Passion Beyond the Self:

Investigating Dynamic, Cognitive, and Multifaceted Perspectives of Passion in Entrepreneurship

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List of Abbreviations

b	Unstandardized beta coefficient
ß	Standardized beta coefficient
CFI	Comparative Fit Index
CI	Confidence interval
e.g.	exempli gratia (for example)
et al.	et alii (and others)
ICC	Intraclass correlation coefficient
i.e.	id est (that is)
M	Mean
n.a.	not applicable
p	p-value
PE	Person-Environment
RMSEA	Root Mean Square Error of Approximation
SE	Standard Error
SD	Standard Deviation
SRMR	Standardized Root Mean Square Residual
t	Measurement Wave
TLI	Tucker-Lewis Index
VIF	Variance Inflation Factor

Abstract

Entrepreneurship research has attested to the critical value of passion for entrepreneurs' success. Within this progressing research stream, this dissertation seeks to address underexplored topics that particularly lay at the intersection of individual entrepreneurs and their start-up teams. Employing varying methodological approaches (qualitative, quantitative, and experimental designs), this dissertation examines the emergence of team entrepreneurial passion, the regulation of passion within start-up teams, passion's capacity as a signal between entrepreneurial leaders and employees, as well as a parameter for entrepreneurs' exit decisions. Covering various topics across the entrepreneurial journey, this dissertation provides new perspectives on entrepreneurial passion beyond the individual. It sheds light on passion's dynamic and complex value for entrepreneurial teams and organizations. Therefore, this dissertation offers new insights for research on entrepreneurial passion, entrepreneurial teams, and leadership, as well as practical implications for entrepreneurs, teams, and their supporters.

CHAPTER I: INTRODUCTION

The entrepreneurial journey is an emotional endeavor paved with challenges that entrepreneurs must frequently face head-on (Baron, 2008). As such, entrepreneurs need to identify meaningful resources and motivational drivers to endure the extreme entrepreneurial environment with high levels of uncertainty, informational overload, and time pressure (Baron, 1998; Baum & Locke, 2004; Murnieks, Klotz, & Shepherd, 2020). Within the last two decades of research in entrepreneurship, scholars have begun to examine entrepreneurial passion as an essential parameter of entrepreneurs' success and well-being across various stages in the entrepreneurial journey (Newman et al., 2021; Hao Zhao & Liu, 2023).

Entrepreneurial passion is the "'fire in the belly' that makes the improbable possible" (Smilor, 1997, p. 342). Based on the conceptualization by Cardon et al. (2009), entrepreneurial passion can be defined as "consciously accessible, intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur" (p. 517). There are three role identities which entrepreneurs can develop a passion for, namely inventing, founding, and developing (Cardon et al., 2009) which are related to specific entrepreneurial activities based on the taxonomy by Gartner et al. (1999). For instance, entrepreneurs with a passion for inventing are keen on scanning the environment for new opportunities and developing new products and services (Cardon et al., 2009). However, recent studies raise awareness of the targets of passion and whether entrepreneurs can develop a passion for additional role identities and associated activities (Cardon, Glauser, & Murnieks, 2017).

Overall, since the seminal work by Cardon et al. (2009), scholars have established strong theoretical and empirical evidence for the invaluable capacity of passion to drive success for entrepreneurs and their ventures (Gielnik, Spitzmuller, et al., 2015; Newman et al., 2021; Pollack et al., 2020). While these studies have progressed to examine passion beyond

the entrepreneur itself, for example, focusing on start-up employees (Breugst et al., 2012; Cardon, 2008; Hubner et al., 2020; Lewis & Cardon, 2020) and investors (Mitteness et al., 2012; Murnieks et al., 2016; Oo et al., 2019), rather recently, scholars have embarked on investigating entrepreneurial passion shared within entrepreneurial teams, i.e., team entrepreneurial passion (TEP).

Based on team members' individual entrepreneurial passion, entrepreneurial teams can develop a shared sense of what the team is passionate for (Cardon, Post, & Forster, 2017). While previous studies find a strong link between TEP and performance (Boone et al., 2020; Santos & Cardon, 2019), scholars additionally emphasize a potential negative side of the individual and shared passion within teams, particularly when focusing on team passion diversity (de Mol et al., 2020). Further, Taggar et al. (2024) demonstrate that temporal perspectives can help to understand how individual and team entrepreneurial passion are dynamically interconnected and affect team performance over time. This is particularly important considering that the understanding of how TEP develops is still limited (X. Zhu et al., 2023).

While research on entrepreneurial passion has generally flourished in the last years, recent reviews point towards numerous underexplored areas that require further examination to fully understand how entrepreneurs, their teams, and other stakeholders experience, process, and respond to entrepreneurial passion across the entrepreneurial process (Kakarika et al., 2022; Riar et al., 2023; Schwarte et al., 2023; Hao Zhao & Liu, 2023). This dissertation addresses several remaining puzzle pieces, focusing on entrepreneurial passion shared and experienced by entrepreneurial teams, the cognitive processing of entrepreneurial passion, and passion as a signal between entrepreneurial leaders and start-up employees.

1.1 Guiding Research Questions

This dissertation aims to contribute to the growing research on (shared) entrepreneurial passion in entrepreneurship by providing new perspectives on core issues within this research stream. These core issues are encapsulated by three distinct research questions which are at the center of this dissertation:

Research question 1:

How does team entrepreneurial passion develop over time and what factors influence its emergence?

Research question 2:

How do entrepreneurial teams regulate (shared) entrepreneurial passion over time?

Research question 3:

How does entrepreneurial passion affect the decision-making processes of entrepreneurs and other stakeholders?

Figure 1 provides an overview of the studies conducted in this dissertation to address these key questions.

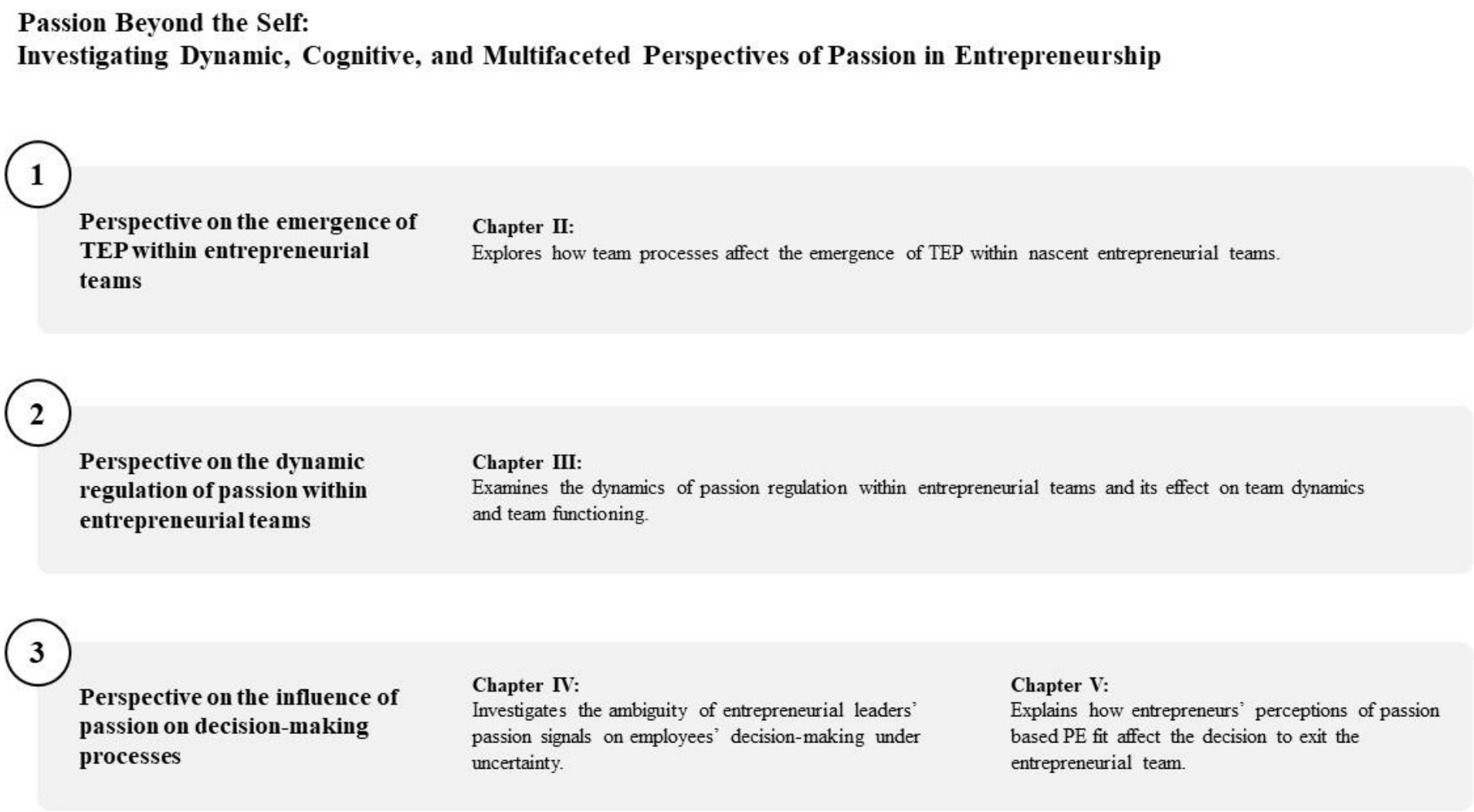

Figure 1: Holistic research model of this dissertation

1.1.1 The Emergence of Team Entrepreneurial Passion

While entrepreneurial passion has long been established as an invaluable characteristic of individual entrepreneurs (Newman et al., 2021; Pollack et al., 2020; Riar et al., 2023), research on team entrepreneurial passion is rather limited. Following the seminal theoretical framework by Cardon, Post, and Forster (2017) previous studies have predominantly focused on the relevance of TEP for team performance (Boone et al., 2020; Santos & Cardon, 2019; Su et al., 2024), but less on the dynamic and complex nature of shared passion within entrepreneurial teams (Taggar et al., 2024) or the emergence of TEP (Ginting-Szczesny et al., 2024; X. Zhu et al., 2023). To address this shortcoming, the first research question of this dissertation concerns the emergence of TEP in entrepreneurial teams: *How does team entrepreneurial passion develop over time and what factors influence its emergence?*

Chapter II, "The Reciprocal Relationship Between Team Entrepreneurial Passion and Team Processes", addresses this research question by drawing on the multilevel theory of emergence (Klein & Kozlowski, 2000). This longitudinal study examines the role of team processes as precursors of TEP development and underlines the reciprocal relationship between team processes and emergent states (TEP) over time. The study finds that specific team processes (transition and interpersonal processes) drive the development of TEP, and in turn, distinct types of TEP (TEP for founding and TEP for inventing) positively affect consecutive team processes. These findings demonstrate that TEP emergence depends on how team members interact with one another and extends prior theoretical underpinnings focusing on affective and identity-related processes (Cardon, Post, & Forster, 2017).

1.1.2 Regulation of (Shared) Passion in Entrepreneurial Teams

A plethora of research validates entrepreneurial passion as an eminent resource motivating entrepreneurs to persist despite challenges (Cardon & Kirk, 2015; Kiani et al.,

2023) and lead their ventures toward success (Mueller et al., 2017). Despite the positive benefits of passion, several studies have raised awareness of its dynamic nature and the need for an in-depth understanding of how passion can be maintained and regulated over time (Kakarika et al., 2022; Schwarte et al., 2023; Taggar et al., 2024). Considering the challenging and dynamic nature of entrepreneurial teams and venture life cycles (Patzelt et al., 2021), such regulation processes may be particularly important to enact before the entrepreneurial passion fades away (Collewaert et al., 2016). However, the current understanding of how entrepreneurs and particularly teams regulate their entrepreneurial passion over time is scarce (Kakarika et al., 2022; Schwarte et al., 2023). In sum, these considerations emphasize the second research question of this dissertation: *How do entrepreneurial teams regulate (shared) entrepreneurial passion over time?*

This complex issue is examined employing a longitudinal, qualitative research approach which is described in Chapter III, that dives into team dynamics and passion regulation strategies. Conducting a multiple case study (Eisenhardt, 1989, 2021), "Staying Ablaze – Passion Regulation in Failing and Non-Failing Entrepreneurial Teams" (Chapter III) compares unique data from failing and non-failing entrepreneurial teams based on semi-structured qualitative interviews. The theoretical model derived from this data reveals distinct patterns of passion regulation strategies that dynamically shape how entrepreneurial teams work effectively together or fail to do so. Chapter III provides essential findings to help understand passion regulation from a multi-level perspective, further deepening the understanding of entrepreneurial teams' life cycle.

1.1.3 The Role of Entrepreneurial Passion in Decision-making

As entrepreneurial passion is based on entrepreneurs' intense positive feelings when engaging in activities with high identity centrality (Cardon et al., 2009), numerous studies

have investigated affective and identity-related aspects of entrepreneurial passion for explaining entrepreneurial attitudes and behavior (for a recent meta-analysis, see Riar et al. 2023). Apart from the affective and identity-related effects of entrepreneurial passion, there is comparatively little on the cognitive processing of passion besides being "consciously accessible" to the entrepreneur (Cardon et al., 2009, p. 515). The few existing studies largely utilize a self-regulation perspective to explain the interplay of passion and cognition (Gielnik, Spitzmuller, et al., 2015; Lex et al., 2020).

While these studies have extended our understanding of passion and cognition, this research stream still holds fruitful avenues for new theoretical perspectives. How entrepreneurial passion affects entrepreneurs' decision-making retains significant relevance considering the various decisions entrepreneurs must make along their entrepreneurial journey.

Moving beyond the individual level of the entrepreneur, a few studies have demonstrated that perceptions of entrepreneurial passion are crucial for the decision-making processes of other stakeholders. The existing studies have predominantly taken on a signaling perspective (Spence, 1973, 2002). For instance, previous research has shed light on passion as a decisive signal for investors (Oo et al., 2019; Warnick et al., 2018) or co-founders (Fu et al., 2022). Further, studies have looked into the capability of entrepreneurs' passion to promote employee-level outcomes (Breugst et al., 2012; Hubner et al., 2020).

How employees respond to entrepreneurs' passion signals is particularly important, as they are imperative for venture success (van Lancker et al., 2022). Despite that, current research lacks an understanding of how entrepreneurs' passion signals may impact employees' decision-making processes when passion signals are not associated with role identities (Cardon et al., 2009) but passion is internalized harmoniously or obsessively (Vallerand et al., 2003). Taken together, the concerns mentioned above motivate the third research question of

this dissertation: *How does entrepreneurial passion affect the decision-making processes of entrepreneurs and other stakeholders?*

Chapters IV and V address this research question from two perspectives. Chapter IV represents a multi-study approach to examine the effects of entrepreneurial leaders' passion signals on employees' decision-making under uncertainty. "Driven by Passion – How Do Entrepreneurs' Passion Signals Influence Employees' Decision-Making Under Uncertainty?" (Chapter IV) entails two metric conjoint experiments that demonstrate the ambiguous effect of entrepreneurs' passion on employee-level outcomes. The study highlights that entrepreneurs' signals of passion affect employees' perceived uncertainty, which shapes their decision to explore or exploit business opportunities. Depending on signals of passion strength and type, i.e., harmonious or obsessive passion, this study reveals distinctions of passion signals that determine employees' actions mediated by their perceived uncertainty.

