In this section I connect the first part with the second part of the model of my dissertation. My findings allow the inference from the uncertainty outcome on the readjustment of the perceived entrepreneurial team member relationship.

##### **Team repair**

My analysis shows that among the three uncertainty outcomes team repair is of the greatest theoretical and practical interest. These team members were able to reduce the negative emotions associated with relational uncertainty, stay together as a team, and apply behaviors to even leverage the uncertainty. These behaviors to leverage relational uncertainty involved the adoption of transparent documentation as well as deliberate information sharing practices, and a focus on a more rational and professional relationship. The team members reported that the uncertainty outcome team repair resulted in a consciously more balanced proportion of the friendship and instrumental dimensions of their relationship. Most of those team members previously focused on the friendship dimension. For example, the team members Anthony and Adam were best friends since they were little. Anthony referred to the saying “*never mix business with pleasure*” and explained that the team members reached the agreement to separate business and friendship and to professionalize the team for the good of the venture. The perceived entrepreneurial team member relationship readjusted from a focus on the friendship dimension to a balance between the friendship and instrumental dimensions of their relationship. Adam admitted that the readjustment also includes that “*We argue more often. Previously we didn’t have reasons to argue. As friends we just did cool stuff together.*” Similarly, the members

of team B told me in our first interview about Bart's doubts about Ben's working behavior and the subsequently adoption of a deliberate and transparent communication as well as documentation within the team. Bart drew the lesson from the incident of uncertainty that *"it doesn't have to be perfect on a personal level"* and emphasized the distinction between the friendship and instrumental relationship. At the end, he better understood Ben's pattern of behavior and appeared to readjust his expectations on the instrumental dimension of perceived team member relationship. In our second interview, Ben analogously reflected upon how the previous incident of uncertainty *"resulted in an increased commitment toward some people [i.e., Bart]"*. All team members mentioned in our second interviews that Ben still has a different working style, but the perception of relational uncertainty was managed and even leveraged as following the disclosing trajectory and reaching the uncertainty outcome team repair created awareness and understanding for his working style. However, I observed that team repair as an uncertainty outcome does not necessarily prevent the entrepreneurial teams from further incidents of relational uncertainty. Further incidents of relational uncertainty could occur when team members neglected the behaviors to leverage uncertainty, i.e., through stress and lack of time, awareness, or discipline. In our second interviews, the team members told me about another incident of uncertainty that Blake experienced toward Bart where I observed them following the same uncertainty management trajectory. The team neglected the adopted behaviors to leverage uncertainty as Blake explained:

*"Everyone was just doing their own thing and was thinking the others were informed, but it wasn't the case. And just then we realized. I mean no one ever withheld something, but the understanding was probably not there."*

Hence, as the perception of the relational level has not changed over time the team members followed the disclosing trajectory again. The perceived relational uncertainty turned into a conflict between Blake and Bart. Blake described: *"We partly didn't speak to each other for two*

*weeks. It came to a deadlock. ... He [the mentor] did sort things out for us, otherwise we would not exist anymore. He coordinated the necessary steps with the investor.*” The mentor helped the team to re-establish deliberate information sharing processes and regular meetings. Blake felt the behaviors to leverage uncertainty were important to provide openness and transparency, but it still had taken time to get back to the old team structure. The focus of the entrepreneurial team member relationship shifted to a mere instrumental relationship but slowly leveled out at the previous balance between friendship and instrumental relationship over time – *“you come to the terms with the situation and just move on”* (Blake). The team members continued working together and represented themselves as a team of four team members even when Bart resigned as a shareholder of the venture 18 month after the second interviews (triangulation).

### **Team perseverance**

The team members with the uncertainty outcome team perseverance maintained mild negative emotions associated with the uncertainty, stayed together as a team, and applied behaviors to tolerate the uncertainty such as learning, monitoring, and controlling. The team members described that the uncertainty outcome team perseverance resulted in a focus on the instrumental dimension of the perceived entrepreneurial team member relationship. Most of those team members already focused on an instrumental relationship but consciously moved further away from a friendship relationship. For example, Charlie described that his relationship with Carl *“has never been close and is still not close ... we will never be best friends”*. When I brought up the question about possible improvements within the team in my first interview with Carl, he wished *“to work on the relationship and to also meet off-site”* in order *“to brush up on the relationship”* and to speak about topics beyond the venture. Carl feared the *“ease”* might get lost. However, in our second interview, it appeared that the relationship between Carl and his

teammates Connor and Carl became even more professional. He explained that the brothers Connor and Charlie still spent time outside of the office, but he rarely spent time with them outside of the venture and now even less than before. Similarly, Henri continuously doubted Hugh's abilities, and thus criticized and controlled his deliverables. He seemed to consider the behaviors to tolerate uncertainty (i.e., controlling) to be necessary in their particular entrepreneurial team member relationship and persisted to purposely maintain an instrumental relationship with his teammate Hugh (*"the venture requires objectivity and if you are friends, you aren't able to address criticism to each other"* Hugh). Controversially, he mentioned that he has another venture with close friends and reported enthusiastically about the team members' skills and motivation where the deliverables are not required to be *"reviewed and edited"*. In our second interview, that is, after the reappraisal and team reconfiguration, both team members explained that they always have focused on an instrumental relationship and they still rarely had contact after the end of the venture.

### **Team reconfiguration**

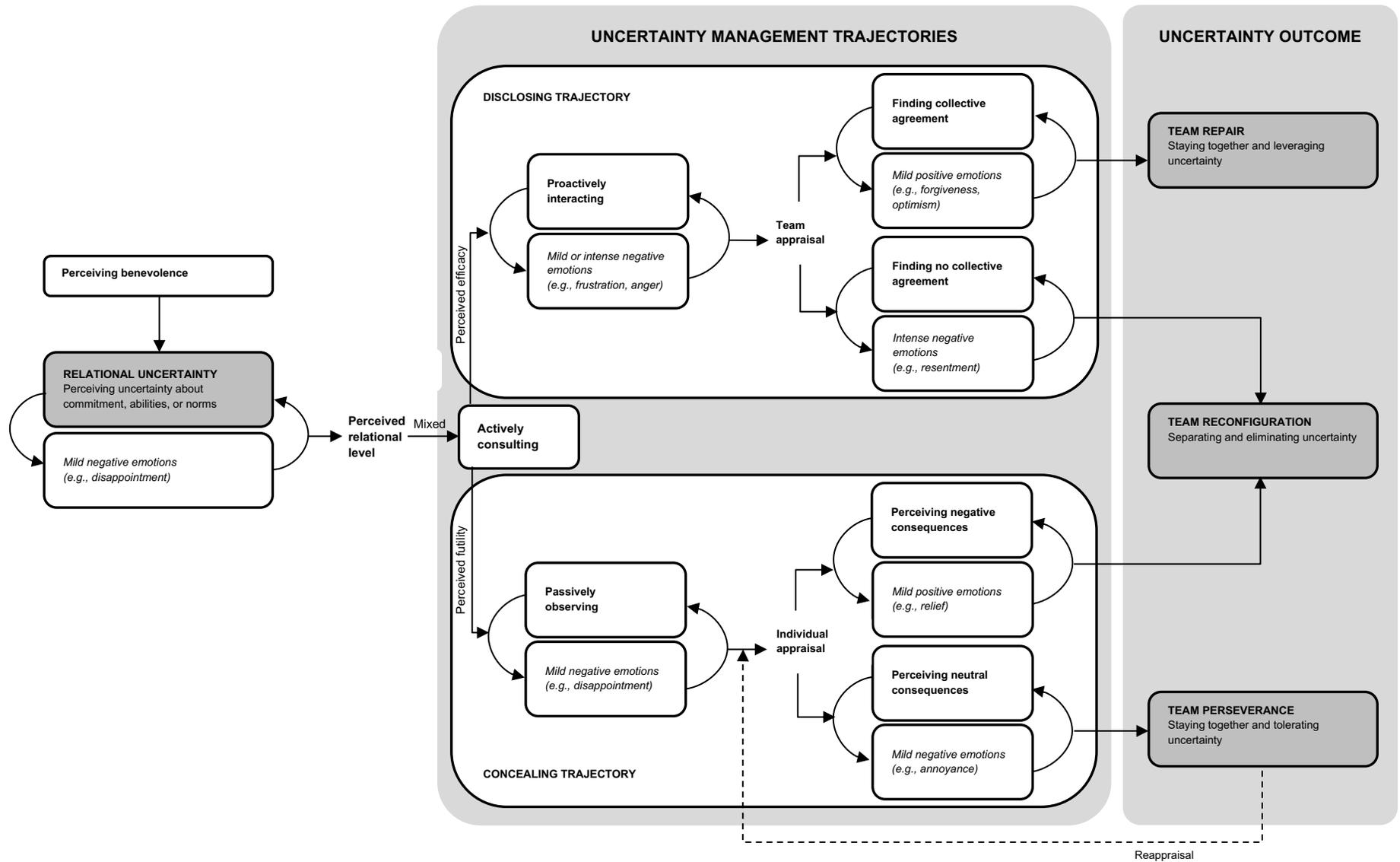
My findings reveal that the uncertainty outcome team reconfiguration on the one hand intensified the negative emotions associated with uncertainty on the disclosing trajectory and on the other hand even elicited mild positive emotions on the concealing trajectory. In the end, the uncertain team members separated from the uncertainty generating teammates, and thus could eliminate the uncertainty. While team reconfiguration implied the dissolution of the entrepreneurial team member relationship, I observed that this uncertainty outcome did not necessarily prevent the remaining team members from another incident of relational uncertainty within the entrepreneurial team. Teams D and G previously experienced an incident of uncertainty with the uncertainty outcome team reconfiguration (these incidents refer to previous