"Fit In or Get Out – Perceived Passion Fit and Team Member Exit" (Chapter V) explores the role of (shared) entrepreneurial passion in entrepreneurs' decision to exit the entrepreneurial team. Based on person-environment fit (PE fit) theory (Cable & Edwards, 2004; Muchinsky & Monahan, 1987), explores two distinct types of passion fit, supplementary and complementary fit, and their effect on exiting the entrepreneurial team. In doing so, this study offers valuable insights into an important phenomenon within the entrepreneurial journey – the exit of founders from their teams (Patzelt et al., 2021; Preller et al., 2023; Wennberg & DeTienne, 2014). The study suggests that entrepreneurs' perceptions of fit are not only based on the passion complementarity with their team members (supplementary passion fit) but also on how well they perceive pursuing their individual passion in the venture environment (complementary passion fit). Therefore, Chapter V offers new theoretical contributions on how entrepreneurial passion can induce cognitive processes and shape decision-making.

In conclusion, Chapters IV and V complement the previous chapters of this dissertation by highlighting the importance of (shared) entrepreneurial passion across the team and venture life cycle (Patzelt et al., 2021). Overall, presenting novel empirical and theoretical perspectives on passion in entrepreneurship, this dissertation strengthens and solidifies the role of passion as an indispensable asset for entrepreneurs, entrepreneurial teams, and their stakeholders to navigate successfully through the dynamic entrepreneurial journey.

1.2 Methodological Approaches and Data

This dissertation utilizes different methodological approaches to examine the above-mentioned research questions. Table 1 provides an overview of all studies, including the research designs, data, and analytical procedures. Taken together, this dissertation is based on five studies: one quantitative longitudinal, one qualitative, and three experimental designs. All studies will be described in detail in the respective chapters (chapters II to V) and discussed in Chapter VI of this dissertation.

Table 1: Overview of methodological approaches, data, and analytical procedures

Chapter	Study design	Data	Analytical procedure
Chapter II: The Reciprocal Relationship Between Team Entrepreneurial Passion and Team Processes	Longitudinal experience sampling design (monthly surveys over four months, two consecutive years)	254 entrepreneurship students nested in 52 teams	Multilevel regression models with lagged variables
Chapter III: Staying Ablaze – Passion Regulation in Failing and Non-Failing Entrepreneurial Teams	Longitudinal, qualitative study, multiple case study approach	73 semi-structured interviews, nested in 6 entrepreneurial teams, with up to 4 interview waves for 12 months	Following the guidelines for multiple case study design by Eisenhardt (1989, 2021), as well as Gioia et al. (2013) and Corbin & Strauss (1990)
Chapter IV: Driven by Passion – How Do Entrepreneurs' Passion Signals Influence Employees' Decision-Making Under Uncertainty?	Multi-study approach including two metric conjoint experiments	For study 1, 1,440 observations nested in 90 startup employees; for study 2, 1,472 observations nested in 92 startup employees.	Multilevel structural equation modeling with cross-level interactions and mediation analysis (study 1); hierarchical regression modeling (study 2); simple slope analysis (study 1 and 2)
Chapter V: Fit In or Get Out – Perceived Passion Fit and Team Member Exit	Metric conjoint experimental study	1,232 decisions nested in 77 entrepreneurs	Hierarchical regression modeling and simple slope analysis

1.3 Dissertation Structure and Overview

This cumulative dissertation entails four empirical papers to examine new perspectives of (team) entrepreneurial passion in entrepreneurship. Table 2 shows a summary of all articles including detailed information on the status of and the team of authors for each research project.

Table 2: Overview of conducted studies and personal contributions

Study	Presentation and Conference Proceedings	Personal Contributions	Authors
Study 1 The Reciprocal Relationship Between Team Entrepreneurial Passion and Team Processes (Chapter II)	▪ Presented at Babson College Entrepreneurship Research Conference, 2021 ▪ Presented at the Annual Meeting of the Academy of Management 2022, Seattle ▪ Presented at 25th Annual Interdisciplinary Conference on Entrepreneurship, Innovation and SMEs (G-Forum), 2022, Dresden ▪ Currently, this manuscript is submitted to a journal.	Conceptualization Study design Data collection Data analysis Writing, reviewing, and editing the manuscript Presenting at conferences Submitting to journal	Andreas Schunk (lead author) Dr. Jens Schüler Prof. Dr. Matthias Baum
Study 2 Staying Ablaze – Passion Regulation in Failing and Non-Failing Entrepreneurial Teams (Chapter III)	▪ Presented at 26th Annual Interdisciplinary Conference on Entrepreneurship, Innovation and SMEs (G-Forum), 2023, Darmstadt ▪ Accepted for presentation at Annual Meeting of the Academy of Management 2024, Chicago ▪ Currently, this manuscript is being prepared for journal submission	Conceptualization Study design Data collection Data analysis Writing, reviewing, and editing the manuscript Presenting at conferences	Andreas Schunk (lead author) Dr. Sonja Franzke Prof. Dr. Rebecca Preller Prof. Dr. Matthias Baum
Study 3 Driven by Passion – How Do Entrepreneurs' Passion Signals Influence Employees' Decision-Making Under Uncertainty? (Chapter IV)	▪ Presented at 26th Annual Interdisciplinary Conference on Entrepreneurship, Innovation and SMEs (G-Forum), 2023, Darmstadt ▪ Currently, the manuscript is submitted to a journal.	Conceptualization Study design Data collection Data analysis Writing, reviewing, and editing the manuscript Presenting at conferences Submitting to journal	Andreas Schunk (lead author) Nima Esmaili Konari Dr. Jens Schüler Prof. Dr. Matthias Baum
Study 4 Fit In or Get Out – Perceived Passion Fit and Team Member Exit (Chapter V)	▪ Presented at 26th Annual Interdisciplinary Conference on Entrepreneurship, Innovation and SMEs (G-Forum), 2023, Darmstadt ▪ Currently, the manuscript is being prepared for journal submission.	Conceptualization Study design Data collection Data analysis Writing, reviewing, and editing the manuscript Presenting at conferences Submitting to journal	Andreas Schunk (lead author) Prof. Dr. Matthias Baum

The first study, “The Reciprocal Relationship Between Team Entrepreneurial Passion and Team Processes” (presented in Chapter II) was co-authored by Dr. Jens Schüler and Prof. Dr. Matthias Baum. Drawing from the multilevel theory of emergence (Klein & Kozlowski, 2000), this study investigates the reciprocal relationships between team processes and TEP emergence in nascent entrepreneurial teams. Employing a longitudinal experience sampling design with data from 254 individuals nested within 52 entrepreneurial student teams, the study shows that transition and interpersonal processes foster TEP development. Further, TEP for inventing improves consecutive transition and interpersonal processes, whereas TEP for founding positively affects subsequent action processes. The study provides an interpersonal perspective of TEP development based on team processes, which contributes to the burgeoning research on team entrepreneurial passion.

The second study, “Staying Ablaze – Passion Regulation in Failing and Non-Failing Entrepreneurial Teams” (co-authored by Dr. Sonja Franzke, Prof. Dr. Rebecca Preller, and Prof. Dr. Matthias Baum), further delves into the dynamics of team entrepreneurial passion and how team members regulate their (shared) passion over time. This study utilizes a longitudinal, qualitative multiple-case study approach to examine passion regulation processes within entrepreneurial teams over time. Comparing data from six cases (three failing and three non-failing entrepreneurial teams) based on 73 semi-structured interviews over 12 months, the study reveals two distinct regulation pathways of passion – team-focused and individual-focused. For each pathway, this study identifies unique passion regulation strategies that determine whether entrepreneurial teams develop and nurture their shared passion or instead focus on pursuing their individual passion, leading to team dissolvement. The findings complement and extend prior research on team entrepreneurial passion and entrepreneurial teams highlighting that entrepreneurial teams’ passion regulation processes are closely related to team dynamics and effectiveness.

The third study, “Driven by Passion – How Do Entrepreneurs’ Passion Signals Influence Employees’ Decision-Making under Uncertainty?” (co-authored by Nima Esmaili Konari, Dr. Jens Schüler, and Prof. Dr. Matthias Baum) comprises two metric conjoint experiments to further explore the role of entrepreneurs’ passion signals on employee-level outcomes. Employing a multi-study approach (study 1: 1,440 observations from 90 startup employees; study 2: 1,472 observations nested within 92 startup employees), this study differentiates the ambiguous effects of leaders’ passion signals on employees’ decision-making under uncertainty. Drawing on the dualistic passion model (Vallerand et al., 2003), this study distinguishes signals of passion type and strength that determine employees’ perceived uncertainty during decision-making. Whereas signals of obsessive passionate leaders increase employees’ perceived uncertainty, signals of harmoniously passionate leaders and strongly displaying a passion for business opportunities reduce employees’ uncertainty. Further, this study emphasizes that employees’ own dualistic passion moderates how they regulate the perceived uncertainty, determining whether they choose to engage in explorative or exploitative actions.

Lastly, the fourth study, “Fit In or Get Out – Perceived Passion Fit and Team Member Exit” (co-authored by Prof. Dr. Matthias Baum), investigates the role of entrepreneurial passion as a decisive factor in team member exit. Utilizing a person-environment fit perspective (Cable & Edwards, 2004; Muchinsky & Monahan, 1987), we conducted a metric conjoint experiment that explores two distinct forms of passion fit, supplementary and complementary passion fit. The study finds that both forms of passion fit affect entrepreneurs’ decision to exit their venture team. Further, we find that entrepreneurs’ proactive personality moderates the relationship between supplementary passion fit and team member exit. These findings provide new theoretical mechanisms of how entrepreneurs cognitively process passion, which guides their decision-making. Following these introductory remarks, the next

chapters will present all studies in detail while Chapter VI will summarize and discuss this dissertation's overall findings. Further, theoretical and practical implications will be inferred.

CHAPTER II: THE RECIPROCAL RELATIONSHIP BETWEEN TEAM ENTREPRENEURIAL PASSION AND TEAM PROCESSES

ABSTRACT

While previous research suggests that the passion and teamwork of the founding members are essential precursors of new venture success, we know less about the emergence and growth of team entrepreneurial passion (TEP), specifically in nascent entrepreneurial teams. In this study, we focus on entrepreneurial student teams to assess how TEP emerges in the early stages of entrepreneurship. Drawing on the multilevel theory of emergence and employing a longitudinal experience sampling design (254 individuals nested within 52 entrepreneurial student teams), we argue that team processes predict how TEP emerges and that TEP, in turn, influences the quality of ongoing team processes. Our findings show that transition and interpersonal processes positively affect TEP, whereas action processes seem unrelated. TEP for inventing, in turn, positively influences the development of transition and interpersonal processes, whereas TEP for founding shapes consecutive action processes. We discuss implications for future research on TEP and team processes.

Keywords:

team entrepreneurial passion; team processes; entrepreneurial student teams; entrepreneurial passion

2.1 Introduction

The development of a consistent team entrepreneurial passion (TEP) is increasingly discussed as a significant predictor of the team and subsequent new venture performance (Boone et al., 2020; de Mol et al., 2020; Santos & Cardon, 2019). TEP can be defined "as the level of shared intense positive feelings for a collective team identity that is high in identity centrality" for the new venture team (Cardon, Post, & Forster, 2017, p. 286). However, the few existing empirical studies usually investigate TEP's effects on team-level outcomes within teams that have already been working together for a while (Boone et al., 2020; de Mol et al., 2020; Santos & Cardon, 2019; Su et al., 2024), leaving it in the dark how teams arrive at a consistent TEP while others fail to do so (Uy et al., 2021; X. Zhu et al., 2023). One reason for this limited understanding is that TEP's emergence is tightly – and reciprocally - interwoven with how teams work together, making it hard to study. That is, without observing TEP alongside team processes, we fall short of comprehending how entrepreneurial teams can work well together, which is particularly troublesome given its importance for a venture's success (Jin et al., 2017; Newman et al., 2021).

With the present study, we seek to examine how TEP emerges and interplays with team processes. Specifically, we argue that team processes, i.e., transition, action, and interpersonal processes (Marks et al., 2001), are predictors of TEP formation and that TEP subsequently influences the quality of team processes. Conceptually, we draw on the theoretical framework of TEP (Cardon, Post, & Forster, 2017) and the multilevel theory of emergence (Kozlowski & Klein, 2000). The multilevel theory of emergence states that characteristics of individual group members can develop into shared group characteristics through social interactions (Kozlowski & Klein, 2000). Team processes, in particular, represent essential forms of such interactions between group members, as "they describe how team inputs are transformed into outcomes" (Mathieu et al., 2008, p. 412). Team processes

allow entrepreneurial team members to effectively communicate and display what they are passionate about, making it easier for them to understand each other (i.e., their passion, defining emotions, and entrepreneurial identity) and, thus, build a consistent basis for TEP. Reversely, a consistent TEP should facilitate the team processes in nascent entrepreneurial teams, given that TEP goes along with positive emotions and a shared understanding among the team members. As emergent states exert downward influences on team member interactions (Waller et al., 2016), we posit that TEP, as an emergent state, impacts the subsequent quality of team processes, which further supports TEP's implications for team performance (Boone et al., 2020; Santos & Cardon, 2019). We empirically test our theoretical predictions with a longitudinal experience sampling design spanning two four-month entrepreneurship training cohorts in consecutive years, resulting in 254 individuals nested within 52 teams.

With our study, we seek to make two important contributions to the literature on entrepreneurial passion and teams. First, by integrating the conceptual TEP framework of (Cardon, Post, & Forster, 2017) with the multilevel theory of emergence (Kozlowski & Klein, 2000), we demonstrate that team processes, i.e., transition, action, and interpersonal processes (Marks et al., 2001), function as predictors of TEP development. These processes comprise team members' interactions, coordinating their activities during action phases (action processes), monitoring their next goals in between action phases (transition processes), and managing their personal conflicts and relations in the team (interpersonal processes). As teams engage in these processes and interact with each other, they continuously enact their entrepreneurial passion and become receptive to creating a shared TEP within their team. As we accompany the student teams directly from the beginning of their entrepreneurial endeavors, we can delve into the nascent processes that shape how a team develops and, thus, clarify which processes are particularly salient for the emergence of a consistent TEP.

Second, we adopt a dynamic perspective on TEP (de Mol et al., 2020; Santos & Cardon, 2019; Taggar et al., 2024) and conceptualize TEP as an emergent state that varies "as a function of team context, inputs, processes, and outcomes" (Marks et al., 2001, p. 357). That is, TEP emerges bottom-up as a shared affect and collective identity fuelled by the individual entrepreneurial passion of the team members and develops through repeated team processes (Cardon, Post, & Forster, 2017). This further adds to recent scholarly developments regarding the interpersonal facets of entrepreneurial passion (Schwarte et al., 2023). While individual entrepreneurial passion can vary over time in both intensity and focus (Collewaert et al., 2016; Lex et al., 2020; Uy et al., 2021), probing into the dynamics of TEP helps to explain why certain teams do not develop a shared TEP and when TEP is beneficial for team effectiveness (Boone et al., 2020; de Mol et al., 2020; Santos & Cardon, 2019).

In sum, our paper highlights the dynamic nature of TEP during its emergence by investigating the relationship between team processes and TEP. We show that TEP and team processes are intertwined in reciprocal relationships during emergence. While team processes positively affect a team's shared TEP, TEP boosts a team's subsequent team processes. In doing this, we advance on a relatively static assessment of team processes (Carter et al., 2018; Kozlowski, 2015) and illuminate their interconnectedness and temporal dynamics with emergent states.