team constellations, and thus were not included in the analysis of my study). Team members from both teams reflected on the previous incidents and supposed they had drawn lessons from the incidents. For example, David reflected: *“It’s [the incident of uncertainty with Daniel] what we never wanted to have. We had to get rid of one of the founders two years ago and we subsequently established regular feedback meetings with the intention to at least not get caught red-handed in such a situation anymore.”*

#### **4.6. Interim step in uncertainty management trajectories**

My findings reveal that before following one of the trajectories some team members took an interim step. Figure 7 illustrates the adapted theoretical model of the management of relational uncertainty within entrepreneurial teams. Some teams with more than two team members had a more complex perspective on the relational level within the entrepreneurial team. Those perceived themselves at the same level with (an)other team member(s), but not with the uncertainty generating teammate, i.e., they perceived a mixed relational level within the team (Connor and Charlie, temporarily David, Dexter, and Dominic, Elijah and Eric, temporarily Finn and Florian as well as Garrett and George). The perception of relational uncertainty initially led the uncertain team members to partly disclose their uncertainty to other team members. They actively approached a part of the team who they felt secure to approach and hoped for confirmation, but not the uncertainty generating teammate. I observed that in the case of relational uncertainty, the consolidation of team members who felt at the same relational level was substantiated by those team members by using “we” statements in our interviews to explain their behavior toward the uncertainty generating team member. For example, while Carl perceived both of his teammates to be at a higher relational level, Charlie perceived his brother

Figure 7. Adapted theoretical model of the management of relational uncertainty



Connor to be at the same and Carl at a lower level and claimed: *“For historic reasons, Connor and I still kind of consider it as our start-up even though Carl is also a co-founder.”* Similarly, Finn explained that Felix went between our first and second round of interviews for a semester abroad and continued to work remotely for the venture. The perceived entrepreneurial team member relationship between Finn and Florian became closer through the collaboration but at the same time *“it developed to some sort of employment relationship”* with Felix. The uncertain team members Finn and Florian appeared to feel the urge to share their individual perceptions of relational uncertainty and consulted with each as they perceived to be at the same relational level. When those uncertain team members perceived relational uncertainty toward the teammate, they appeared to seek for approval or disapproval of their perception from their other team member(s). Importantly, most of the uncertain team members individually developed the perception of relational uncertainty toward one teammate, but then commonly agreed on the perception when consulting with the team member(s) not generating uncertainty and who were at the same relational level. For example, Garrett described *“George and I independently realized that the defined goals [in Gwen’s field of responsibility] haven’t been reached.”* and similarly George described *“Gwen was mainly responsible for these topics [in Gwen’s field of responsibility] and Garrett and I weren’t satisfied with the results.”* Subsequently, the team members followed together either the disclosing trajectory or concealing trajectory to manage the perceived relational uncertainty. The team members consulted on the incident of uncertainty and followed the disclosing trajectory when they perceived efficacy of proactively interacting with the uncertainty generating teammate. They had the feeling there would be positive repercussions and they could resolve the incident of uncertainty with this teammate (Finn and Florian (toward Felix) as well as Garrett and George). For example, George revealed that he took with Garrett the interim step and consulted with him about their teammate Gwen. Then they proactively interacted

with Gwen and had a team appraisal as he explained: *“We discussed it [the uncertainty about Gwen’s abilities] a lot in the team and tried to find a solution to continue working together.”* The end of following statement demonstrated the previous consultation with Garrett by the use of *“we”*: *“It definitely was not right away that we said ‘Oh my god, Gwen has to leave.’”* In the end, team F and G reached the uncertainty outcome team reconfiguration.

Other team members consulted with their team member(s) at the same perceived relational level on the incident of uncertainty and followed the concealing trajectory when they perceived all potential discussion efforts futile. They had the feeling there would be negative repercussions and interacting with the uncertainty generating teammate would not make a difference (Connor and Charlie, David, Dexter, and Dominic as well as Elijah and Eric). For example, Charlie explained:

*“I talk with him [Connor] about it [the uncertainty about Carl’s commitment to the venture] but not with Carl. I’m aware of it and it’s okay. I don’t address it, because I don’t have to tell him: ‘Hey, Carl, what’s now going on [with your future in the venture]?’”*

The uncertain team members appeared to individually observe the teammate before they had a subteam appraisal of the incident of uncertainty. The subteam appraisal involved the lone judgment of the team members’ at the same perceived relational level about the meaning of the incident of uncertainty based on its relevance and influence on their ventures and themselves. For example, David described that the uncertain team members took the interim step and consulted with each other about their uncertainty toward Daniel:

*“We [David, Dexter, and Dominic] sat together around the table and ... tested the waters to see whether we all have the same opinion. Then we all agreed that something wasn’t going well.”*

However, the extent of the perception of relational uncertainty partly varied and the consultation rather fueled negative perceptions. David further explained, *“It was clear to me that something*

*was wrong, but I haven't realized yet that we are now at the point to take the though step [to separate from Daniel]*". The "remainders" (David) who stayed in the team eventually decided in a subteam appraisal for the uncertainty outcome team reconfiguration.

When the uncertain team members reached the uncertainty outcome team perseverance (Connor and Charlie as well as Elijah and Eric) and stayed together, I observed that the continuous agreement on the uncertainty toward the teammate could fuel intragroup disparities and create faultlines within the teams. Lau and Murnighan (1998) defined faultlines as dividing lines that separate members of a group based on at least one attribute (e.g., educational background). The agreement created a feeling of being backed by the other team member(s). For example, the team members Elijah and Eric started the venture together and later took on board Ethan as a third team member. Eric perceived uncertainty during the initial collaboration and revealed in our interview:

*"We were in this situation that it was only the two of us [Eric and Elijah] and we've already worked on the idea. The third [Ethan] joined us later and then we certainly were skeptical at the beginning. He wasn't so much into the topic and we both didn't know him before. It wasn't like he had been from our circle of friends. Therefore, we thought long and hard about it [whether or not working with Ethan]."*

When Eric described the incident of uncertainty and its consequences, he continuously put the emphasis on "we" and signaled the cohesion and consultation with his teammate Elijah. Similarly, team member Ethan described initial challenges that reinforced the presence of faultlines at the time: *"Well, at the beginning I was a little bit—I had to prove myself a little bit."* I learned that the emergence of faultlines was intensified when the other team members showed understanding and even endorsed their perspective, e.g., Elijah acknowledged Eric's doubts as *"legitimate argument"*. Team C developed particularly strong faultlines. In our first interviews, I already recognized the faultlines within the team—on the one hand the brothers Connor and Charlie as well as on the other hand Carl—and I observed in our second interviews that the team

members rather fell into a state of coexistence. The team members had their weekly feedback meetings where they discussed professional topics but never relational topics. In our second interview, Charlie explained: *“It’s difficult in the constellation of three founders. It already happened that Connor and I hold the same opinion and then it wasn’t that easy for Carl when two brothers join forces and tell him ‘listen, we want you to change that’”*. In the end, the relationship appeared to develop in a way where the brothers Charlie and Connor usually agreed on an opinion and one of the brothers approached Carl afterwards. Table 10 illustrates representative quotations substantiating the interim step.