2.2 Theory and Hypotheses

Theoretical Background and Definition of Key Concepts

Entrepreneurial passion lies at the heart of entrepreneurship (Baum & Locke, 2004; Cardon et al., 2012). Defined as an intense positive feeling for entrepreneurial activities that are meaningful to the entrepreneur's self-identity (Cardon et al., 2009), entrepreneurial passion enables entrepreneurs to stay persistent (Cardon & Kirk, 2015), obtain funding

(Cardon, Mitteness, & Sudek, 2017; Mitteness et al., 2012), and motivate employees through passion contagion (Hubner et al., 2020). Similar to individual entrepreneurial passion, teams can develop a shared TEP for specific role identities they feel passionate about. These role identities relate to central entrepreneurial activities, namely inventing, founding, and developing (Cardon, Post, & Forster, 2017). Despite these similarities, we know comparatively little about TEP's emergence and resulting team processes (Cardon, Post, & Forster, 2017; Ginting-Szczesny et al., 2024; Lex et al., 2020; X. Zhu et al., 2023). We propose the multilevel theory of emergence (Kozlowski & Klein, 2000) as a fruitful extension of the current theoretical perspectives on TEP development (Cardon, Post, & Forster, 2017; X. Zhu et al., 2023) to gain a better understanding of its emergence. Our conceptual model summarizes our theorizing which we will outline below (Figure 2).

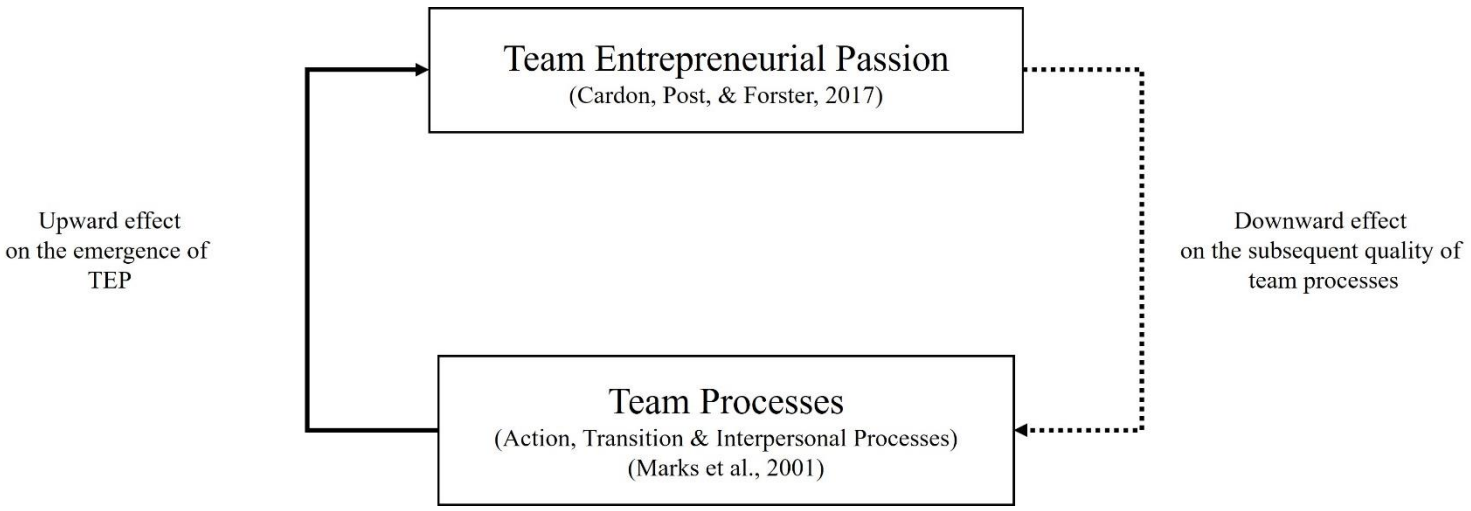

Figure 2: Overview theoretical model

The multilevel theory of emergence (Kozlowski & Klein, 2000) explains the transformation of individual team members' characteristics into collective group-level phenomena through social interactions over time. When teams are formed and begin working together, emergent phenomena develop through team members' interactions. An emergent

phenomenon – such as TEP (Santos & Cardon, 2019; Uy et al., 2021) – originates in individuals' cognition, affect, behavior, or other characteristics, is amplified by the interactions among individuals, and gradually manifests as a higher group-level (Kozlowski & Klein, 2000). Consequently, how team members engage with each other, what rules they define, and overall, how they interact with one another affects the emergence of shared team properties.

Team processes represent a vital form of interaction among team members and are crucial for the development of emergent phenomena (Crawford & LePine, 2013). These processes consist of specific team activities that define how team members combine and coordinate their resources, knowledge, skills, and efforts to resolve task demands (Kozlowski & Ilgen, 2006).

The team processes literature broadly distinguishes team processes into transition, interpersonal, and action processes (Marks et al., 2001). We employ this conceptualization to assess how these team processes affect the emergence of TEP. Following Marks et al. (2001), transition processes refer to activities between action periods when teams evaluate their performance and plan their next steps or goals, e.g., mission analysis, goal specification, and strategic planning. Action processes include activities during performance periods that promote goal accomplishment, e.g., progress monitoring and team coordination. Interpersonal processes represent actions that focus on managing interpersonal relationships among team members, e.g., conflict and affect management (Marks et al., 2001; Mathieu et al., 2020). These team processes describe specific interactions among team members and offer a new perspective on how TEP emerges in nascent teams.

The Effects of Team Processes on TEP Emergence

Team processes and emergent phenomena (such as TEP) are connected in reciprocal relationships. Emergent states develop through repeated interactions between team members

and thus manifest as “echoes of repeated process interactions” that ultimately affect team processes (Kozlowski & Ilgen, 2006, p. 81; Kozlowski & Klein, 2000). Previous research shows that affective and cognitive emergent states are positively tied to team processes and performance (LePine et al., 2008; Mathieu et al., 2017).

Bringing these considerations together, we argue that TEP arises from dynamic team processes within nascent teams. As entrepreneurial passion is associated with specific activities one feels passionate about (Cardon et al., 2009), team members coordinating, planning, and evaluating these activities, i.e., engaging in team processes, expose their entrepreneurial passion to each other. Thus, in doing so, team processes uncover to what extent and for what role identity team members are passionate about. Continuous interactions then promote a team’s overall awareness of their shared passion. In sum, team processes should facilitate the emergence of TEP.

We acknowledge that prior research on individual entrepreneurial passion and TEP has focused on specific dimensions of entrepreneurial passion, namely inventing, founding, and developing (Lex et al., 2020). However, as we investigate the emergence of a shared group TEP within nascent student teams, we argue that all role identities of passion can be prevalent among team members. Furthermore, entrepreneurial passion is associated with specific activities that are meaningful to each role identity (Cardon et al., 2009). As Marks et al.’s (2001) conceptualization of team processes is neither task nor activity-specific, we argue that team members engaging in these processes, i.e., coordinating and evaluating their activities, will reveal to each other which activities they are passionate about. Thus, over time, a shared TEP can emerge in the team. Therefore, we will focus on the effects of team processes on all TEP dimensions.

During transition processes, teams identify their following tasks, specify and prioritize their goals, and formulate their team’s strategy for task accomplishment (Marks et

al., 2001). Transition processes help teams reflect on past activities and plan subsequent actions (Marks et al., 2001; Mathieu et al., 2020). Thus, when transition processes are associated with activities for which members share an intense positive feeling or collective identity, these processes will promote the emergence of TEP (Cardon, Post, & Forster, 2017). Entrepreneurial passion motivates individuals to pursue identity-specific goals, e.g., opportunity recognition for the inventor identity (Cardon et al., 2009). Hence, through transition processes, such as specifying and prioritizing their team goals, team members become receptive to each other's goals and can develop a shared TEP for the associated role identity.

Action processes refer to task-related progress monitoring activities, e.g., coordinating actions and helping other team members with activities (Marks et al., 2001). As team members engage in these action processes, we argue that they become more receptive to their team members' inclination towards certain activities and, thus, increase their awareness of their team's shared entrepreneurial passion. This aligns with Cardon, Post, and Forster (2017) theorizing that interactions and coordination among team members can foster the development of a shared passion. Therefore, start-up teams develop a shared TEP through continuous engagement in action processes. Lastly, interpersonal processes include motivation and confidence building, affect, and conflict management (Marks et al., 2001). We argue that these interpersonal processes will increase a team's perception of their shared TEP by reducing conflict among team members, a negative factor of TEP development (Cardon, Post, & Forster, 2017). Taken together, we argue that all three team process types will positively affect the emergence of TEP (specifically TEP for inventing, founding, and developing), and we posit:

H1. Engaging in transition processes positively affects subsequent a) TEP for inventing, b) TEP for founding, and c) TEP for developing.

H2. Engaging in action processes positively affects subsequent a) TEP for inventing, b) TEP for founding, and c) TEP for developing.

H3. Engaging in interpersonal processes positively affects subsequent a) TEP for inventing, b) TEP for founding, and c) TEP for developing.

The Effect of TEP on Subsequent Team Processes

While TEP emerges as a shared group affect and collective identity, it will improve the subsequent development of group processes (Barsade & Gibson, 2012; Cardon, Post, & Forster, 2017). With a higher TEP, team members will have a clearer understanding of what their start-up team is passionate about and likes to spend their time on. This results in more efficient team processes such as the monitoring of tasks (action processes), planning the next actions (transition processes), and managing affect and conflicts (interpersonal processes) (Marks et al., 2001). Hence, TEP will positively impact the quality of team processes, which is in line with the multilevel theory of emergence (Kozlowski & Klein, 2000). The theory indicates that emergent states manifest due to team processes and affect consecutive team (Kozlowski & Ilgen, 2006; Kozlowski & Klein, 2000). As TEP develops, teams jointly experience intense positive feelings when engaging in certain activities (Cardon, Post, & Forster, 2017). Positive emotions are a strong signal for engaging in certain activities and are empowering to take the next steps (Fredrickson, 2001, 2013). Hence, we argue that a shared TEP (a shared affect) will enable teams to improve their team collaboration and enhance their team processes overall.

Considering the identity dimension of TEP, teams sharing a collective identity work together more effectively (Powell & Baker, 2017). Further, collective team identification positively affects team performance (Van Der Vegt & Bunderson, 2005). While team processes are linked to team effectiveness and performance (LePine et al., 2008; Mathieu et

al., 2020), we posit that developing a collective identity, i.e., TEP, will improve how a team collaborates and, thus, their team processes.

Turning to interpersonal processes, Boone et al. (2020) show that teams who share a TEP may experience fewer relationship conflicts when their collective identity fits the current development stage of the venture. Moreover, team familiarity, defined as how much team members know about each other's goals and values, positively impacts interpersonal processes (Killumets et al., 2015). Once TEP is formed, it functions as a "group emotional culture", signaling which behaviors are consistent with the team's passion (Cardon, Post, & Forster, 2017, p. 293). Hence, we argue that teams that share a high level of TEP will experience less affective conflict, which will positively affect subsequent interpersonal processes.

Considering the effects of TEP on action and transition processes, research on group affect indicates that teams experience better task performance when sharing a group affect (Barsade & Gibson, 2012). As action and transition processes are associated with task-related activities, e.g., monitoring and planning group tasks (Marks et al., 2001), we conclude that TEP will positively affect subsequent transition and action processes. The following hypotheses summarize our theoretical reasoning:

H4. TEP for inventing positively affects the subsequent quality of a) transition processes, b) action processes, and c) interpersonal processes.

H5. TEP for founding positively affects the subsequent quality of a) transition processes, b) action processes, and c) interpersonal processes.

H6. TEP for developing positively affects the subsequent quality of a) transition processes, b) action processes, and c) interpersonal processes.

2.3 Methodology

Data and Sampling

For two consecutive years, we collected our data during an entrepreneurship class for undergraduate students at a mid-sized university in Germany. We deliberately chose this research setting and sample for four reasons. First, TEP is likely to emerge very early in new ventures (Cardon, Post, & Forster, 2017). Students taking an elective entrepreneurship class are a suitable sample because we can follow them before team formation as they begin their founding activities, and their TEP is likely to emerge. Second, the course is elective, and students must actively select themselves for this class, meaning they are more likely to engage in entrepreneurial activities than average students. Third, the classroom setting allows us to establish almost laboratory conditions, i.e., we can accommodate comparable conditions for the different teams and thus reduce the likelihood that other external influences have disruptive effects on the variables of interest. Finally, our sample consists of undergraduate students at the end of their studies (most students are in their third and final year) and thus are close to potential career decisions, e.g., founding a company, and have already generated some experience in their previous studies making them more eligible subjects to entrepreneurship studies.

To further enhance the validity of our sample, participants received entrepreneurship method training before forming teams based on their interests. Each team was then tasked with identifying new venture opportunities and developing a suitable business model. The students brainstormed and validated their ideas in their respective groups and illustrated their business plans using the business model canvas. At the end of the class, each team had to produce a short pitch video in which they presented their business idea in a creative way to potential investors.

We collected the data with four monthly survey waves to capture the emergence of TEP and team processes. By adopting such a longitudinal approach, we can detect dynamic changes among core variables and – particularly – test for reciprocal relationships. Furthermore, we administered an initial survey before the team formation phase to capture individuals' baseline entrepreneurial passion, prior founding experience, and other control variables. In 2021, 157 students nested in 32 teams, and in 2022, 97 students nested in 20 teams participated in this class. On completion, our data set consists of 254 students nested in 52 teams; on average, each team consists of five members. 70.9% of all participating students are male and are, on average, 22 years old (ranging from 19 to 31 years), and 90.2% studied either business administration or economics.

Measures

All measures are based on well-established scales and were translated into German following a forward-translation, back-translation procedure (Brislin, 1970) . Unless stated otherwise, all variables were measured with a 7-point Likert-type scale anchored at 1 = "strongly disagree" and 7 = "strongly agree". All items, factor loadings, and reliabilities are provided in Appendix A. All team-level constructs (including TEP, team processes, and controls) were measured monthly over three consecutive waves (t2-4) after team formation (t1).

We aggregated the individual-level measures for TEP, team processes, and control variables into team-level averages. To ensure that the aggregation is justified, we computed the intra-class correlation coefficients ICC (1) and ICC (2) (Bliese, 2000) and an index for within-group interrater agreement (r_{wg}) (Biemann et al., 2012; L. R. James et al., 1993). Appendix A presents mean rwg(j), ICC (1), and ICC (2) for all relevant team constructs in the main measurement waves (t2, t3, and t4). Based on the calculated scores for rwg(j), ICC (1),

and ICC (2), we concluded that there is considerable agreement within teams to warrant aggregating individual-level constructs to the team level.

Team Entrepreneurial Passion

To assess team entrepreneurial passion, we used a referent-shift approach (Chan, 1998) to adapt the individual entrepreneurial passion scale of (Cardon et al., 2013) to the team level (Santos & Cardon, 2019). Like individual entrepreneurial passion, each TEP dimension was obtained by multiplying the averaged intense positive feelings scores with the respective identity centrality item (Cardon et al., 2013; Cardon, Post, & Forster, 2017; Santos & Cardon, 2019). On average, Cronbach's Alpha for TEP for inventing was 0.87, TEP for founding was 0.87, and TEP for developing was 0.83. Further, Appendix A presents additional information on factor loadings for all items. All three dimensions of TEP, inventing, founding, and developing (Cardon, Post, & Forster, 2017), were assessed by measuring both the intense positive feelings and the identity centrality of each domain.

Team Processes

We used the 10-item scale of Mathieu et al. (2020) to measure team processes. The scale contains three multi-item subscales capturing the three dimensions of team processes, i.e., transition, action, and interpersonal processes. Before data collection, we excluded one item for action processes measuring the team members' effort to monitor their working environments due to the contextual misfit with our sample, i.e., nascent teams without established working environments. Based on low factor loadings and item-total correlations for all waves (mean item-total correlation < 0.3; mean factor loadings = 0.32) (Carpenter et al., 2016; Smith et al., 2020), we eliminated one additional item for action processes assessing the extent to which teams seek feedback from stakeholders. On average, Cronbach's Alpha for transition processes was 0.79, 0.83 for action processes, and 0.85 for interpersonal processes.

Controls

In line with prior work on entrepreneurial passion, we controlled for various variables that might potentially influence the emergence of TEP among nascent teams (Boone et al., 2020; Murnieks, Cardon, & Haynie, 2020). We controlled for age and gender (coded 0 = male, 1 = female) within teams and average team size, as they can affect new venture team performance (Jin et al., 2017). Additionally, we controlled for relationship conflict (Jehn & Mannix, 2001) as intragroup conflict can impact TEP emergence (Cardon, Post, & Forster, 2017), and relationship conflict is found to mediate the relationship between TEP and team performance (Boone et al., 2020). We controlled for team identification (Allen & Meyer, 1990; Van Der Vegt & Bunderson, 2005) which is associated with higher team performance (Rapp et al., 2021) and, as suggested by de Mol et al. (2020), can potentially affect TEP. Lastly, we added a dummy variable for each data collection period.

Analyses

All analyses were performed using the R statistic environment, and all code and data are available upon request. We used the lme4 package (Bates et al., 2015) for our multilevel models with cluster robust standard errors. We were interested in the relationships between team processes and TEP among nascent ventures during TEP's emergence, so we created lagged versions for each measured variable. These lagged variables represent each variable at the prior measurement period, one month later. This procedure allows us to detect the lagged effects of predictor variables on the dependent variables during the emergence process (Lex et al., 2020).

2.4 Results

Table 3 presents the descriptive statistics of all team-level variables for our models. All Variance Inflation Factors (VIF) were below 2.6, indicating that multicollinearity is not a critical concern in our study (G. James et al., 2013).

Table 3: Means, standard deviations, and correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Age	22.05	2.06										
2. Gender	0.29	0.46	0.02									
3. Team size	4.96	0.49	0.07*	0.19**								
4. TEP for Inventing	5.35	0.99	-0.06	-0.01	-0.08*							
5. TEP for Founding	5.23	1.20	-0.07*	-0.04	-0.12**	0.70**						
6. TEP for Developing	5.12	1.12	-0.03	0.06	-0.06	0.67**	0.69**					
7. Transition Processes	5.71	0.99	-0.11**	0.05	0.08*	0.60**	0.53**	0.54**				
8. Action Processes	5.93	1.14	-0.08*	0.07	0.04	0.53**	0.50**	0.49**	0.70**			
9. Interpersonal Processes	5.72	1.13	-0.03	-0.01	-0.04	0.58**	0.53**	0.52**	0.69**	0.74**		
10. Relationship Conflict	2.22	1.22	-0.01	0.03	0.03	-0.28**	-0.24**	-0.21**	-0.33**	-0.47**	-0.49**	
11. Team Identification	4.85	1.39	-0.03	-0.10**	-0.10**	0.57**	0.53**	0.51**	0.54**	0.54**	0.59**	-0.27**

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values for TEP measures refer to the affective dimension only. For Gender, 0 = male, 1 = female. * indicates $p < .05$. ** indicates $p < .01$.

Hypotheses Tests

Table 4 presents the results for our three models testing the effects of team processes, consisting of transition, action, and interpersonal processes, on subsequent TEP for inventing (Model 1), founding (Model 2), and developing (Model 3). All models explain a significant part of the observed variance with R^2 (marginal) ranging from 0.33 to 0.46. We find support for Hypotheses H1a to c, suggesting a positive relationship between transition processes and subsequent TEP for inventing (Model 1: $b = 0.26$, $p = 0.002$), founding (Model 2: $b = 0.28$, $p < 0.001$), and developing (Model 3: $b = 0.29$, $p < 0.001$). Turning to Hypotheses H2a to c, we find that action processes are unrelated to subsequent TEP for inventing, founding, and developing. Moving on to interpersonal processes, our results show support for Hypotheses H3a to c, indicating that interpersonal processes positively affect subsequent TEP for inventing (Model 1: $b = 0.18$, $p = 0.003$), founding (Model 2: $b = 0.27$, $p = 0.001$), and developing (Model 3: $b = 0.17$, $p = 0.025$). Moreover, all models indicate significant relationships of team identification with subsequent TEP for inventing (Model 1: $b = 0.24$, $p < 0.001$), TEP for founding (Model 2: $b = 0.27$, $p < 0.001$), and TEP for developing (Model 3: $b = 0.23$, $p < 0.001$) (see Table 4).

Table 4: The effects of team processes on subsequent TEP for Inventing, Founding, and Developing

	Model 1 TEP for Inventing (t+1)					Model 2 TEP for Founding (t+1)					Model 3 TEP for Developing (t+1)				
	b	*SE*	*C.I. low*	*C.I. high*	*p*	*b*	*SE*	*C.I. low*	*C.I. high*	*p*	*b*	*SE*	*C.I. low*	*C.I. high*	*p*
Transition Processes (t)	0.26**	0.081	0.10	0.42	0.002	0.28***	0.068	0.15	0.42	<0.001	0.29***	0.064	0.17	0.42	<0.001
Action Processes (t)	0.03	0.058	-0.09	0.14	0.638	-0.04	0.093	-0.23	0.14	0.641	0.03	0.07	-0.11	0.17	0.696
Interpersonal Processes (t)	0.18**	0.06	0.06	0.30	0.003	0.27**	0.083	0.10	0.43	0.001	0.17*	0.074	0.02	0.31	0.025
Relationship Conflict (t)	-0.03	0.053	-0.13	0.08	0.622	-0.01	0.051	-0.11	0.09	0.91	0.03	0.063	-0.09	0.15	0.64
Team Identification (t)	0.24***	0.044	0.15	0.33	<0.001	0.27***	0.054	0.17	0.38	<0.001	0.23***	0.059	0.11	0.34	<0.001
Team Size	-0.1**	0.078	-0.37	-0.06	0.006	-0.3**	0.096	-0.48	-0.11	0.002	-0.25**	0.082	-0.41	-0.09	0.002
Age	0.01	0.024	-0.03	0.06	0.61	0.01	0.031	-0.05	0.07	0.85	0.01	0.024	-0.04	0.05	0.772
Gender	0.13	0.091	-0.05	0.31	0.166	0.11	0.144	-0.18	0.39	0.455	0.18	0.127	-0.07	0.43	0.151
R^2 conditional			0.49					0.43					0.37		
R^2 marginal			0.46					0.35					0.33		

Note: N= 254 nested in 52 teams. For Gender, 0 = male, 1 = female. We report robust standard errors. Coefficients (b) are unstandardized. C.I. low and high indicate the 95% confidence interval. Level of significance as indicate by * p < .05, ** p < 0.01, *** p < 0.001. R2 (marginal) = proportion of variance explained by the predictors; R2 (conditional) = proportion of variance explained by predictors and grouping/random effect(s). (t) indicates the measurement time point with (t+1) being always the subsequent time point to (t).

Table 5 presents our models regarding the effect of TEP on subsequent team processes, including transition (Model 4), action (Model 5), and interpersonal processes (Model 6). All models show good model fit with R^2 (marg.) ranging from 0.29 to 0.36. Our results only reveal significant effects of TEP for inventing on subsequent transition (Model 4: $b = 0.3$, $p < 0.001$) and interpersonal processes (Model 6: $b = 0.19$, $p = 0.011$), thereby supporting hypotheses H4a and c. Next, we find support for Hypothesis H5b, which states that TEP for founding positively affects subsequent action processes (Model 5: $b = 0.21$, $p < 0.001$). Lastly, we find a significant positive relationship between team identification and subsequent action processes (Model 5: $b = 0.28$, $p < 0.001$), transition processes (Model 4: $b = 0.19$, $p < 0.001$), as well as interpersonal processes (Model 6: $b = 0.28$, $p < 0.001$).

Table 5: The effects of TEP on subsequent quality of transition, action, and interpersonal processes

	Model 4 Transition Processes (t+1)					Model 5 Action Processes (t+1)					Model 6 Interpersonal Processes (t+1)				
	b	*SE*	*C.I. low*	*C.I. high*	*p*	*b*	*SE*	*C.I. low*	*C.I. high*	*p*	*b*	*SE*	*C.I. low*	*C.I. high*	*p*
TEP for Inventing (t)	0.3***	0.083	0.14	0.46	<0.001	0.14	0.095	-0.04	0.33	0.135	0.19*	0.075	0.04	0.34	0.011
TEP for Founding (t)	0.07	0.047	-0.02	0.17	0.118	0.21***	0.06	0.09	0.32	<0.001	0.04	0.051	-0.06	0.15	0.381
TEP for Developing (t)	0.03	0.051	-0.07	0.13	0.573	-0.09	0.057	-0.2	0.03	0.137	0.09	0.059	-0.03	0.20	0.136
Relationship Conflict (t)	-0.12*	0.052	-0.23	-0.02	0.018	-0.14*	0.064	-0.26	-0.01	0.036	-0.25***	0.07	-0.39	-0.12	<0.001
Team Identification (t)	0.19***	0.056	0.08	0.3	<0.001	0.28***	0.063	0.16	0.41	<0.001	0.28***	0.062	0.16	0.41	<0.001
Team Size	0.19	0.124	-0.05	0.43	0.125	0.07	0.151	-0.22	0.37	0.624	-0.1	0.104	-0.30	0.11	0.354
Age	-0.05*	0.021	-0.09	0.00	0.029	-0.03	0.023	-0.07	0.02	0.21	0.000	0.024	-0.05	0.05	0.99
Gender	-0.05	0.097	-0.24	0.14	0.635	0.18	0.119	-0.05	0.42	0.127	-0.08	0.137	-0.35	0.19	0.541
R^2 conditional			0.42					0.37					0.44		
R^2 marginal			0.36					0.29					0.36		

Note: N= 254 nested in 52 teams. We report robust standard errors. Coefficients (b) are unstandardized. C.I. low and high indicate the 95% confidence interval. Level of significance as indicate by * p < .05, ** p < 0.01, *** p< 0.001. R2 (marginal) = proportion of variance explained by the predictors; R2 (conditional) = proportion of variance explained by predictors and grouping/random effect(s). (t) indicates the measurement time point with (t+1) always being the subsequent time point to (t).

Additional analyses and robustness checks

We employed three checks to ensure the robustness of our findings. First, we specified additional models to examine whether our main effects are stable when both affective and identity dimensions of TEP are considered, i.e., complete TEP. Our results remain largely unchanged, except that we did not find a significant relationship between transition processes and TEP for founding (b = 1.18, p = 0.074). Within our models focusing on the effects of TEP on subsequent team processes, our results remain stable except for TEP for inventing's effect on interpersonal processes (b = 0.01, p = 0.064). In sum, this lends support to our theoretical reasoning and underscores the importance of considering both affective and identity dimensions of TEP when assessing its emergence. Second, we added lagged individual entrepreneurial passion as an additional control variable to our models because individual entrepreneurial passion is an essential factor in TEP development (Cardon, Post, & Forster, 2017). Therefore, we specified models controlling for team members' overall individual entrepreneurial passion, i.e., mean of passion for inventing, founding, and developing. Again, our results remain stable except for TEP for developing's effect on subsequent interpersonal processes becoming non-significant ($b = 0.13$, $p = 0.059$). Last, we also considered self-efficacy as prior research indicates its importance for developing individual entrepreneurial passion (Gielnik, Spitzmuller, et al., 2015; Lex et al., 2020), but all results remain stable. Overall, these robustness checks help us have great confidence in our results.

2.5 Discussion

While TEP has important performance implications for venture teams (Boone et al., 2020; de Mol et al., 2020; Santos & Cardon, 2019), we know comparatively little about how TEP emerges over time. With this study, we sought to investigate the dynamic emergence of TEP in nascent teams. Our study offers insights into TEP's emergence and development,

contributing to the burgeoning research on entrepreneurial passion within teams. Overall, our findings indicate that team processes, i.e., the patterns in which team members interact with each other, influence specific dimensions of TEP. However, some of our hypothesized relationships had to be rejected. We will now discuss these findings and the implications for research and practice.

Theoretical implications

Implications for (Team) Entrepreneurial Passion Literature

Our study identifies team processes as important drivers of TEP emergence. Our longitudinal assessments suggest that both transition and interpersonal processes positively affect subsequent TEP for inventing, founding, and developing. Thereby, we are extending the theoretical framework of TEP that predominantly focuses on team passion diversity as a predictor of TEP emergence (Cardon, Post, & Forster, 2017). We detect significant relationships between specific types of team processes, such as transition and interpersonal processes and TEP.

Interestingly, we find no significant relationships between action processes and any type of TEP during the emergence phase. Our prior reasoning centered on sub-dimensions of action processes, particularly coordination and team monitoring (Marks et al., 2001) through which team members become more receptive to their team's shared TEP. However, according to Marks et al.'s (2001) conceptualization of team processes, teams engage in episodic performance cycles in which action processes are enacted to directly contribute to goal accomplishment and transition processes occur between action phases to evaluate and plan the next steps. Our findings suggest that enacting action processes is less important for TEP to emerge than reflecting on past activities, i.e., transition processes, and managing their team's affect and shared motivation, i.e., interpersonal processes that are constantly enacted

regardless of performance cycles (Marks et al., 2001). Hence, our study provides the first insights into the temporality of TEP emergence.

Implications for Research on Entrepreneurial Teams

Our findings indicate potential reciprocal relationships between a team's emergent state, i.e., TEP, and team processes. Drawing on the multilevel theory of emergence and research on TEP, we hypothesized that team process and TEP mutually affect each other during the emergence of TEP. Considering the effects of TEP on subsequent team process quality, we find that TEP for inventing seems to stimulate subsequent transition and interpersonal processes, whereas TEP for founding affects subsequent action processes. While our data indicates no significant relationships between TEP for developing and team processes, our study provides insights into specific connections between TEP as an emergent state and team processes.

While we are looking into emergent phenomena, we conclude that the reciprocal relationships between TEP for developing and team processes may not be detectable in our data due to the limited period of four months. The limited time frame may have affected our results as empirical evidence regarding the temporal patterns of both emergent states and team processes, particularly regarding TEP, is still scarce (Rapp et al., 2021). Moreover, choosing the correct measurement intervals to capture emergent phenomena and processes is not trivial due to changing temporal patterns and potentially confounding contextual factors (Kozlowski, 2015). Considering prior research regarding the temporal dynamics of entrepreneurial passion (Gielnik, Frese, et al., 2015; Lex et al., 2020), we opted for a monthly measurement over four months, enabling us to capture both changes in affective and identity dimensions of passion. Despite our best efforts, we may not be able to detect changes in TEP or team processes that occur faster or slower. Due to our monthly measurements, we argue that changes in TEP and team processes over different periods may have been undetected over different periods.