**Table 10. Representative quotations substantiating the interim step**

Representative quotations substantiating mixed perceived relational level
<p><i>“We have our weekly founder meetings ... but there we rarely focus on emotions and feelings. We rather address these occasionally bilateral. This means, while Carl approaches me regarding Charlie’s condition and that we should make sure that he can keep up the pace until his vacation, at the same time, I certainly have constant exchange with my brother [and team member Charlie] how he is doing.”</i> (Connor – Interview 2)</p> <p><i>“Of course, when you find yourself [Gwen] in a situation where two people [Garrett and George] say ‘yes, we are not satisfied with your work or your results’, then you go into defense mode. That’s why it wasn’t an ideal situation to argue objectively.”</i> (George – Interview 2)</p> <p><i>“Finn and I, we talk about it [the venture] every day and think it through. And when you are, well, we [Finn and Florian with Felix] only skyped once a week and then it’s hard to understand [for Felix] why we had those thought processes and how it came the way it is.”</i> (Florian – Interview 2)</p> <p><i>“We [Florian and Finn] tried to tell him [Felix] the important things. It’s not that we would have hidden anything. But it just, we just didn’t tell him everything in full detail because that just didn’t work timewise. Well, we have tried to tell him everything which is important for him to understand what we’re doing next. And then, we have rather assigned him to tasks. So, the relationship has definitely changed.”</i> (Finn – Interview 2)</p>
Representative quotations substantiating actively consulting
<p><i>“Of course, we [Connor and Charlie] discussed the question if working with Carl would work out.”</i> (Connor – Interview 1)</p> <p><i>“Well, I would say there were problems [doubts about Daniel’s commitment], it was kind of obvious. So, you don’t have to sort it out with yourself. It was already so obvious between the three of us [Dominic, David, and Dexter] that there was a problem. The consequence of this was, I don’t know if it was Dominic or David, but he said he won’t continue in this constellation. If so, something has to change that everyone contributes in the same way.”</i> (Dexter – Interview 1)</p> <p><i>“So, indeed, Finn and I already discussed it [Felix rather working in academia] before he [Felix] voiced it. We thought it seems to suit him [Felix] and he would have fun going there [for a semester abroad]. We already had the feeling he might say he just prefers to do it [working in academia]. And at some point, we had the conversation and he confirmed that he would like to pursue it [academic career].”</i> (Florian – Interview 2)</p>

#### **4.7. Alternative explanations**

Qualitative researchers are urged to identify the appropriate relationships and mechanisms to build trustworthiness of their findings (Lincoln & Guba, 1985). I considered alternative explanations for the perception and management of relational uncertainty throughout my analysis and introduce the possibility of alternative explanation in the following section. First, I address the interchangeability of the phenomenon of relational uncertainty through the related constructs role ambiguity, trust and psychological safety. Second, since the role that individuals' traits play in predicting voice, I also rule out the consequences of the personality of the team members on disclosing or concealing the perception of relational uncertainty.

##### **Role ambiguity, trust, and psychological safety**

The literature on entrepreneurial teams has discussed the role of related constructs to the phenomena of uncertainty, such as role ambiguity (Blatt, 2009; Sine et al., 2006), trust (Blatt, 2009; Breugst et al., 2015; Talaulicar, Grundei, & Werder, 2005), and psychological safety (Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012). These concepts share some content with relational uncertainty because they all describe a psychological state involving perceptions of risk and vulnerability and having consequences on entrepreneurial team and venture outcomes. However, there are important conceptual distinctions among these constructs.

Role ambiguity provides individuals *“a lack of clarity and predictability of the outcomes of one’s behavior”* (House & Rizzo, 1972, p. 474) and *“creates confusion over responsibilities, priorities, and proper behavior”* (Blatt, 2009) in an organizational environment. In other words, role ambiguity provides a lack of understanding who is supposed to do what. While the construct relational uncertainty is grounded in perceptions toward an individual teammate the construct

role ambiguity results from a lack of organizational structure (Blatt, 2009; Sine et al., 2006) and does not involve the critical component of interpersonal experiences. However, trust and psychological safety include interpersonal experiences, and thus are closer related to the construct relational uncertainty. Trust is defined as *“a psychological state compromising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another”* (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395) and following Edmondson (1999, p. 354), team psychological safety is *“a shared belief that the team is safe for interpersonal risk taking”*. A key difference is that trust and psychological safety are the antitheses of uncertainty as the constructs imply a feeling of security or certainty toward individuals. But the differentiation is also true for the contrary conditions. Uncertainty refers to a state of doubt and lack of confidence, whereas the lack of trust and psychological safety still reflect confidence or the sense of conviction about the negative attitude toward individuals. The sense of conviction allows an individual to set doubts aside. Additionally, in my sample, the feeling of trust and psychological safety as well as relational uncertainty describe opposing but neither mutually exclusive nor interchangeable interpersonal experiences. Some team members were able to perceive trust and/or psychological safety as well as relational uncertainty toward a teammate at the same time. For example, Isaac and Adam emphasized a high degree of trust in their teammates and closeness to Ida and Anthony, respectively. The team members had faith and belief *“to never stab each other in the back”* (Isaac), but still raised doubts *“if we can do this [the venture] together, for example without falling out with each other”* (Isaac). Similarly, team B’s mentor described in our interview a climate of psychological safety within the team. He assured *“All four of them definitely stand behind the decisions .... They always make joint decisions ... and they are all behind these. No matter how the decisions turn out.”* and gave an example when Blake ordered new material and the other team members were not sure if it was necessary. They still agreed on

the order and all of them were behind it without discussion when it eventually went wrong. However, the team experienced different incidents of uncertainty between the team members. Thus, the nature of relational uncertainty is not directly anchored in the concepts of trust and psychological safety.

### **Personality of team members**

The literature on voice assumes that an individual's traits play an important role whether to speak up or remain silent in professional relationships (Morrison, 2014). For example, employees' extraversion and proactive personality foster voice at interactions with supervisors (LePine & Van Dyne, 2001; Li & Tangirala, 2021). Extraversion and need for achievement are also discussed in the entrepreneurship literature and are known to be associated with success in the business (Frese & Gielnik, 2014). These psychological constructs are also likely to be relevant to my theoretical model as critical antecedents to the uncertainty management trajectories. My data exposed that some team members appeared to have a dominant personality, a facet of extraversion. For example, Isaac, who started a venture with his sister Ida, stated: *"I feel like I rather play the dominant role. ... So it's more like I set the agenda."* and Connor described his brother and teammate Charlie as *"intimidating"* to their teammate Carl and further employees. Additionally, some team members revealed their desire for success as Henri explained *"I put an enormous amount of energy into this [the venture]"* and claimed *"You need someone [a teammate] who gives 100 percent and just doesn't give a shit. And that is hard to find."* However, the team members with similar traits did not necessarily show a consistent pattern of managing relational uncertainty. In addition, literature on voice suggests that individuals who are high in extraversion and proactive personality are more likely to speak up (LePine & Van Dyne, 2001; Li & Tangirala, 2021), whereas the dominant team members in my

study rather followed the concealing trajectory to manage relational uncertainty. Finally, in our interview for the model validation, Gwen shared her diverging experiences on managing relational uncertainty with her former team members George and Garrett as well as the members of her new entrepreneurial team (not included in the analysis of my study). She confirmed that she followed the concealing trajectory to manage uncertainty toward her former teammates. Gwen drew comparisons between an entrepreneurial team member relationship and a marriage and resumed that there probably had not been enough closeness and she had not perceived to be on par with her former teammates to really give voice in particular to her teammate George on such a sensitive topic. It feels different to her in her new entrepreneurial team as she experienced a more transparent and personal feedback culture. She summarized and emphasized the importance of the relationship between team members to follow one of the trajectories. Therefore, the team members' traits were not identified as reliable antecedent to the uncertainty management trajectories.