Research on entrepreneurial passion (Gielnik, Frese, et al., 2015; Lex et al., 2020) indicates that the identity part of entrepreneurial passion changes over more extended periods. This could be the same for TEP. We urge research to consider alternative measurement intervals (e.g., bi-weekly/bi-monthly) to uncover more rapid or slower changes in TEP and team processes during their emergence among nascent venture teams.

Considering the unique research context, i.e., nascent student teams that start their entrepreneurial journey by developing new business models for business opportunities they identified, we argue that TEP for inventing may be more critical for these teams and thus impact subsequent transition and interpersonal processes may be more prevalent. As TEP's effect on team performance depends on their current venture stage (Boone et al., 2020), we encourage scholars to further investigate the relationship between TEP and team processes at later venture stages.

Practical Implications

Our findings demonstrate that interactions among team members influence the emergence of a shared group affect and collective identity in the form of a shared TEP. Therefore, we suggest that nascent venture teams implement reflective team processes, e.g., transition processes, to become more receptive to their team's entrepreneurial passion. Hence, as TEP emerges, these teams can improve their team performance, as indicated by prior researchers (Boone et al., 2020; de Mol et al., 2020). Additionally, we advise educators, coaches, and mentors of nascent ventures to encourage teams to reflect on their team processes and their mutual interactions to develop a collective TEP and benefit from it.

Limitations and Recommendations for Future Research

As with all research, some limitations exist for our study. First, even though every sampling decision has potential downsides, we deem that the advantages of a student sample still outweigh the liabilities. Because of the student sample, we were able to observe the 'real'

emergence of team passion and team processes right from the start and to keep the situation relatively constant for the different teams. Further, student samples are often criticized for lacking experience in general business or entrepreneurial activities and for the limited transferability of such findings to more experienced samples, such as serial entrepreneurs. However, such sample characteristics are beneficial for investigating TEP emergence as entrepreneurial experience is an important driver of passion (Türk et al., 2020). Thus, choosing a student team for this study is very appropriate and beneficial as prior entrepreneurial experience and passion may confound the emergence of TEP. Moreover, given that students or other young groups carry out a significant share of the entrepreneurial activities in many industrial nations (Global Entrepreneurship Monitor [GEM], 2022), students are a valid and interesting population for our research. Still, as our study provides first insights into the temporal patterns of TEP, we encourage research to dive further into the dynamics and emergence of TEP among other nascent entrepreneurs, such as teams that participate in incubator or accelerator programs in the very early stage.

Second, drawing on the multilevel theory of emergence (Kozlowski & Klein, 2000), we focused on specific types of interactions, e.g., team processes, including transition, action, and interpersonal processes (Marks et al., 2001), to explain TEP emergence. However, it is plausible to assume that other interactions among team members may affect the development of TEP. Indeed, our findings suggest that team identification significantly affects the emergence of all types of TEP. Team identification is an emergent state expressing the emotional significance team members feel for their group, which motivates team interactions (Van Der Vegt & Bunderson, 2005). Further research on additional emergent states and types of interactions is needed to broaden our understanding of TEP emergence. While Cardon, Post, and Forster (2017) hint towards a cognitive perspective of TEP and its emergence, we endorse further research into cognitive emergent states, e.g., team trust or team cognition

(Rapp et al., 2021). For instance, Chen et al. (2017) show that team cognition positively affects teams' social interactions in the form of team cohesion. Similarly, we argue that team cognition can positively affect the emergence of TEP by providing the teams with a common understanding of their values and goals (Chen et al., 2017).

Furthermore, we did not address how a team's distinct team passion diversity patterns affect the emergence of certain types of TEP. Higher levels of team passion diversity may create obstacles for TEP emergence that teams need to work on, i.e., enact team processes to develop a shared passion. We urge future researchers to employ more in-depth, qualitative analyses to uncover the specific mechanisms explaining the dynamics between team processes and team passion diversity during the emergence of TEP. Moreover, we acknowledge that this study did not address additional contextual factors for both team processes and TEP among nascent teams that potentially influence these dynamics, e.g., leadership (C. Sirén et al., 2020). Addressing contextual factors such as leadership could further help to explain how TEP emerges and impacts subsequent team processes. For example, leaders with a distinct type of individual passion may exploit their power position by influencing their team members toward their preferred type of TEP. Lastly, as Cardon, Glauser, and Murnieks (2017) indicate that other types of entrepreneurial passion can potentially emerge within entrepreneurial teams, including a passion for products or people. Future research can benefit from qualitative approaches, such as reflective diaries (Travers, 2011), to comprehensively understand TEP emergence.

2.6 Conclusion

Team processes, namely transition and interpersonal processes (Marks et al., 2001), affect the emergence of TEP among nascent teams. Our study indicates that the relationship between team processes and emerging TEP can be both positive and reciprocal depending on

the specific team process and type of TEP. Drawing on the multilevel theory of emergence (Kozlowski & Klein, 2000), our study uncovers the first pieces of the complex conundrum of TEP emergence amidst nascent entrepreneurial teams. While we found some evidence that TEP for inventing and founding can stimulate subsequent team processes, TEP for developing was not found to have significant effects that early in the team formation process. In sum, our findings suggest that TEP for inventing seems to be able to get into a virtuous cycle with transition and interpersonal processes, spiraling each other up and thus reinforcing one another over time.

CHAPTER III: STAYING ABLAZE – PASSION REGULATION IN FAILING AND NON-FAILING ENTREPRENEURIAL TEAMS

ABSTRACT

Entrepreneurial passion can be a strong proponent of new ventures' success but also has disruptive potential in entrepreneurial teams. We use an in-depth longitudinal, qualitative study of 6 entrepreneurial teams - three failing and three surviving teams - over 12 months (up to 4 interview waves; 73 interviews in total) to develop a process model of (team) passion regulation, revealing team-focused and individual-focused pathways of passion dynamics that define whether passion leads to a successful entrepreneurial team development or not. Hence, the study offers important theoretical contributions to research on individual and team-level passion dynamics, interpersonal regulation, and entrepreneurial team survival.

Keywords:

Entrepreneurial passion; entrepreneurial teams; team entrepreneurial passion; team dynamics; longitudinal study; multiple case study.

3.1 Introduction

Passion drives entrepreneurs to do what they can to make their new venture a success (Cardon et al., 2009). Given the fundamental role of entrepreneurial passion for new ventures' success (Newman et al., 2021) and that most (growth-oriented) new ventures are founded by teams (Klotz et al., 2014), the debate about the role and development of team entrepreneurial passion (TEP) has been burgeoning recently (Boone et al., 2020; de Mol et al., 2020; Santos & Cardon, 2019; Su et al., 2024). TEP can be defined as "shared intense positive feelings for a collective team identity" (Cardon, Post, & Forster, 2017, p. 286) and – mirroring its counterpart on the individual level - is an important component that determines whether entrepreneurial teams stick together or break apart (Su et al., 2024).

While recent studies drive progress surrounding TEP emergence (Su et al., 2024), we lack a nuanced understanding of how and why some teams manage to develop TEP while others fail to do so and how TEP might trigger different team trajectories with potential implications for venture success. However, advancing our understanding of TEP and its underlying (dynamic) team processes and implications are inherently complex to study. Passion on the team level is interwoven and reciprocally linked to individual passion endowment (Cardon, Post, & Forster, 2017) and only because individual entrepreneurs have a strong passion, this does neither necessarily converge on the team level nor lead to a common perception of individual team members about their TEP (Santos & Cardon, 2019). Moreover, entrepreneurial passion is not static but dynamic and prone to changes over time (Lex et al., 2020).

With this study, we seek to address these shortcomings by employing a longitudinal, inductive qualitative research design, which enables us to investigate specific processes and mechanisms of (shared) TEP within entrepreneurial teams. Considering the scarce empirical understanding of the dynamic nature of entrepreneurial passion (Gielnik, Spitzmuller, et al.,

2015; Lex et al., 2020; Uy et al., 2021), our study focuses on the following research questions: “How do entrepreneurial teams regulate their individual and shared passion? How do these regulatory processes relate to entrepreneurial teams’ dynamics and functioning?”

Following a step-wise sampling approach, we build our theorizing on six cases, typical for multiple case study research (Eisenhardt, 2021; Yin, 2018). For each case, we conducted 3-4 interview waves with each team member (73 interviews in total) over a period of 12 months and additionally collected field notes, communication data, and internal documents. This unique research setting enables us to make important contributions to research on (team) entrepreneurial passion and venture teams in general.

First, we develop a process model of passion regulation in founding teams, revealing team-focused or individual-focused passion regulation mechanisms. We hereby expand the theoretical framework by Cardon, Post, and Forster (2017) on TEP, highlighting that team members’ perceptions of TEP and awareness of other team members’ passion inclinations impact team members’ behaviors and individual passion enactment. We provide theoretical and empirical insights, explaining how teams can either thrive from TEP or perish due to passion depletion. In addition, we show that (shared) entrepreneurial passion dynamically develops over time and is manageable within entrepreneurial teams. We find that entrepreneurial passion among entrepreneurial team members may not necessarily clash against each other or converge over time (Uy et al., 2021). Instead, team members’ awareness of each other’s passion affects regulation processes. Thus, we extend prior research on the individual level to the team level (Lex et al., 2020; Uy et al., 2021), adding an interpersonal perspective on entrepreneurial passion dynamics (Schwarte et al., 2023).

Second, we extend prior research on entrepreneurial failure by illustrating how identity-related processes function as trajectories of failure. While experiencing failure can trigger pathways for recovery or deconstruction of identity (Shepherd & Williams, 2018), we

know less about how identities unfold in later venture stages prior to failure (Mmbaga et al., 2020). By revealing how venture teams actively regulate their passion over time, we highlight that continuous alignment processes between shared vision and shared passion can prevent team failure. Our model thus offers insights into the complex relationships between team dynamics, founding teams' identities, and failure.

Third, we illustrate the importance and implications of TEP as an emergent state for team functioning, which remains an unanswered debate within the entrepreneurial team literature (Klotz et al., 2014). We show that entrepreneurial teams are capable of stabilizing TEP through intragroup dynamics, which shields them from team failure.

3.2 Literature Review

Dynamics in Entrepreneurial Teams

Entrepreneurial teams comprise two or more individuals who work together to successfully develop business opportunities into sustainable companies while sharing equity and decision-making (Knight et al., 2020). Unlike working teams, entrepreneurial teams are solely responsible for mastering all tasks that come with new venture creation and confronting potential hurdles within the complex, dynamic, and uncertain environment they are operating in (Chandler et al., 2005; Klotz et al., 2014). Thus, the entrepreneurial team and its efficacy are essential for overall venture success (Jin et al., 2017).

On their way to success, entrepreneurial teams dynamically develop and go through different team and venture stages (Patzelt et al., 2021), during which they face various challenges they need to master to keep their companies alive, e.g., acquiring funding (Blume & Hsueh, 2023), selecting new co-founders (Fu et al., 2022), or cope with a co-founder's exit (Preller et al., 2023). As a venture's success is heavily dependent on the entrepreneurial team, research has examined various concepts that may help an entrepreneurial team overcome

these obstacles and stay together as a team (Chen et al., 2017; Jin et al., 2017; Klotz et al., 2014).

These concepts include affective, e.g., shared affect in the team (e.g., Barsade & Gibson, 2012), cognitive, e.g., collective cognition (West, 2007), or behavioral constructs, such as team processes (LePine et al., 2008; Mathieu et al., 2019). As a recent study attests, even shared coping humor may function as a glue that keeps team members together and enables them to better cope with the uncertain, dynamic environment of entrepreneurship (Hmieleski & Cole, 2022). Considering the lack of resources and the high levels of stress and uncertainty, entrepreneurial teams must effectively work together and quickly dissolve internal conflicts that potentially damage the new venture's performance and team satisfaction (Breugst & Shepherd, 2017; Ensley et al., 2002).

Accordingly, entrepreneurial teams need to identify and preserve their common ground to become and stay effective and functioning. For instance, a shared and congruent vision, team members' collective beliefs about their venture's future, can be beneficial for identifying new opportunities and avoiding failure (Preller et al., 2020). However, as entrepreneurial teams comprise a set of individual entrepreneurs (Klotz et al., 2014), all team members need to identify with this common ground to some extent. Such a form of collective identity may be rooted in team members' values, goals, purpose, or activities (Ashforth et al., 2011; Powell & Baker, 2017). However, as values only become salient through continuous interaction and regulation (Besharov, 2014; Deci & Ryan, 2000), team members' social interaction and perceptions of each other guide the development of a collective identity and common ground – and with that, a potential (shared) TEP.

Team Entrepreneurial Passion & Team Functioning

While a plethora of research attests to the importance of entrepreneurial passion for individual entrepreneurs (Newman et al., 2021; Pollack et al., 2020), defined as intense

positive feelings experienced when engaging in entrepreneurial activities that are meaningful for an entrepreneur's self-identity (Cardon et al., 2009), a burgeoning research stream recently picked up on entrepreneurial passion among entrepreneurial teams. Based on individual team members' specific passion inclinations, entrepreneurial teams can develop a shared understanding of what their team is passionate about through affective and identity processes, defined as team entrepreneurial passion (TEP) (Cardon, Post, & Forster, 2017).

The burgeoning research stream on TEP provides empirical evidence for its implication for team performance. For example, Santos and Cardon (2019) developed a measurement for TEP based on a referent shift approach (Chan, 1998) and found that TEP for inventing and developing positively relate to team performance, while these effects do not apply to TEP for founding. Importantly, they note that 12 of 73 venture teams participating in their study have not reached a consensus around a shared sense of TEP and, thus, were excluded from data analysis (Santos & Cardon, 2019). Further, in contrast to the theoretical reasoning by Cardon, Post, and Forster (2017), they do not find differences between mono-focal (teams that only share one passion focus) and poly-focal (teams sharing multiple passion foci) TEP and its relation to team performance. These initial findings underline that the theoretical underpinnings of TEP are much more complex and need further investigation.

Additional studies further explored the relationship between TEP and team performance. For example, Boone et al. (2020) disentangle this relationship by investigating the mediating mechanism of relationship conflict and the moderating effect of the venture development stage. They find that TEP's effect on team performance is mediated by relationship conflict among team members, and this effect can be ambiguous depending on the venture stage and TEP composition, in terms of sharing one (mono-focal TEP) or multiple (poly-focal TEP) passion foci. Furthermore, de Mol et al. (2020) find that average passion

among team members does not affect team performance, but instead, teams' passion diversity, in particular differences in passion intensity, negatively relates to team performance.

While these studies have broadened our understanding of TEP and its relation to team performance, it remains unclear how entrepreneurial team members' individual and shared passions co-exist. While Uy et al. (2021) show that entrepreneurial passion within entrepreneurial teams can converge over time, we know less about what happens in teams when passionate entrepreneurs clash against each other. Thus, additional theory-building research is needed to explain these interpersonal mechanisms and processes, demonstrating how entrepreneurial teams can thrive from their TEP despite differences in individual passion. Further, whether entrepreneurs can regulate their passion, remains rather vague (Schwarte et al., 2023). These limitations of previous studies motivate our study, particularly the deep dive into the processes underlying the dynamic development and the implications of TEP.

3.3 Research Methods

Considering the limited understanding of how (shared) entrepreneurial passion dynamically unfolds and is managed within entrepreneurial teams (Uy et al., 2021; X. Zhu et al., 2023), we decided to follow an inductive, qualitative research approach (Corbin & Strauss, 1990). In particular, we employ a multiple case study design (Eisenhardt, 1989, 2021; Eisenhardt & Graebner, 2007; Eisenhardt et al., 2016), comparing rich, qualitative data of failing and non-failing entrepreneurial teams to investigate venture teams' passion regulation mechanisms and their link to teams' satisfaction or demise.