## **5 DISCUSSION**

The purpose of this dissertation is to understand how entrepreneurial team members perceive relational uncertainty within their teams and identify approaches to manage it. I conducted a qualitative, inductive study with entrepreneurial team members to explore these questions. My data revealed that all entrepreneurial team members experienced relational uncertainty toward the teammate at some point of their collaboration. The initial lack of information about each other and the violation of expectations of each other are important drivers of the emergence of relational uncertainty. As a result, entrepreneurial team members are uncertain about their teammate's commitment, abilities, or norms. Importantly, how team members manage relational uncertainty depended on the perceived relational level between the entrepreneurial team members and gave rise to two different uncertainty management trajectories. Specifically, I found that team members either disclosed or concealed their uncertainty toward their teammates. My findings suggest that the trajectories had different consequences for the entrepreneurial team members and their relationships. Additionally, I provide insights on an interim step to partly disclose the uncertainty to another team member on the same perceived relational level. While the primary behavior of seeking clarification (i.e., proactively interacting, actively consulting, or passively observing) and appraising the uncertainty were typically not helpful to overcome the incident of uncertainty, uncertainty outcomes (i.e., team repair, reconfiguration, or perseverance) helped the team members to eventually leverage, eliminate, or tolerate the uncertainty.

### **5.1. Contributions to theory**

This study aims at understanding how entrepreneurial team members perceive relational uncertainty within entrepreneurial teams and how this uncertainty impacts the team members as

well as the development of the entire entrepreneurial team. To develop theory around relational uncertainty in the context of entrepreneurial teams, I integrate research on uncertainty reduction and uncertainty management from the fields of human communication and social psychology into entrepreneurship research. In doing so, I add breadth and depth in our understanding of ambiguous situations entrepreneurs face at the early stages of a new venture. Thus, my findings offer novel and important theoretical contributions not only to the literature on entrepreneurship and entrepreneurial teams but also on uncertainty reduction and management theory.

### **A new understanding of uncertainty in entrepreneurship: a social phenomenon**

My core contribution is the theoretical reposition of uncertainty as a fundamentally social phenomenon in entrepreneurship. First, my study about relational uncertainty in the context of entrepreneurial teams provides a springboard to complement our understanding of different natures of uncertainty in entrepreneurship. Much research in the field puts emphasis on and addresses uncertainty but has not sufficiently considered relational aspects as a source of uncertainty. For example, such work has focused on exogenous uncertainty derived from operating in nascent markets (McDonald & Eisenhardt, 2019) and the limited availability of resources (Brush, Greene, & Hart, 2001; Sirmon et al., 2007) as well as endogenous uncertainty stemming from the lack of the entrepreneurs' experiences and knowledge about tasks and roles (Blatt, 2009; Cordery et al., 2010; Sine et al., 2006). However, there is a crucial source of uncertainty for entrepreneurial team members that has not yet been examined, namely the relationships between them. My study adds to our understanding of uncertainties that entrepreneurs are concerned with in their endogenous system by exposing three facets of relational uncertainty, i.e., uncertainty about commitment, abilities, and norms, toward the teammate. Importantly, my data revealed that all team members experienced some facet of

relational uncertainty when starting a venture as a team. The prevalence of relational uncertainty across entrepreneurial teams and the multifaceted consequences for their development encourage more attention to this uncertainty construct in entrepreneurship.

Second, the concept of relational uncertainty focuses on the role of human agency in generating and managing uncertainty in the entrepreneurial context (Bandura, 2001). In my study, the teammates take the position of human actors to generate uncertainty through intentional (though not necessarily purposeful) actions and behaviors. This entails a fundamental shift in perspective to treat entrepreneurial actors as contributors and not just reactors to uncertain circumstances (Bandura, 2001). More recently, researchers have encouraged a more agentic perspective to enrich our current thinking about entrepreneurship by drawing attention to uncertainty exposed to human action (Griffin & Grote, 2020; Packard & Clark, 2020). Specifically, Packard and Clark (2020) proposed that entrepreneurs primarily face uncertainties concerning human agents, such as consumers, employees, and investors, and thus ontological uncertainty, that is immitigable indeterminacy, is rather existent in entrepreneurship than epistemic uncertainty, that is, mitigable ignorance of knowable information (Hacking, 1975; Packard & Clark, 2020; Perlman & McCann Jr, 1996). They consider human action to be not perfectly predictable which means that human-sourced uncertainty may not be fully reducible, to the extent that “*free will*” (Packard & Clark, 2020, p. 770) has potential causal influence over outcomes. The “*free will*” implies that individuals may find themselves in situations to have the freedom to perform an act or not (Van Inwagen, 2008). By exposing the uncertainty that team members perceive in their attempt to establish an effective working relationship between the team members, my study provides empirical support for the authors’ position that the inherent uncertainty may not to be fully reducible but rather tolerable. Accordingly, we have lacked sufficient understanding of the ways in which entrepreneurial actors manage such fundamental

human-sourced uncertainty in entrepreneurship. I offer insights into psychological and emotional mechanisms of how entrepreneurial actors engage with uncertainty generating human actors and how to set the boundary of whether to engage in proactive, active, or passive behaviors to respond to uncertainty. The prevailing mechanisms underlying uncertainty management at the organizational level have been the nature of uncertainty (McKelvie et al., 2011) or the degree of uncertainty surrounding the venture (Wiltbank et al., 2006). A more recent mechanism at the individual level has been the individual preference for uncertainty and the assessment of effectiveness of the behaviors (Griffin & Grote, 2020). I propose with the perceived relational level between entrepreneurial team members a new mechanism underlying uncertainty management in entrepreneurship. Although the effectiveness of behavior has appeared to play a role, the relationship explains why team members engaged either in proactive behaviors and disclosed their uncertainty, in active behaviors and partly disclosed their uncertainty, or in adaptive behaviors and concealed their uncertainty to the teammate. Consistent with research indicating the significance of interpersonal relationships as key aspects of the entrepreneurial process (Huang & Knight, 2017; McFadyen & Cannella Jr, 2004), the kinds of relationships that entrepreneurial actors have with each other is also crucial for managing uncertainty.

Finally, my study provides a more nuanced understanding of the consequences of uncertainty by exposing multifaceted uncertainty outcomes (i.e., team repair, reconfiguration, or perseverance). In particular, I offer new insights into ways how entrepreneurial actors can benefit from uncertainty. Most research on uncertainty in entrepreneurship has focused on a rather partial set of outcomes. Uncertainty has typically been connected to negative outcomes such as lower team (Cordery et al., 2010) and venture performance (Hmieleski & Ensley, 2007; Sine et al., 2006). Researchers have paid less attention to the associated benefits of it (Griffin & Grote, 2020). My findings show how entrepreneurial teams can leverage uncertainty and draw positive

consequences such as the professionalization of the entrepreneurial team member relationship in terms of improved information sharing as well as a more transparent feedback culture and documentation. The uncertain entrepreneurial team members are able to set the trajectory in motion to use uncertainty and to eventually achieve higher rewards for themselves and the entrepreneurial teams. Following recent work from Griffin and Grote (2020), this enhances a new understanding of the responsibility of entrepreneurial actors in uncertainty management and overhauls our conventional assumption of them to extricate from and act against the perception of uncertainty to appreciate and prudently leverage it.

### **Insights for entrepreneurial team research**

I also contribute to entrepreneurial team research in several ways. First, my study informs our current theoretical understanding of the dynamics within entrepreneurial teams. A comprehensive review on entrepreneurial team research notes that prior work has often relied on secondary data, and thus entrepreneurial teams' "*underlying properties have remained a 'black box'*" (Klotz et al., 2014, p. 249). Most studies have focused less on a micro perspective and neglected the underlying mechanisms to explain phenomena related to entrepreneurial teams. For example, Ferguson et al. (2016) addressed functional misfits of team members and examined the under qualification or over qualification of entrepreneurial top management teams relative to role structure. This study used fixed-effect Poisson models to understand the effects of the misfits on team composition and structure. More recently, Knight and colleagues (2020) have underlined the necessity to investigate how cognitive and socioemotional mechanisms impact entrepreneurial team outcomes in order to sufficiently understand an entrepreneurial team's internal functioning. I address these "*black box'*" (Klotz et al., 2014, p. 249) concerns by proposing a mechanism-based approach to uncertainty management that considers the unique

characteristics of new ventures. In particular, I propose cognitive (i.e., how entrepreneurial team members think about their teammates) and behavioral mechanisms (i.e., how entrepreneurial team members act toward their teammates) and I acknowledge the role of emotions in uncertainty management. A key strength of my study is the inductive longitudinal approach on the perception and management of relational uncertainty which allows me to capture the dynamics of cognition, behavior, and emotion. I found that entrepreneurial team members can perceive relational uncertainty at different points in time. These perceptions set the process in motion and the team members follow two different trajectories of uncertainty management shaped by the perceived relational level within the team. These two trajectories give rise to specific and very different behavioral approaches as well as emotional responses by team members and teams as a whole. Specifically, I differentiate between joint team efforts when following the disclosing trajectory and individual team member efforts when following the concealing trajectory. By exposing multifaceted consequences of the perception of relational uncertainty, I illustrate how the cognition of an individual team member can matter in terms of shaping the entrepreneurial teams' early structures and processes (Klotz et al., 2014) in new ventures in a complex way. Thus, I add by providing new insights into “*why*” various organizing efforts undertaken by entrepreneurs (Klotz et al., 2014).

Second, I advance the discussion on entrepreneurial learning (Holcomb et al., 2009) by identifying the relevance of entrepreneurial team members' learning history and individual experiences about team member relationships. In addition, by exploring team members' perception and management of relational uncertainty, I provide new and more nuanced insights into our understanding of the process of learning. Research in entrepreneurship has typically approached the study of functional knowledge, such as management, start-up or industry-specific experiences (Politis, 2005), and highlighted the benefits of business failure for entrepreneurial

learning (Minniti & Bygrave, 2001; Shepherd, Patzelt, & Wolfe, 2011). However, such work has paid less attention to accumulated knowledge on social experiences with entrepreneurial team members. I propose that learning from team members' negative social experiences with former teammates influence future team development. My findings indicate that team members assimilate negative social experiences with former teammates, in particular team member dismissals, and retrieve the knowledge at the beginning of a new team member relationship. Thus, such experiences facilitate the perception of general initial relational uncertainty and may determine the prerequisites for the perceived entrepreneurial team member relationship and the expectations about the teammate by following an uncertainty management trajectory. The process of managing relational uncertainty appears to be helpful to translate the accumulated knowledge into specific measures such as rules and practices which, in turn, form the perceived entrepreneurial team member relationship and expectations about the teammate at the beginning. However, the process appears just as helpful in a later phase of the collaboration to update the relationship and the expectations. Consistent with work on entrepreneurial learning (Holcomb et al., 2009), the entrepreneurial team members draw on different learning approaches along the two uncertainty management trajectories. When following the disclosing trajectory team members involve their teammates to manage uncertainty and collect information from different direct experiences. In contrast, team members who follow the concealing trajectory autonomously manage uncertainty and rely on observational learning about the teammate in their attempt to adopt specific measures.

Third, my study adds to our understanding of information processing in entrepreneurial teams, which has been little studied yet (Amason et al., 2006; Furr, Cavarretta, & Garg, 2012). Prior research has considered teams as information processors and information elaboration as an important team process that directly influences team decision quality and performance (Resick,

Murase, Randall, & DeChurch, 2014; Van Knippenberg, De Dreu, & Homan, 2004). While the focus of information elaboration has been on processing task-relevant information (Pieterse, Van Knippenberg, & van Ginkel, 2011), less attention has been paid to understand the processing of relationship-relevant information in teams. In particular, entrepreneurial teams with both friendship and instrumental dimensions of their relationships provide a relevant context for processing such information. My study offers a nuanced perspective on how and to what extent entrepreneurial team members make relationship-relevant information such as the perception of relational uncertainty available to their teammates. In addition, it suggests new mechanisms that shape the processing of information that is considered to be sensitive and delicate in nature within entrepreneurial teams. Research on team information elaboration has started to consider the relevance of the nature of information available to team members, for example, the importance or reliability of available information (Breugst, Preller, Patzelt, & Shepherd, 2018; Littlepage, Perdue, & Fuller, 2012; Steinel, Utz, & Koning, 2010). I contribute to literature on information processing in teams in general and entrepreneurial teams more specifically by identifying the perceived relational level, that is, to perceive the teammate to be on par, as an important mechanism through which team members either disclose, partly disclose, or conceal relational uncertainty. Thus, more sensitive and delicate information appear to be processed in a particular way, which is through informally developed hierarchical structures, that influences entrepreneurial teams' structures and processes in turn.

Fourth, I also contribute to entrepreneurial team research on team formation. My study answers a recent call by Lazar et al. (2019) and considers the root of entrepreneurial formation by identifying critical interpersonal and informational inputs for team member selection. These inputs appear to lay the foundation of the perceived entrepreneurial team member relationship which in turn leads to the formation of expectations about each other. Consistent with research on

entrepreneurial team formation (Forbes et al., 2006; Lazar et al., 2019; Ruef et al., 2003), my findings suggest that team members follow a deliberate and intentional approach to select the most ideal teammate. Thereby, I add empirical insight and precision to our understanding of this approach and show how it involves the development of strong initial expectations on both friendship and instrumental dimensions of their relationships. However, my findings provide first indications on the critical role of the unique self-selection process of entrepreneurial teams. The perception of relational uncertainty illuminates the burden of the freedom to choose teammates and exposes early challenges between the entrepreneurial team members. I challenge the assumption that prior closeness of team members such as family ties or friendship ties are fundamentally superior at the beginning. Entrepreneurial team members are considered tending to select teammates with close prior relationships and initially benefiting from similarity and shared experiences (Brannon et al., 2013; Ruef et al., 2003; Schjoedt, Monsen, Pearson, Barnett, & Chrisman, 2013). For example, Wasserman (2012, p. 92) argues that already familiar team members may “*share a common language*” and “*can skip over part of the learning curve*” at the beginning of their collaboration. However, I propose that prior closeness of team members may be more problematic than often assumed. Some team members in my study have both weak prior ties (i.e., acquaintance, strangers) and others strong prior ties (i.e., siblings, best friends) to one another. Importantly, those with strong prior ties generate a counterintuitive insight on the perception of relational uncertainty. Regardless of whether the team formation is driven by instrumental criteria and weak prior ties or interpersonal criteria and strong prior ties, the team members appear to have incomplete information at the beginning, at least on one dimension, to fully assess the appropriateness, and thus have doubts about their teammates. In addition, my longitudinal data allow insights on the dynamic evolution of the relationship based on the uncertainty outcomes and how these influence the interplay between the friendship and

instrumental dimensions of their perceived entrepreneurial team member relationships as well as the adjustment of entrepreneurial team member expectations. As the relationship advances, the team members learn about each other's real strengths and weaknesses and appear to fall short of each other's expectations, in particular, as new challenges or demands surface. As such, too high or conflicting expectations between team members can arise throughout the course of the collaboration and nurture the perception of relational uncertainty. Thus, my study points out the important role of team members' expectations for the formation and evolution of entrepreneurial teams.

Finally, my study informs turnover literature by advancing our understanding of entrepreneurial team member dismissal. Prior studies have primarily focused on what leads to dismissal and how it influences venture performance (e.g., Boeker, 1992; Busenitz, Fiet, & Moesel, 2004; Chandler et al., 2005; Shen & Cannella Jr, 2002; Wiersema & Bantel, 1993; Wiersema & Bird, 1993). For example, Busenitz et al. (2004), found that perceived low performance of a team member can lead to his or her dismissal. Moreover, work investigated the role of investors in the dismissal of entrepreneurial team members (Hellmann & Puri, 2002). However, these studies have neglected the cognition and behavior of a team member and within-team-processes preceding the dismissal of a team member. I broaden this research conversation by providing insights into the way how the idea of dismissing a team member develops. My findings shed light on the early indications of team member dismissal and provide an explanation of how dismissals happen. I explored how a team members perceived relational uncertainty toward teammates as well as how they either followed the disclosing or concealing trajectory and eventually prompt the idea of separating from the teammate. The approaches along the two trajectories differed in one important criterion: by involving or excluding the uncertainty generating teammate. In following the disclosing trajectory team members gave the teammates a

voice and the teams jointly appraised the uncertainty and its meaning for the team and venture. In contrast, when team members followed the concealing trajectory, they appraised the uncertainty and its consequences in the absence of the teammate.

### **Relational uncertainty: insights from a new context**

Relational uncertainty is a novel concept in the field of entrepreneurship, however, other fields have drawn more attention to the phenomenon. Research in human communication and social psychology, particularly work on uncertainty reduction and uncertainty management, seem to offer the clearest foundation to understand the phenomenon in the entrepreneurial context. Zahra and Newey (2009) suggest that borrowing existing theories from one field and applying these to new contexts allows us to enrich our current understanding with new perspectives. Accordingly, my study also contributes to research in human communication and social psychology in several ways.