Sampling

Given the complex and dynamic nature of our research topic, we opted to use a qualitative, longitudinal research design as they are particularly useful for studying "hard-to-measure entrepreneurship phenomena" (van Burg et al., 2022, p. 4). Thus, we are able to

focus on all facets of entrepreneurial passion and assess its dynamic from a multi-level perspective. As (shared) entrepreneurial passion may vary along the entrepreneurial process (Boone et al., 2020; F. Zhu et al., 2023), we aimed to purposefully sample entrepreneurial teams from different venture stages (Patzelt et al., 2021). First, we send participation invites via mail to various incubator and accelerator programs as they are important support systems for entrepreneurial teams. In addition, we contacted entrepreneurial teams within our own network on LinkedIn. In doing so, we distributed information on our study and requirements for participation (4 interviews, 2-3 months apart; participation in the survey prior to and post-interviews). 23 startup teams agreed to participate in our study. Second, we conducted interviews with all team members of these venture teams. During data collection, 4 teams dropped out of the study due to time issues. Further, for one team, we were unable to collect data from all team members, thus, excluding them from data analysis.

As we treated data collection and data analysis as an interrelated process (Corbin & Strauss, 1990), we learned that dyadic teams differ from teams with more than two co-founders in terms of how they experienced and managed their shared TEP. Understandably, team members of dyadic teams did not report mixed perceptions of sharing passion with different co-founders as dyadic teams comprise only two co-founders. Thus, we eliminated 10 dyadic teams from further data analysis. Lastly, during data collection, we learned that 4 participating teams experienced major team conflicts, which ultimately led to their team demise. Considering this unique research opportunity, we opted to contrast 3 of these failing teams (we were unable to collect data from all co-founders for 1 failing team) with comparable non-failing teams following guidelines by Eisenhardt (1989, 2021).

For each failing team, we selected one non-failing team that was equivalent in terms of its current venture stage (Patzelt et al., 2021), team dynamics, e.g., working remotely vs. non-remote, and passion constellation among team members. By pairing the struggling teams with

more successful ones (Eisenhardt, 1989), we were able to contrast differences in teams' passion regulation and how TEP affects team functioning.

Thus, our final sample consists of 6 entrepreneurial teams, comprising 3 failing teams (teams A-C, a total of 10 founders) and 3 non-failing teams (teams D-F, a total of 9 founders). Despite being active in different industries, all ventures pursued technology-oriented business models and were active for less than three years. Further, no team suffered from major team issues or conflicts due to the ongoing COVID crisis at the beginning of our study. Table 6 displays an overview of all participating venture teams.

Table 6: Overview of participating entrepreneurial teams

Team	Individual characteristics			Venture characteristics		Summary Team Situation
	Founder	Age	Gender	Venture age	Industry	
A	Andrew	27	m	3 years	Sports & Nutrition	*Prior:* Seeking funding for the growth phase *During:* Raised funding & increased sales *After:* Team still intact
A	Austin	27	m			
A	Axel	31	m			
B	Benjamin	36	m	1 year	IoT	*Prior:* Remote teamwork, developing their product *During:* Accepted for a prestigious scholarship *After:* Team still intact
B	Bennett	33	m			
B	Blake	32	m			
C	Christian	30	m	3 years	Service based on technology platform	*Prior:* Hybrid teamwork, acquiring new customers *During:* Changes in team collaboration (co-founders moving) *After:* Team still intact
C	Callum	32	m			
C	Chase	29	m			
D	Dylan	27	m	2 years	Waste management	*Prior:* A new co-founder (David) joined the team *During:* Experiencing escalating conflicts around the company *After:* The team decided to end their venture
D	David	24	m			
D	Dean	30	m			
E	Ethan	32	m	< 1 year	Aerospace	*Prior:* Participating in an accelerator program *During:* Pivoted business model, commitment conflicts in team *After:* The team decided to end their venture
E	Ellena	29	w			
E	Eric	34	m			
F	Felix	19	m	1 year	Marketing automation	*Prior:* Participating in an incubator program *During:* Pivoting their business model, passion conflicts *After:* The team decided to end their venture
F	Finn	20	m			
F	Fabio	20	m			
F	Flora	22	w			

Data Collection

Following the guidelines by Gioia et al. (2013), we pursued our data collection procedure in parallel with data analysis. While our initial focus was broadly set on venture team members' passion, team dynamics, and team processes, during data collection we revised our interview guidelines to focus on team members' passion regulation. We used additional data, including field notes, screenshots of each team's website and social media channels, as well as internal documents, to triangulate our findings and develop rich and insightful cases for each team.

We conducted semi-structured interviews with guidelines adjusted to each team member and team situation over the course of our data collection, which built the central source for our findings. We revised our initial interview guidelines during data collection to capture emerging themes and further investigate team members' passion regulation mechanisms. We were able to interview all founders for each team for up to 4 waves. We conducted up to four waves of interviews per team; each wave was separated by 2 to 3 months. Further, all team members from failing teams agreed to participate in an additional interview after their team had decided to end their venture. In total, we conducted 73 interviews in four waves, with each interview lasting 38 minutes on average (43 hours of interview time in total).

Data Analysis

For data analysis, we mainly followed recommendations by Gioia et al. (2013) and Corbin and Strauss (1990), engaging in an iterative process of analyzing each case and comparing it to one another. After we established case summaries for each team and wave, we contrasted our initial findings regarding each case to detect overarching themes and patterns across cases. Through this iterative process, our final model emerged. Our data analysis followed three main steps, which we describe in more detail in the following.

Understanding the Teams and their Passion Regulation

To gain a better understanding of all teams, we carefully read all transcripts and developed visual overviews for each team and wave separately. Within each case, we looked for reoccurring patterns and topics associated with our research question. The first and second authors developed tentative case summaries for each team to contrast emerging topics from the data (Eisenhardt, 2021). We used additional collected data to broaden our understanding of each team and cross-validate our emerging case summaries. This included field notes created during each interview, internal documents from the teams (e.g., business plans and vision statements), and pictures from teams' websites and social media feeds (professional and personal accounts). This provided us with further information on team functioning, personal characteristics, and how teams deal with conflicts and successes.

Following Eisenhardt (1989), we then engaged in the cross-case analysis comparing failing and non-failing teams pairwise. In doing so, we detected differences in how entrepreneurial teams managed their passion within the team but found that within each pair the passion regulation mechanisms spiraled over time. In addition, we compared all failing against all non-failing teams to gain a deeper understanding of similarities and differences over time. Thus, we were able to further explore the bandwidth of regulation mechanisms and identified overarching pathways of passion regulation. In sum, this iterative procedure enabled us to gain an in-depth understanding of all venture teams guiding our consecutive coding procedure.

Emerging Codes

Based on our case summaries for each team and interview wave, we then formally coded each interview in line with Gioia et al. (2013). First, we developed first-order codes for all topics emerging in the interviews. For example, beyond quotes surrounding entrepreneurial passion, team members described internal conflicts, progress, role adjustments, and various

other topics that they were currently working on. Through comparing all cases of failing and non-failing teams, we advanced our understanding of teams' dynamics regarding entrepreneurial passion and thus, adjusted our preliminary coding multiple times.

We then turned to the current entrepreneurial passion and venture teams' literature to critically review our first findings with prior research. Thus, we were able to refine our emerging model on passion regulation by ruling out other explanatory constructs such as role identities (Powell & Baker, 2014, 2017), hierarchy in teams (e.g., Xie et al., 2020) or team members' personal characteristics (Hao Zhao et al., 2010). During data analysis, we uncovered that temporal dynamics affect the regulation of entrepreneurial passion in venture teams. We decided to refine our coding scheme, accordingly, highlighting team dynamics prior to, amidst, and after passion regulation and their link to overall team satisfaction.

This iterative process ended when we did not identify any new first-order codes. We then compared first-order codes between failing and non-failing teams. Despite differences in how they regulate passion, we realized that overarching themes connected these teams. For example, we identified similar patterns of team members' reasoning for influences of their passion regulation. Thus, we were able to cluster our first-order concepts into second-order codes, which aggregate into theoretical dimensions. We hereby began to understand how entrepreneurial teams regulate their passion, how these regulation processes dynamically develop over time, and how this process connects to team satisfaction or demise.

Developing a Model on Entrepreneurial Passion Regulation in Entrepreneurial Teams

Comparing our findings across cases of failing and non-failing venture teams helped us to develop a theoretical model explaining how passion is regulated among team members. We engaged in an iterative process to develop our theoretical model. First, we used one extreme case (failing team D) to develop our preliminary model for the failing teams. We then contrasted and refined the model by comparing it to our findings within the additional failing

teams. In a similar vein, we developed a preliminary model explaining passion regulation within the non-failing teams. Lastly, through several rounds of cross-case analyses as well as moving back and forth between our data and the literature, we started developing our final model. In this step, we found that both failing and non-failing teams showed opposing yet similar interactions within the team for spiraling mechanisms of passion regulation. For instance, while non-failing teams actively valued other team members' passion enactment, failing teams devalued their team members' passion display by reprimanding them. This iterative process resulted in our final theoretical model. Lastly, we reexamined all cases to investigate deviations from our model until we reached theoretical saturation (Eisenhardt, 1989).

3.4 Findings

Based on our data analysis, our emerging model highlights two different pathways of passion regulation among entrepreneurial teams and their implications for team dynamics over time. For both non-failing and failing teams (i.e., teams that decided to end their team collaboration and venture during the data collection), we find that teams' initial team composition regarding their shared vision and team passion constellation influences their pursuit of team-focused or individual-focused passion regulation. Our model helps to explain differences in team passion regulation, how these mechanisms evolve over time, and why venture teams may become unable to benefit from shared passion as a team and fail.

Initial Team Composition: The Interconnectedness of Shared Vision and Team Passion Constellation

Initially, we found similar team compositions among both failing and non-failing teams. All teams describe their team's vision and share notions of entrepreneurial passion. In particular, we find that all teams possess moderate levels of passion focus variety, indicating

that team members focus on different aspects of passion (Cardon, Post, & Forster, 2017). Comparing all cases of failing and non-failing venture teams, we realized that teams' shared sense of vision and their team passion constellation were crucial determinants for teams' passion regulation in our sample. Interestingly, we find that these perceptions of shared vision are strongly intertwined with teams' perceptions of shared TEP. For example, Axel reported that "entrepreneurial passion is what holds us together, plus the vision of where we want to be in 1-3 years." (Axel, team A, wave 1). As Bennet from Team B explains, his personal motivation and vision are the most important factors that affect entrepreneurial passion (wave 1).

Specifically, we find that teams process this team composition differently, which affects their pathways of passion regulation. First, for all non-failing teams, we find notions of a shared vision that they jointly created as a team. For example, team B reports that after their new co-founder joined the team, they actively reshaped their prior vision to adapt to everyone's expectations. Similarly, team A notes that their team vision was jointly created and is regularly updated as they understand it as a living thing.

In contrast, for all failing teams (teams D, E, and F), we find that team members did not possess a shared vision. As both teams D and E noted, despite external feedback from coaches or planning a workshop to align their vision, team members were unable to form a shared vision. Further, we find that within each failing team, the CEOs are more attached to their personal vision of the company rather than their team vision. For example, Ellena notes that the entrepreneurial vision for founding a company is noticeable in each interaction with Eric (CEO of team E). For example, Ethan (team E) describes that they lack an understanding of each other's vision and plans or motivation (Wave 1, team E).

In addition to sharing a TEP as a team, we find that team members express notions of what passion needs to be focused on, which we define as passion understanding. While team

members within non-failing teams jointly understand entrepreneurial passion as venture-focused, members of failing teams lack such a uniform understanding. For example, besides a venture focus, team members express an understanding of passion being associated with fulfilling a purpose (teams D & E) or solely being project-oriented (team F).

In addition to passion understanding, team passion constellation comprises team members' sense of shared TEP which serves as a collective identification structure. Among non-failing teams, we find that team members' strong perceptions of sharing team entrepreneurial passion provide them with a clear focus to enact their individual passion. Even despite passion differences, as Chase (team C) mentions, "that overall, this sense of putting something together ourselves, that this is the uber passion that unites us somehow" (wave 1, team C). Similarly, Bennett expresses his perception of his team's shared passion for founding as a "latent sense of unity" through which they can always identify themselves with their business idea (wave 1, Bennett, team B). In addition to a shared passion for founding (teams A, B, and C), we further observe shared passion for the product (team A) among the non-failing teams.

On the other hand, failing teams lack a strong sense of shared TEP. For example, Ethan (team E) remarks that, despite being passionate on an individual level, they lack a shared TEP as a "common denominator" in their team (wave 1). Thus, failing teams possess no clear guidance for their teamwork and next steps. For example, Eric (team E) notices that his team members share some parts of passion but do not fully share TEP as a team, which prompts questions about how to get ahead as a team.

In sum, these initial team compositions in terms of shared vision as a collective focus and team passion constellation serve as the basis for two distinct pathways for passion regulation that emerged from our data analysis. Teams A, B, and C share a collective vision and possess a common passion understanding and shared TEP which leads to a team-focused

passion regulation. On the other hand, teams D, F, and E lack a strong sense of a shared vision and shared passion, which leads to an individual-focused pathway of passion regulation. Table 7 presents mechanisms for both pathways, which we detail below.

Table 7: Team-focused vs. individual-focused passion regulation pathways

Pathway to passion regulation	Mechanism	Quote(s)
Team-focused passion regulation	**Collectively supporting co-founders' passion**	"He definitely has more passion again than a few weeks ago, when he somehow didn't feel like it anymore. And then we talked about and discussed it, well, let's see if we can find someone new for that. And now, in the last few weeks, it comes across as if he is really motivated again to rock it." (Axel, Team A, wave 2) "At one point I openly addressed my lack of motivation and we simply discussed how we can restructure a few things." (Austin, Team A, wave 2)
	Persevering (for the greater good)	"I'm always willing to compromise for the team. If you notice that someone is having a problem with it and it makes them sick to their stomach, then you let go of it, so that we're all in the same boat on it." (Christian, Team C, wave 1) "I believe that Christian's personal move also holds positive aspects for us. (…) In terms of strategy, company management and for his personal development besides the company." (Callum, Team C, wave 2)
	Accommodating co-founders' passion	„Yes, of course, there are times when we don't agree, one would do it this way, the other that way. Everyone has to take a step back and accept the other person's opinion, even if you don't think it's that great, and then deal with it." (Austin, Team A, wave 1) "Sometimes, I think, it is just more efficient to put your passion on the back burner and come up with a solution quickly in order to make fast progress." (Chase, Team C, wave 1)
Individual-focused passion regulation	**Steering co-founder's passion**	"So, I'm steering the wheel, so to speak, and capture Fabios' ideas and make sure that we accomplish everything we aim for. […] Fabio has a lot of ideas. […] But then there's a lack of implementation. So, we discuss the ideas and work it out further. Then, I'm the one talking about next steps." (Flora, Team F, wave 2) "Fabio is like our engine and the three of us make sure that we maintain a direction, and everyone is now finding their own structures." (Flora, Team F, wave 2)
	Asserting one's passion	"For him, there is no left or right and he is heading straight for it and maybe his passion is just really, I'll say stronger or comes through more strongly" (Flora, Team F, wave 3) "If I give this topic, this team, any more time, then perhaps my time will be exhausted at some point." (Eric, Team E, wave 1)
	Restraining one's passion	"So as long as I pull myself together, which also means that we don't progress as quickly as possible." (Dylan, Team D, wave 2) "I believe all of these conflicts are deep and personal. That's why they are fought so passionately. […] So, in many of these discussions we're having now, it's always Dylan and I are discussing, while Dean has already kind of switched off and is no longer participating in the discussion." (David, Team D, wave 2)

Team-focused vs. Individual-focused Pathway to Passion Regulation

Team-focused Pathway to Passion Regulation

Teams with a strong sense of a shared vision, shared TEP, and joint passion understanding are motivated to engage in a team-focused pathway of passion regulation. Both their shared vision and team passion constellation enable them to move towards "a common direction" (Christian, team C, wave 1). Thus, regulating their entrepreneurial passion is centered on pursuing a common, greater good for the team and company.