First, I enrich our understanding of the concept by exposing a novel facet of relational uncertainty in the entrepreneurial team context. The uncertainty reduction theory originally focused on understanding communication behaviors in initial interactions and further research has tended to privilege relationships between romantic partners (Boucher, 2015; Knobloch & Solomon, 2002b). Although some research has addressed relationships between family members (Afifi & Schrodt, 2003; Bevan et al., 2006), we have little insight into the perception and management of relational uncertainty in professional relationships. My study identifies the nuances of relational uncertainty that are tailored to the different demands and conflictual domains of entrepreneurial teams. The idiosyncrasy of the context derives from the additional instrumental dimension of the relationship. While the uncertainty in romantic relationships relates merely to the interpersonal involvement (Knobloch, 2015), much of the content and management

mechanism of the uncertainty between team members subtly emanate from the professional involvement. The venture appears to serve as an obligation and its performance as a catalyst for the perception as well as management of relational uncertainty. For example, the venture performance represents a key argument in the appraisal of the uncertainty and the team members are willing to put the needs of the venture before the needs of their relationship. Following the concealing trajectory, the team members reach some sort of cognitive resolution between necessity and doubts to endure team perseverance. The specifics of the perception and management of relational uncertainty between entrepreneurial team members underline the relevance to explicate the phenomenon in a way that is tailored to the particular context (Knobloch, 2015).

Second, I add to work on relational uncertainty by exposing a more complex approach of uncertainty management beyond the conventional individual or dyadic approach (Berger & Calabrese, 1975; Brashers, 2001). While my study also focuses on an individual's perception of relational uncertainty, I consider a multi-actor approach of uncertainty management. To date, little work has addressed the involvement of others such as friends and family in a supportive role in the perception, appraisal, or management of relational uncertainty (Brashers, Neidig, & Goldsmith, 2004; Knobloch & Donovan-Kicken, 2006). However, my findings allow first insights into the involvement of others in an affiliated role by showing ways how entrepreneurial team members approach other team members and they jointly engage in the management of the uncertainty. In doing so, I provide a more elaborated and precise understanding of the entrepreneurial team members' behaviors and emotions involved in the management process.

Third, I contribute by identifying perceived relational level as a novel factor that influences individuals' way of managing uncertainty (Knobloch & Solomon, 2002a). While prior work primarily focused on factors within the individual of how individuals manage uncertainty

(Berger & Bradac, 1982; Brashers et al., 2000), I draw attention to factors between individuals. In my study, relational level emerged as an important driver of differences in how to manage relational uncertainty. Specifically, I found that the perception of the relational level shaped the uncertainty management trajectory that team members followed. I propose that the phenomenon of relational uncertainty cannot be completely understood unless the perceived relational levels within the teams are considered.

Finally, my study exposes new insights into uncertainty outcomes. Most researchers have paid attention to the study of a single outcome of relational uncertainty, such as topic avoidance (Knobloch & Carpenter-Theune, 2004) or jealousy (Afifi & Reichert, 1996). However, I suggest that under differing circumstances, i.e., perceptions of relational level, the perception of relational uncertainty can provoke multifaceted outcomes, i.e., team repair, team reconfiguration, and team perseverance. My findings suggest that relational uncertainty is not universally problematic. With few exceptions (Baxter & Montgomery, 1996; Burgoon, 1991; Knobloch & Solomon, 2002a), the common assumption in this research stream is that relational uncertainty is associated with negative consequences for relationships (Knobloch, 2010). However, I found that entrepreneurial team members are able to draw positive consequences from relational uncertainty and advance the relationship by agreeing on common measures for mutual interaction.

While research on relational uncertainty has significantly advanced the conversation on initial interactions and romantic relationship, I aim to continue the conversation with novel insights from a different context and a more complex relationship constellation.

## 5.2. Implications for practice

In addition to contributing to theory, this dissertation also offers several implications for entrepreneurial team members, venture capitalists, mentors, and other stakeholders in the entrepreneurial ecosystem. In the most general sense, my findings highlight the prevalence and significance of relational uncertainty within entrepreneurial teams. Entrepreneurial team members should have more awareness for the perception of uncertainty stemming from their relationships and how it offers a unique window into the development of a tailored set of team processes and structures. When perceiving relational uncertainty, this dissertation encourages team members to proactively interact with the teammates, collectively appraise the uncertainty, and identify appropriate measures, e.g., transparent documentation and deliberate information sharing, to manage and even make use of the perception of uncertainty. However, the upside potential of relational uncertainty depends on certain conditions.

First, the perception of relational uncertainty seems to carry the negative connotation of betraying for most entrepreneurial team members, however, it should rather be seen as an opportunity to thoughtfully reassess and improve the relationship and collaboration. Most entrepreneurial team members I interviewed treated the topic of relational uncertainty in a sensitive, precarious way and seemed to feel uncomfortable about clearly articulating it. Even though popular approaches like *“The Lean Start-up Method”* (Ries, 2011) typically encourage entrepreneurs to question everything from the initial idea to the product-market fit, it seems less acceptable to question the team fit. This dissertation suggests that all entrepreneurial team members perceived relational uncertainty at some point of their collaboration and emphasizes the benefits of disclosing it, and thus aims to inspire a mindset to make it more acceptable between team members to question—are we really a good match?

In addition, this dissertation uncovers the existence of subjectively perceived differences at the relational level between entrepreneurial team members. The team members should be more aware of the significance of such informally developed hierarchical structures since they shape the way of how sensitive and delicate information such as relational uncertainty is processed between the team members. Specifically, it seems to be important that other teammates are perceived to be at the same relational level to disclose the perception of relational uncertainty which then facilitates opportunities to develop tailored team processes and structures. Therefore, my findings encourage team members to strive for relational equality within entrepreneurial teams.

Finally, I found that the violation of expectations that team members have with respect to each other can cause the perception of relational uncertainty. In other words, entrepreneurial team members appear to often have too high or conflicting expectations when they start a new venture together. The team members' relationships lay the foundation for the creation of expectations which can change over time through the dynamic development of their relationships. This dissertation suggests that team members may better reflect and understand the expectations they have of each other to prevent the perception of relational uncertainty (and potential downsides of it) at the first place.

### **5.3. Limitations and direction for future research**

The strength of this study is the inductive, qualitative approach. However, like any research approach, it involves some limitations regarding the design and method of my study as well as the conceptualization of relational uncertainty and must be acknowledged.

First, my research predominantly relies on interviews with entrepreneurial team members and other stakeholders. I was interested in the beginning and development of entrepreneurial team member relationships and conducted the interviews at different points in time in the early phases of the relationships. A limitation of interviews is that retrospective bias may have influenced the team members' accounts. For example, I was partly not present during the early phase of team formation and asked the interviewees retrospectively about their selection criteria. To offset this limitation, I enriched my interview data and carefully collected triangulation data to validate the interviews. In addition, I have stories told about the teams to draw from the team members' narratives and carefully asked for details to stimulate and to better understand their experiences. In addition, in all cases, I interviewed all team members of each entrepreneurial team and some other stakeholders to gain different perspectives and validation of the interview data. Future research on relationships within entrepreneurial teams might benefit from expanding the methodology employed to better capture the dynamics of interaction and communication between the team members. For example, researchers could participate in team sessions and feedback meetings to observe intense debates between team members or utilize transcripts of internal instant messaging conversations (e.g., via Slack or WhatsApp) and email communications between the team members.

Second, while I entered the field with an open mind to learn more about the relationship of entrepreneurial teams, I soon started to analyze the interviews and shifted and narrowed my focus toward negative experiences and uncertainty within the teams. As a result, I adapted my interview guideline during the first round and sharpened the focus of my interviews in the second round of interviews. The narrowed questions may have influenced the interviewees thinking and prompted a rather critical reevaluation of team experiences. However, I was careful to ask

complementary questions on the positive side and I let enough room for elaborating their own narrative of team experiences.

Third, my findings reveal that all team members perceived relational uncertainty. However, the degree of manifesting and explaining the perception of relational uncertainty and associated emotions varied between team members in my interviews. Some interviewees only provided scarce insights or trivialized the topic which represents another limitation of my study. On the one hand, relational uncertainty appears to be a highly sensitive and delicate topic and it might have been difficult for the team members to reflect on the perception of relational uncertainty and to open up to me as an outsider. On the other hand, researchers found that other factors such as individual preferences for evaluating and addressing uncertainty may play a role in the actual perception of uncertainty (Carleton et al., 2007; Jang et al., 2002; Miller, 1987; Sorrentino et al., 1995), which I was not able to account for. To still extract sufficient and reliable insights, I again used the stories about the teams and attentively analyzed my data for references. Moreover, I prudently considered and scrutinized the insights in my second round of interviews with the particular team members or in my interviews with their teammates and other stakeholders.