Within the pathway of team-focused passion regulation, we find three distinct passion regulation mechanisms: collectively supporting, persevering, and accommodating. First, collectively supporting refers to team members' joint actions to support individual team members' passion enactment more fully. These actions include adjusting task work (team A) and providing resources for passion enactment (teams A & B). For example, Austin notes that as a team they are actively managing his responsibilities to support his passion enactment:

"We're currently in the process of changing a few things […], outsourcing a few things, overturning a few things, and as a result, I'm having a lot more fun again, and I've shed a bit of an emotional burden, I'd say, which has given me more energy and a lot more drive." (wave 2, team A)

Through collectively supporting, they can keep Austin engaged in their team. Similarly, teams B and C report adjusting team members' workloads as a joint decision to relieve them and support their passion enactment. Thus, teams prioritize managing individual team members' passion enactment to satisfy individual team members' needs and performance for the company through adjusting passion-related activities (e.g., team A).

Second, persevering describes team members' actions to focus on their individual passion enactment while considering what is best for their team. For example, a team member from team C reports that "If I'm convinced of something and I can pull the guys along with

me, then, of course, I can push my passion through." (Christian, team C, wave 1). Thus, despite team members regulating their passion, they remain focused on their team's needs.

Third, accommodating co-founder's passion describes team members' behaviors to adjust their individual passion enactment to their team's needs. Thus, team members reduce their own passion enactment while considering what is best for their team. For example, Chase notes that accommodating his passion counters perfectionism and is beneficial for the team: "You also have to put aside your passion, that you might want to do it to perfection and, yes, you have to find a solution quickly" (Chase, team C, Wave 1). In addition, we find that collectively supporting one team member can sometimes lead to other team members' accommodating their passion for the greater good. For example, Andrew (team A) notes that he is accommodating his passion for marketing due to the lack of resources to collectively support his passion at the moment. As he remarks, "It makes more sense for the company, but it's a shame for me personally" (Andrew, team A, Wave 2). Interestingly, this passion regulation mechanism also pertains to other non-entrepreneurial passions, e.g., passion for traveling (team A).

In addition to these passion regulation behaviors, we find various team dynamics in which team members engage to reinforce their team-focused passion regulation over time. This leads to the spiraling of entrepreneurial teams' passion regulation supporting their team-focused pathway, eventually strengthening their passion constellation and collective identification.

First, we find that teams actively invest time as a team to celebrate their successes and jointly engage in their shared passion. For example, team A notes that they organize team events where they jointly thrive in their shared passion for developing the product (team A, Wave 3). We notice that communication plays a vital role in these reinforcing mechanisms as "it further promotes passion among team members" (Benjamin, team B, Wave 2). In addition,

Blake (team B) notes that investing time as a team keeps everyone motivated and on track: "Both my co-founders were motivated to bring the whole team together to communicate between the individual team members. So that everyone somehow feels integrated, and everyone knows what they have to do and so on" (Blake, team B, wave 2).

Further, by investing time as a team, team members celebrate their joint success and individual progress of team members. For example, Christian notes that they celebrate his team members' achievement of creating a reporting tool he feels passionate about (Christian, team C, Wave 2). Similarly, team A reports that they shared messages after investor meetings with a team member who wasn't there in person to celebrate (Axel, team A, Wave 3). We find that celebrating individual team members' successes in their passion enactment is associated with another reinforcing mechanism involving valuing others' passion.

Valuing other co-founders' passions describes team members' cognitive processes of recognizing and acknowledging co-founders' passions, even if they are different from their own passions. For example, Benjamin remarks, "These passion differences are important because, at the end of the day, we are able to make better decisions" (Benjamin, team B, wave 2). By valuing others' passion inclinations, teams remain on their pathway of team-focused passion regulation. Callum from team C summarizes this in the following: "Us three, we are passionate in different ways, but we always keep the ulterior motive in mind that this is now my part, and this is now my contribution to our overall progress" (Callum, team C, wave 2).

Lastly, we find that team members seek to keep their passion enactment in check (balancing). Team members either adjust their own passion enactment, for example, by taking time off before burning out their passion (team B, wave 3) or redirect team members' passion when it gets out of line. For example, Christian notes that when his passion overshoots the mark, "my boys tell me their opinion and say that's nonsense or too much. (…) But that's ok, and you just have to adapt it" (Christian, team C, wave 3). In addition, Andrew from team A

notes that by focusing on what's best for the team he is able to endure the lack of collective support for his passion for marketing and rather readjusts his passion focus on his current task work: "Overall, the passion is big enough to overcome these phases" (Andrew, team A, wave 4). Further, these redirections of team members' passion may also function as catching deviant team members and leading them back to the team-focused passion regulation pathway. Bennett (team B, wave 3) illustrates that in the following: "I notice that our internal communication becomes more difficult as our workload increases. The lack of communication means that I have to deal with more macro management which I don't like. This definitely has an effect on my passion for our startup." In conclusion, we find that these reinforcing mechanisms enhance and stabilize the team-focused passion regulation mechanisms.

Individual-focused Pathway to Passion Regulation

In contrast to the team-focused pathway to passion regulation, our data illustrates that the motivation behind the individual- and team-focused pathways to passion regulation significantly differ. While we find that teams engaging in team-focused passion regulation are motivated by their shared vision and shared TEP, teams engaging in individual-focused passion regulation lack a shared vision and possess limited perceptions of team members' passion and shared TEP. Thus, their motivation to regulate their passion is linked to their individual rather than collective motivation. For example, Ellena notes that "passion needs to align with your personal goals" (Ellena, team E, wave 1). Rather than focusing on what's best for the team, these teams are driven by the question of how much they are "willing to sacrifice" (Ethan, team E, wave 1) when regulating their passion. Interestingly, we find that two team members of team D are aware of a team-focused pathway and note that "everyone needs to be committed in such a way that the company benefits at the end of the day, and if everyone pursues their own passion and ignores everything else, we won't make it" (Dean,

team D, wave 1). However, they engage in individual-focused passion regulation mechanisms due to the lack of a shared vision and TEP.

We find three distinct regulation mechanisms within the individual-focused passion regulation pathway, namely steering, asserting, and restraining. Steering describes team members' actions to intervene in their co-founder's passion enactment by providing structure and clear boundaries. For example, within team F, team members recognize that their CEO is overly passionate about coming up with new ideas that often exceed the team's scope for their venture. Thus, team members act and organize their co-founder's passion so that "everything's running smoothly, and not that there's a lot of energy right now and nothing else, but it stays regular in terms of time somehow" (Finn, team F, wave 2).

These interventions become necessary when team members tend to relentlessly focus on their individual passions. We refer to this passion regulation mechanism as asserting. Asserting one's passion describes individual team members' actions to enact their passion without considering other team members' needs. For example, Eric (team E) describes his urge to fully engage in his passion regardless of his team as he fears his "time might be exhausted at some point" (Eric, team E, wave 1). Asserting one's passion often leads to emotionally charged discussions among team members (e.g., team E & D). Further, we find that this passion regulation mechanism engenders a second individual-focused passion regulation mechanism, restraining.

Restraining describes team members' actions to limit their passion enactment to avoid conflicts with team members and preserve their individual passion. For example, team members step away from actively engaging in their passion to retain energy (teams D & F). Interestingly, we find that team members often choose to restrain their passion in response to dominant co-founders asserting their passion. As Dean (team D) remarks: "If someone else somehow thinks that they are now completely setting the direction and you no longer fully

support them, then I think that's where the passion starts to fizzle out" (Dean, team D, wave 2). Additionally, Flora reports that she restrains her own passion when she doesn't "feel as competent as the person opposite you, to be able to push through your passion and pursue it in a concrete and consistent way" (Flora, team F, wave 2)

These interconnections of individual-focused passion regulation mechanisms further develop through amplification behaviors. Like reinforcing actions for team-focused passion regulation, we find behaviors that iteratively accelerate teams' individual-focused passion regulation over time.

In contrast to the valuing behavior described earlier, we observe that teams on an individual-focused passion regulation pathway tend to devalue co-founders' passion. The devaluing of passion is associated with differences in passion intensity ("we have a different level of passion" (Fabio, team F, wave 3) and intrinsic motivation linked to passion (teams D, E, and F). For example, Flora reports that Fabio was disappointed by his co-founders' passion as their intrinsic motivation behind it wasn't satisfying (Flora, team F, wave 3). Further, we observe that devaluing co-founders' passion can lead to feeling reprimanded which often connects to restraining one's passion. For example, after being reprimanded by his team members for his relentless passion enactment, Dylan remarks that he has "to be careful what I say, can't just go for it anymore" (Dylan, team D, wave 2). Thus, the combination of individual-focused passion regulation (asserting one's passion) and amplification behavior (devaluing) further accelerates the individual-focused pathway.

In addition, for teams pursuing an individual-focused regulation pathway, we find more emotional discussions among team members, which lead to defensive behavior. In these discussions team members "choose their position to defend their passion" (Eric, team E, wave 1). However, teams are unable to resolve these "ignited discussions" (Dean, team D, wave 2) which further amplifies their individual-focused passion regulation. Thus, team members

decide to withhold from team interactions to save energy (team D). Through these amplification processes, team members' restraining turns into actively withdrawing their passion within team-focused strategy meetings, becoming "dispassionate" (Dean, team D wave 2).

Implications of Team-focused vs. Individual-focused Pathway to Passion Regulation

Comparing both pathways of passion regulation, we find that teams within the team-focused pathway experience a strengthening of their team's passion constellation over time, fostering team survival. On the other hand, teams on an individual-focused pathway of passion regulation suffer from escalating conflicts surrounding their team's passion constellation and collective identification. Eventually, this leads to team failure.

Teams pursuing a team-focused passion regulation pathway, by collectively supporting co-founders' passion and actively investing time as a team, experience the stabilization of their shared and individual passion over time (teams A, B, and C). Further, as they experience progress and enter new venture stages their passion "matures" (Benjamin, team B, wave 4). Thus, team members' passion solidifies and remains unwavering, "driving the team forward" (Benjamin, team B, wave 3).

As a central theme, we find that entrepreneurial teams on the team-focused pathway actively seek to constantly align their team composition, thus setting a clear focus for the team. In particular, these teams constantly align their shared vision and passion, which strengthens their team passion constellation. Teams constantly align their shared vision and shared passion as they are deeply intertwined. For example, Andrew (team A) mentions that "setting a goal can fire up his passion, while passion motivates oneself to reach that goal" (wave 4). Similarly, his co-founder Axel mentions that without being passionate, you can't create a successful vision (team A, wave 4). Due to this interconnectedness of shared vision and passion, non-failing teams are alert to align themselves frequently, especially when they

experience differences among each other. For example, within team B, team members report differences regarding their vision and set up a workshop to solve these issues. The teams act on their vision and shared passion before these conflicts erupt and negatively impact the team. For example, Bennett (team B) mentions that they are experiencing a conflict in the team due to differences in their vision, which may negatively affect their (shared) passion:

"I think the team's entrepreneurial passion is based on our shared vision. That's why it's perhaps a bit of a stress point right now" (Bennett, team B, wave 4).

We find similar situations in another non-failing team (team A) where co-founders express individual differences in perceptions of vision, which affects their passion enactment. This highlights that teams within the team-focused pathways do struggle with their pathway and experience conflicts. However, through constantly aligning their shared vision and passion, these teams remain on their team-focused passion regulation, and their shared team passion remains stable. Thus, these teams remain intact and functioning (team survival).

In contrast, we observe that teams on an individual-focused passion regulation pathway experience ongoing conflicts around their teams' passion constellation and collective identification. We find that the negative spiraling of asserting one's passion and reprimanding results in a toxic working environment that "suffocates passion" (David, team D, wave 3). Thus, team members feel "like [they are] in hell" (Dean, team D, wave 3). Further, by restraining their passion over longer periods of time, team members report strong notions of passion depletion, i.e., their individual passion recedes due to the team situation (Team D & F).

In contrast to teams on the team-focused pathway, teams within the individual-focused pathway neglect aligning their shared vision and passion despite being aware of its implications. For example, team members from all failing teams mention in interviews after their team failure, that they were unable to align their shared vision and passion. For example,

David (team D) notes that they were aware of vision discrepancies and realized that they could not proceed like that (wave 3). However, their individual focus limited their options, and they realized that they were "unsavable and not pulling in the same direction anymore" (Dylan, team D, wave 4). Through the lack of aligning their vision and passion, these teams experience escalating conflicts around their passion. Eventually, these spiraling mechanisms lead to team failure.

Within our study, we find two forms of team failure – failure of the entire team and team split. Team E is the only team that jointly decides to end their startup and pursue other career opportunities individually. For team D and team F, we see that the team breaks apart, but two co-founders decide to pursue another entrepreneurial venture together. Interestingly, in both cases, we find that prior to the team split, these co-founders actively sought to align their individual vision with another co-founder and shared similarities in their passion focus. For example, within team F, due to the lack of aligning their team composition, we observe that the team's CEO actively tries to manage the shared vision and passion with one co-founder, Felix, to strategically shift the entire team's vision. As Fabio recalls, he strategically discusses ideas with Felix prior to a team decision as "good, strategic discussions can't be held by four people" (Team F, wave 3). Eventually, while the team fails to align their shared vision and shared passion overall, Fabio and Felix, sharing a vision and passion focus, decide to end team F and split from the team, unbeknownst to the other co-founders.

Similarly, within team D, we find that David and Dean, who share a joint vision and experience moments of shared passion, decide to leave the company and pursue a new startup. In sum, our model shows an overview of the two pathways of passion regulation and highlights the implications of passion regulation and its relationship to teams' shared vision. The model is displayed in Figure 3.