Finally, my inductive, qualitative approach allowed me to develop a nuanced understanding of the construct relational uncertainty as well as the mechanisms and the team processes surrounding the perception and management of relational uncertainty. However, as is common for qualitative research (e.g., Powell & Baker, 2017; Preller et al., 2018), the generalizability of my findings is limited because of the small sample size. In addition, the approach is not suited to test the relationships in my model. Further empirical examination is required to advance and sharpen our understanding of the phenomena of relational uncertainty in entrepreneurship. Future research may build on the insights of my dissertation and develop an

instrument to measure the perception of relational uncertainty in the entrepreneurship context. The operationalization of the construct provides a foundation to conduct further research with larger samples to test the relationships among the conditions that relate to the perception of relational uncertainty in my study and to also transfer it to other settings in the field of entrepreneurship.

Throughout the course of this research, I discovered further new questions and avenues for future research that were beyond the scope of this dissertation. First, this dissertation provides new insights into an uncertainty which arises from establishing and maintaining an effective working relationship in entrepreneurship. Acknowledging its relevance in the entrepreneurial process, I zero in on the relationship between entrepreneurial team members. However, drawing on a fundamental personal perspective on entrepreneurship (Baum et al., 2007), future research might bring relational uncertainty in other interpersonal relationships in entrepreneurship to the foreground. Throughout the entrepreneurial process entrepreneurs build and maintain different interpersonal relationships and might be exposed to relational uncertainty toward other human actors (Packard & Clark, 2020). For example, the investor-entrepreneur relationship is considered as an important relationship which involves not only financial but also social resources (Huang & Knight, 2017). Investors often serve as advisors and mentors to the entrepreneurs. The entrepreneur might be uncertain about the way of communicating with the investor, for example, considering a scenario where an entrepreneur questions the advice from the investor. In addition, the perceived relational level between the actors might not be trivial because of the complex mutual interdependencies. It is crucial to understand in which way entrepreneurs perceive relational uncertainty toward investors and how such interpersonal challenges affect the exchange of valuable financial and social resources.

Second, another promising topic for future research would be to explore not only the uncertainty between but also the uncertainty within the individual entrepreneurial team member. My findings indicate that team members perceived doubts about their own work and behavior. Specifically, some team members were uncertain about sufficiently contributing to the team and venture or more general about truly being an entrepreneur. Such insights would allow to tackle the predominant notion of the successful entrepreneur as high in optimism (Lowe & Ziedonis, 2006) and self-efficacy (Rauch & Frese, 2007). Future research could provide richer understanding regarding the emergence and nature of entrepreneurs' self-uncertainty as well as the management of it. Given the insights on the relationship between self-efficacy and business creation and success (Poon, Ainuddin, & Junit, 2006; Utsch, Rauch, Rothfufs, & Frese, 1999), it would be particularly interesting to understand how and why self-uncertain entrepreneurs still decide to embark on the entrepreneurial journey and how it affects their own and their ventures' performance (Shepherd & Patzelt, 2015). Work on these issues could also advance research on entrepreneurial role identity (Mathias & Williams, 2018). At the same time, researchers could identify and describe the role of the entrepreneurial team when team members perceive self-uncertainty. Entrepreneurial teams need to find ways to work together efficiently and to manage uncertainties for the benefit of the venture (Blatt, 2009). Thus, following questions might be addressed: how do entrepreneurial team members communicate self-uncertainty to their teammates? To what extent and how do teammates help the team member to manage self-uncertainty? In addition, it would be also insightful to analyze the dispersion of self-uncertainty within entrepreneurial teams. For example, anecdotal evidence of Apple suggests that the team members appeared to feel differently about the role as entrepreneurs. While Steve Wozniak, co-founder of Apple, admitted: *"I felt very insecure in starting a company where I would be expected to push people around and run their affairs and control what they did"* (Wozniak, 2007,

p. 198), he portrayed a contrasting picture of Steve Jobs thriving in the management position.

Thus, to what extent do different members of the entrepreneurial teams perceive self-uncertainty?

While researchers have indicated that the role of the CEO is often assigned to the team member with the venture idea (Wasserman, 2012) or bases on the team members' status and expertise (Jung, Vissa, & Pich, 2017), such differences may have an effect on decisions about the allocation of top positions in the new venture. Future research might explore how different degrees of self-uncertainty affect the assignment of top positions (e.g., CEO) and interact with team processes. To date, entrepreneurial team members' critical perception about themselves remains to be explored, even though it might yield a better understanding of the entrepreneurial teams and their development.

Third, emanating from my data, I focused on the perception of relational uncertainty of an individual team member about another teammate. Nonetheless, the perception of uncertainty in the entrepreneurial context is much more complex (McKelvie et al., 2011; Packard & Clark, 2020). Future research might examine the multilayered (Brashers, 2001; Brashers & Babrow, 1996) and interconnected (Babrow, 1995; Brashers, 2001) dimensions of uncertainty in entrepreneurial teams. Entrepreneurial team members can perceive uncertainty simultaneously or successively from the self, relationships with others, or various features of the entrepreneurial environment. For example, as indicated by one team member in my sample, the incidents of uncertainty may chain from one to another. He described how doubts about his teammate's commitment led to doubts about the future of the venture. In addition to consider different uncertainties of the individual team member, it would be relevant to understand how different uncertainties of all team members relate to each other. How are the uncertainties of individual members of entrepreneurial teams connected to each other? To what extent is an individual team member's perception of uncertainty contagious to the teammates? How do entrepreneurial teams

manage such a challenge? To capture different types of uncertainty within one framework would provide a more complete picture of the relationships between and attached importance to these.

In addition to enrich our understanding about uncertainties in entrepreneurship, future research might also focus on new insights about entrepreneurial teams' internal structures and processes. The perceived relational level occurred as an important factor determining the uncertainty management trajectory. However, the differences in perceived relational level were not clearly manifested within the teams. Entrepreneurial teams often claim to dispense with hierarchies and to make decision collectively by reaching consensus among the team members (Wasserman, 2012). My rich data set draws a different picture and uncovers informally developed relational inequalities within the teams even when it was not clearly stated. To date, we know relatively little about subjectively perceived hierarchical structures within entrepreneurial teams (Xie, Feng, & Hu, 2020). Although prior research has taken into account contracting practices to set the formal boundaries of the entrepreneurial team collaboration, e.g., equity distribution (Breugst et al., 2015; Wasserman, 2012) or team charters (Mathieu & Rapp, 2009), addressing more informal and/or implicit boundaries could provide novel insights on decision-making, coordination, and communication within the teams. Future research could build on the findings of this dissertation and study questions around hierarchical structures within teams: How do informal hierarchical structures develop within entrepreneurial teams? How do such structures deviate from formal agreements? Who occupies the actual power and control within entrepreneurial teams, and why? How do informal hierarchical structures influence the team climate and collaboration?

Finally, future research might also provide more insights on the adoption and maintenance of team processes related to coordination and communication within entrepreneurial teams. My findings suggest that the adoption of certain structures and procedures such as transparent

documentation and deliberate information sharing provide a remedy to the perception of relational uncertainty. Thus, the perception of relational uncertainty serves as an antecedent to the professionalism of new ventures. Accordingly, researchers do acknowledge that, as new ventures develop, entrepreneurial teams are required to introduce higher levels of professionalism in their ventures (Blatt, 2009; Preller et al., 2020; Sine et al., 2006). However, further insights into the antecedents and the process of adopting of structures, procedures, and routines remain to be explored: How do entrepreneurial team members initiate the transformation to more professionalism? How do they identify an appropriate and feasible set of measures? To what extent do initial cognitions and behaviors shape the set of measures? Some team members in my study indicated that the teams implemented some routines and procedures in the beginning of the collaboration. However, these got lost in the whirlwind of the day-to-day business. It would be insightful to conduct longitudinal studies to capture the dynamics and changes of the adopted measures over an even longer time period. In addition, as entrepreneurial programs have rapidly emerged to support new ventures in their development (Hallen, Cohen, & Bingham, 2020), future research could also explore how external stakeholders influence the process of professionalization of entrepreneurial teams. Answering these questions may enhance our understanding of the development of entrepreneurial team collaboration.

#### **5.4. Conclusion**

Entrepreneurship is an uncertain endeavor and often involves the collaboration with other human actors who might add further uncertainty. Understanding the perception and management of relational uncertainty is important to gain a more comprehensive understanding of uncertainty in entrepreneurship. My longitudinal qualitative study of nine entrepreneurial teams allowed me to develop a dynamic model showing how entrepreneurial team members perceive relational

uncertainty and how they manage it. I provide insights into how entrepreneurial team members follow two different uncertainty management trajectories influenced by their perception of relational level within the entrepreneurial team. The two trajectories result in three different uncertainty outcomes, which have important impact on the development of the teams and the ventures. In conclusion, this dissertation makes important contributions to both our understanding of uncertainties in entrepreneurship and entrepreneurial teams. At the same time, it provides a springboard from which future research could set out to examine the appearance and consequences of relational uncertainty in the entrepreneurial process more broadly.

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## APPENDIX

### 6.1. Interview guideline for entrepreneurial team members – First round

#### Team Formation

1. Zunächst interessiert es mich, was Ihr Unternehmen genau macht. Können Sie mir dies kurz erläutern? Können Sie mir von der Entwicklung Ihres Unternehmens erzählen?

*[Wie lange arbeitet ihr schon zusammen? Bestand Team immer aus diesen Mitgliedern?]*

2. Wie haben Sie sich als Gründerteam kennen gelernt?

*[Wie ist Ihre Vorbeziehung? Haben Sie schon gemeinsame Arbeitserfahrung? Warum haben Sie sich entschieden mit Ihre/m jetzigen Partner zu gründen?]*

3. Waren Sie sich gleich ganz sicher, dass sie das ideale Gründerteam darstellen?

#### Team Prozesse

4. Wie würden Sie Ihre Zusammenarbeit/Teamkultur beschreiben?

*[Strukturen, Teamregeln, Intensität des direkten Austauschs, Dokumentation, Feedback – Gibt es Regeln? Ist das Feedback sehr direkt? Ist es eher auf persönlicher oder sachlicher Ebene]*

5. Gibt es ein Erfolgsgeheimnis für Ihre Zusammenarbeit? Machen Sie vielleicht etwas ganz bewusst?

6. Was ist Ihnen persönlich wirklich wichtig in der Zusammenarbeit?

7. War das von Anfang an so oder hat sich das erst über Zeit entwickelt?

8. Wie kam es dann schließlich zu dieser Form der Zusammenarbeit?  
*[Gab es dabei sehr emotionale Anteile (Krisen, Unsicherheiten, Konflikte etc.)? Wie hat sich das auf Sie persönlich beziehungsweise auf Ihre Arbeitsweise niedergeschlagen?]*
9. OPTIONAL: Was waren für Sie als Team die herausforderndsten Situationen, in denen es zu Unstimmigkeiten kam?
10. Sind die Aufgabenbereiche klar definiert und separiert?
11. Können Sie eine wichtige Entscheidung nennen, die Sie in der letzten Zeit als Team getroffen haben? Können Sie den Entscheidungsprozess beschreiben – von der Problemstellung bis zur Entscheidung?  
*[Wichtig: Rollen der einzelnen Teammitglieder z.B. Treiber, eher zurückhaltend; Wie ging es dir dabei?]*
12. Können Sie mir Ihre Rolle/Verantwortungsbereich im Unternehmen beschreiben?
13. Haben Sie das Gefühl, dass die Themen, die Sie abgeben, dort auch gut aufgehoben sind?
14. Leisten alle Mitgründer den gleichen Beitrag für das Unternehmen? Sind Sie zufrieden damit?
15. Gibt es eine Vesting-Klausel? Warum?
16. Wie würden Sie Ihren Gründungspartner beschreiben?  
*[Charakteristik z.B. dominant, schüchtern – evtl. auf genannte Rollen eingehen]*
17. Wie würden Sie Ihre Beziehung beschreiben? Hat sie sich über die Zeit verändert?  
*[z.B. eher freundschaftlich oder professionell, Stärken/Schwächen, gemeinsame Freizeit]*

18. Wie würden Sie Ihr Commitment zu Ihrem Unternehmen einschätzen? Wie würden Sie Ihr Commitment zu Ihrem Partner einschätzen? Und das von Ihrem Partner zum Unternehmen und Ihnen als Partner?
19. Können Sie sich an eine bestimmte Situation erinnern, in der Sie sehr überrascht waren von Ihrem Teammitglied? *[z.B. bestimmte Reaktionen oder Aktionen]* Haben Sie generell das Gefühl Sie können manchmal die Aktionen oder Reaktionen Ihres Partners voraussagen?

### **Ausblick**

20. Was sind aus Ihrer Sicht Dinge, die Sie als Team noch besser machen könnten, um noch besser zusammen zu arbeiten?
21. Wie stellen Sie sich die weitere Entwicklung Ihres Unternehmens in den nächsten 5 oder 10 Jahren vor?  
*[Teilt Teampartner dieses Vorhaben?]*
22. Was machen Sie dann in 5 oder 10 Jahren? Wo denken Sie sieht sich Ihr Gründungspartner?
23. Wenn Sie die Möglichkeit hätten wieder ein Unternehmen zu gründen, würden Sie wieder Ihren derzeitigen Partner involvieren?

## 6.2. Interview guideline for entrepreneurial team members – Second round

### Rückblick

24. Was waren die größten Erfolge in der letzten Zeit?

25. Wie ist der Team Spirit momentan? Hat sich im Team etwas verändert?

*[z.B. Konstellation, Aufgabenbereiche]*

26. Was waren die größten Herausforderungen oder größten Rückschläge?

*[z.B. Unternehmen sowie im Team – Was waren für Sie als Team die herausforderndsten Situationen, in denen es vielleicht zu Unstimmigkeiten kam?]*

*[Ja:]* Wie gehen Sie als Team mit solchen Situationen um? Reagieren Sie unterschiedlich darauf? Haben Sie da unterschiedliche Rollen, bei solchen Herausforderungen?

*[z.B. ruhige/panische Art und Weise, strahlt Sicherheit/Unsicherheit aus]*

### Team Entwicklung

27. Wie hat sich die Zusammenarbeit verändert?

*[Strukturen, Teamregeln, Intensität des direkten Austauschs etc.]*

28. Wie sehen Sie allgemein den Beitrag der einzelnen Teammitglieder zum Erfolg des Unternehmens? Gibt jeder den Input und den Output, so wie es ausgemacht war?

*[Ist der Arbeitsanteil gleich verteilt? Bist du zufrieden damit?]*

29. Hat sich Ihr Commitment oder das Commitment Ihrer Partner verändert?

30. Wie hat sich Ihre Beziehung über die Zeit entwickelt? Hat sie sich in den letzten Monaten verändert? Wie würde Ihr Partner die Beziehung beschreiben?
31. Paul Graham, Mitgründer von Y Combinator, schreibt in seinem Blog „*It's like we're married, but we're not fucking.*“ Wie sehen Sie das?
- [Ja:] Wie war die Entwicklung dorthin für euch?
- [Nein:] Gibt es Tendenzen in diese Richtung oder vermeiden Sie das bewusst?
32. Wie würde Ihr Partner zu diesem Zitat stehen?
33. Was inspiriert Sie am meisten an Ihrem Gründungspartner? Wo können Sie sich noch etwas anschauen?
34. Was denken Sie findet Ihr Gründungspartner an Ihnen inspirierend?
35. Umgekehrt: Was sind Ihre Schwächen?
36. Haben Sie bestimmte Normen oder Strukturen im persönlichen Umgang miteinander? Gibt es manchmal Unsicherheiten im Umgang miteinander?
37. Können Sie im Team offen sprechen? Oder gibt es vielleicht irgendwelche Themen, die Sie mit sich herumtragen und Sie aus irgendwelchen Gründen noch nicht ausgesprochen haben?
38. Haben Sie das Gefühl, dass das Team auch bei schwierigen Entscheidungen oder auch Fehlentscheidungen ausreichend hinter Ihnen steht? Angenommen Sie haben eine Fehlentscheidung getroffen, wie gehen Sie bei der Klärung der Situation vor? Können Sie mich gedanklich durch einen solchen Moment führen?
39. Inwiefern wird im Team auch ein eher risikofreudiges Verhalten durch einzelne Teammitglieder toleriert?

## **Ausblick**

40. Was würde passieren, wenn Ihr Gründungspartner plötzlich für mehrere Monate ausfallen würde? Was würde passieren, wenn Sie ausfallen würden?
41. Worauf freuen Sie sich denn am meisten in der nächsten Zeit in Ihrem Unternehmen?