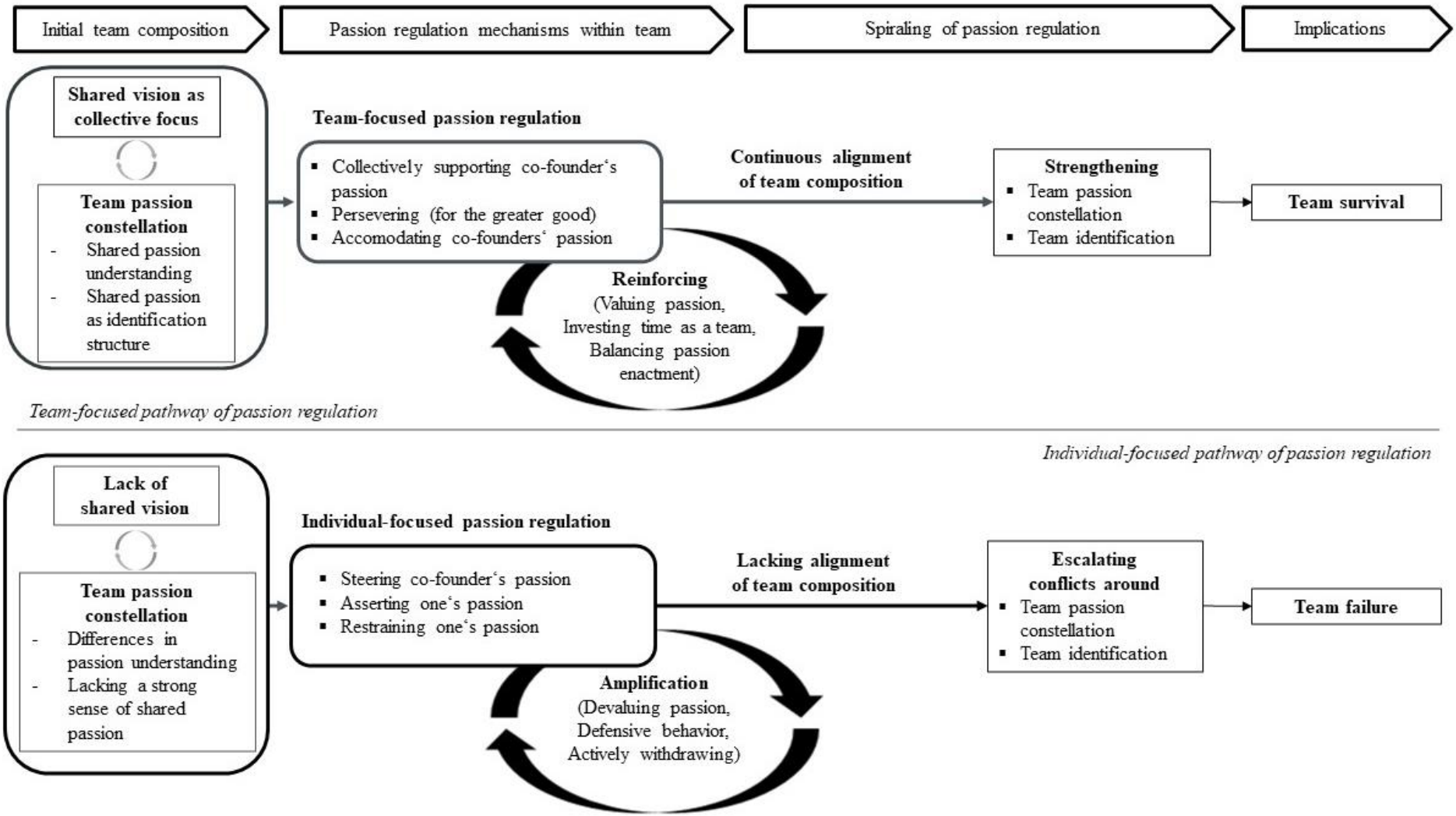

Figure 3: Theoretical model on passion regulation within entrepreneurial teams

3.5 Discussion

Investigating passion regulation processes within entrepreneurial teams and their implication for team functioning, our study enhances our understanding of passion regulation. We introduce six different mechanisms within two distinct pathways of passion regulation – team-focused and individual-focused pathway; second, we offer a new interpersonal perspective on passion enactment by highlighting that team members' shared understanding of what their passion should be directed on, strong perceptions of co-founders' passion inclination, shared vision and shared passion guide passion regulation. Lastly, we advance research on team failure by providing empirical evidence for the relevance of collective identity and shared affect for team survival.

Pathways to Passion Regulation Among Entrepreneurial Teams

Extending the current theoretical framework of TEP (Cardon, Post, & Forster, 2017), our emerging model illustrates passion regulation processes within NVTs guided by their sense of shared vision and team passion constellation. Thus, we add an important interpersonal perspective on entrepreneurial passion enactment within entrepreneurial teams. Regardless of the specific type of TEP, a strong sense of sharing a TEP, a collective understanding of what passion needs to be focused on, and awareness of team members' passion facets enable a team-focused pathway of passion. On the contrary, a lack of these features within a team leads to individual-focused passion regulation. We highlight that team members can adjust how they live out their passion. Thus, we challenge the ongoing debate of passion as a trait (Newman et al., 2021).

In addition, we find that passion regulation is not a one-way process in the sense that team members only increase (collectively supporting, persevering, relentless passion enactment) or decrease (accommodating, restraining) their passion enactment, but also involve regulation mechanisms that focus on altering the way how team members' passion is

enacted (steering passion; collectively supporting). This challenges prior findings on passion dynamics investigating changes in passion intensity and focus (Lex et al., 2020; Uy et al., 2021), but not how entrepreneurs adapt to the social setting in which their passion is enacted. Further, we find signs of interconnections between these passion regulation mechanisms. For example, team members asserting their passion results in other team members restraining their passion. Taken together, this advances our understanding of how the enactment of individual entrepreneurial passion is dependent on entrepreneurs' social environment. While prior studies have shed light on passion contagion and selection processes among entrepreneurs and other social actors (Becker et al., 2023; Breugst et al., 2012; Hubner et al., 2020), we provide insights into how entrepreneurs' behaviors to regulate their passion may be reciprocated within the entrepreneurial team.

Dynamics of (Shared) Entrepreneurial Passion

Second, employing a longitudinal research design, we are able to investigate the dynamic development of shared entrepreneurial passion within venture teams. We highlight that through ongoing passion regulation processes, team entrepreneurial passion can either be stabilized or decreased fully. Thus, we provide important insights on the dynamics of TEP which prior studies have not addressed yet. However, we argue that these dynamics can shed light on why certain teams may not develop a consensus on a shared TEP (Santos & Cardon, 2019). Further, considering that teams on the individual-focused pathway experience escalating conflicts around TEP, these dynamics may explain how TEP leads to relationship conflicts and negative performance implications, as indicated by Boone et al. (2020).

In addition, considering that we collected data from all individual founders, we offer a comprehensive view of interpersonal processes in entrepreneurial teams; for example, within non-failing teams, we find that team members can experience stabilizing of team entrepreneurial passion while they feel heightened levels of their individual passion. This

further contributes to Cardon, Post, and Forster (2017) theoretical framework of team entrepreneurial passion by illuminating the top-down effects of TEP on individual team members' passion. We thereby provide empirical insights into how team dynamics and entrepreneurial teams' passion regulation shape affective emergent states, i.e., TEP, thus contributing to general research on entrepreneurial team dynamics (Klotz et al., 2014).

Further, whereas prior theoretical underpinnings of entrepreneurial passion link its enactment to goals (Cardon et al., 2009), we advance this perspective and show how future-related beliefs of venture teams, encapsulated in their (shared) vision, affect the dynamics of entrepreneurial passion enactment and development. We find that teams' shared sense of vision or lack thereof guides their choice of passion regulation pathway. Further, we find that continuous alignment processes surrounding shared vision and TEP enable teams to remain on their team-focused pathway. Whereas teams lacking these alignment processes remain on their individual-focused pathway and thus suffer from on-going conflicts around their team passion constellation and collective identification. These mechanisms explain when and how venture teams can benefit from TEP. While we do not specifically study the emergence of TEP, these processes shed light on the issue of why certain teams develop a TEP and others don't (Santos & Cardon, 2019).

Team Entrepreneurial Passion and Team Failure

Lastly, we contribute to research on entrepreneurial failure (Preller et al., 2023; Ucbasaran et al., 2003) by highlighting that NVTs' shared TEP may function as a common ground that prevents them from failing as a team. On the other hand, lacking such a glue that keeps team members together can result in escalating conflicts which inevitably lead to a team failure. Interestingly, we find that, despite the lack of a shared TEP among all co-founders, a sense of TEP between two co-founders may lead to a team split. Hence, even though the team fails, team members sharing a TEP may choose to split from the team and pursue new

business opportunities within this new team setting. Seeing as we find that TEP, entrepreneurial teams' shared intense positive feelings for a collective identity (Cardon, Post, & Forster, 2017), plays a pivotal role in team functioning, we answer recent calls for more research on shared affect and collective identity within entrepreneurial teams (Klotz et al., 2014; Powell & Baker, 2017). Further, we advance the understanding of team failure by showing that team members connected by a shared sense of collective affect and identity nested in their TEP may lead to new entrepreneurial endeavors after experiencing the failure. Thus, these team members willingly choose to fail with their current team to pursue new opportunities. We, therefore, highlight that team failure may be deliberate in order to fulfill their individual passions in a new venture team. Despite entrepreneurial passion's association with persistence, these intragroup dynamics may advance our understanding of entrepreneurial team member exit (Gregori & Parastuty, 2021; Guenther et al., 2016).

Implications for Practice

Our study offers various valuable for entrepreneurial teams and their supporters including coaches, startup program managers, and investors. Our findings illuminate specific team dynamics within entrepreneurial teams which can be addressed in team meetings to focus on teams' shared TEP and enable a team-focused passion regulation. For example, NVTs can engage in team reflections to hone their perceptions of shared vision and collectively support each other's individual passion enactment by adjusting team processes and informal structures. As our findings indicate, these adjustments to team collaboration may prevent teams from experiencing team failure. In a similar vein, we encourage supporters of entrepreneurial teams to pay attention to individual team members' passion enactment more closely. As our findings highlight, team members suppressing their passion enactment by restraining or accommodating their passion may lead to passion decrease. This may lead to

affective conflicts among team members which lead to decreased team performance (Boone et al., 2020).

Future Research & Limitations

Our study offers important implications for research on (team) entrepreneurial passion and team dynamics. However, our conceptualization of entrepreneurial passion closely followed the definition by Cardon et al. (2009) and additional inclinations studied later on, e.g., passion for product (Cardon, Glauser, & Murnieks, 2017). While we contrasted our findings with other passion conceptualizations, for example, the dualistic passion concept by Vallerand et al. (2003), we did not set our focus on obsessive forms of passion. As recent studies incorporate Cardon et al.'s (2009) and Vallerand et al.'s (2003) conceptualizations of passion (e.g., Fu et al., 2022), we want to encourage researchers to investigate the interconnectedness of these conceptualizations regarding passion regulation. As dualistic passion is rooted in self-determination theory (Deci & Ryan, 2000), we see a promising area of future research to examine how the internalization processes of passion affect its regulation. For example, it remains unclear whether obsessively passionate entrepreneurs may be able to adjust and regulate their passion enactment deliberately (Schwarte et al., 2023).

In addition, our study provides new theoretical perspectives that require rigorous testing employing quantitative, longitudinal designs. As our study heavily relies on subjective, qualitative interview data which only covers parts of entrepreneurial teams' dynamics, we deem experience sampling approaches highly effective in investigating the dynamics of passion regulation among NVTs (Gabriel et al., 2019; Uy et al., 2010).

3.6 Conclusion

Entrepreneurial teams passionately seek to lead their ventures towards success. Employing a qualitative inductive approach, we differentiate two pathways of passion

regulation and their implication for entrepreneurial teams' functioning. Comparing passion regulation mechanisms among failing and non-failing entrepreneurial teams, our theoretical model offers unique insights into the interpersonal dynamics of entrepreneurial passion and its development over time. Thus, our study provides a nuanced understanding of how entrepreneurial teams can thrive from (shared) entrepreneurial passion or fail to benefit from it, leading to team failure.

CHAPTER IV: DRIVEN BY PASSION – HOW DO ENTREPRENEURS' PASSION SIGNALS INFLUENCE EMPLOYEES' DECISION-MAKING UNDER UNCERTAINTY?

ABSTRACT

Entrepreneurs' passion is generally portrayed as a helpful tool for convincing external stakeholders. However, towards their employees, the entrepreneur's passion can convey ambiguous signals that potentially complicate employees' decision-making during opportunity pursuit. To disentangle the effects of entrepreneurial leaders' passion signals on employees' behavior, we conducted two conjoint experiments (Study 1: 1,440 decisions nested within 90 start-up employees; Study 2: 1,472 decisions nested within 92 start-up employees). By distinguishing leaders' passion signals (passion type and strength), we observe that signals of leaders' passion influence employees' uncertainty perception, which determines the decision to exploit or explore business opportunities for the venture. Further, our study demonstrates the moderating role of employees' dualistic passion in dealing with uncertainty during decision-making. We provide theoretical contributions to research on passion and leadership in entrepreneurship, as well as practical implications for entrepreneurial leaders.

Keywords:

Entrepreneurial leader passion, employee dualistic passion, uncertainty perception, signaling theory, and conjoint experiment.

4.1 Introduction

Passion is often viewed as one of the most important and defining characteristics of entrepreneurs for coping with the uncertain challenges of entrepreneurship (Baum & Locke, 2004; Pollack et al., 2020). For instance, previous research shows that entrepreneurs' passion can function as an important signal for external audiences to cope with uncertainty, e.g., for investors evaluating start-ups (Oo et al., 2019; Warnick et al., 2018) or when joining a startup team as a co-founder (Fu et al., 2022). However, the success of a start-up depends not only on the passionate entrepreneurs but also on the start-up employees, who are indispensable for driving growth and business development (van Lancker et al., 2022). Previous studies have drawn a somewhat ambiguous picture regarding the influence of entrepreneurial leaders' passion for their employees. Whereas some studies find that leaders' passion can foster positive employee outcomes, such as affective commitment (Breugst et al., 2012) or creativity and effort (Hubner et al., 2020), others indicate potential negative implications of too passionate, obsessive entrepreneurial leaders (e.g., Piva & Stroe, 2023; C. Sirén et al., 2016).

Considering that start-up employees are highly reliant on their entrepreneurial leaders for guidance in their jobs (Stephan et al., 2024), such ambiguous signals may impose a threat to employees' understanding of how to effectively contribute to the pursuit of business opportunities that may be important for venture success. So, does entrepreneurs' passion inform employees' behavioral reactions towards exploration or exploitation? Our research aims to solve this puzzle by developing a conceptual model of signaling theory (Spence, 1973) and the dualistic model of passion (Vallerand et al., 2003) and by testing our predictions with the help of two complementary metric conjoint experiments.

We theorize and test how leaders' passion signals – depending on type and strength – influence employees' perceived uncertainty, which governs their readiness to support the pursuit of new business opportunities via exploitative or exploratory startup efforts (Griffin &

Grote, 2020; Mom et al., 2015). We hereby focus on employees' contributions to the exploitation and exploration of business opportunities as they are vital for venture success (Choi & Shepherd, 2004; Hmieleski & Baron, 2008; Schnellbächer et al., 2019; C. A. Sirén et al., 2012). Usually, such decisions take place under uncertainty, as employees are not able to predict the consequences of their decision for their future work situation as well as the effects on themselves and their response alternatives (McKelvie et al., 2011; Milliken, 1987; Townsend et al., 2018). Hence, we argue that employees cognitively process their entrepreneurial leaders' passion signals when making these decisions and that employees' perceived uncertainty plays a mediating role.

Our study makes two contributions to research on entrepreneurial passion and leadership. First, our model deciphers the ambivalent signaling effects of leaders' passion on employees' decision-making. Specifically, we show that leaders' passion signals (passion type and strength) invoke different effects on employees' perceived uncertainty and employees' subsequent decisions to contribute to the exploitation and exploration of opportunities. Hence, our results indicate a potentially damaging effect of leaders' passion for the leader-employee relationship due to the increased uncertainty induced by perceived obsessive passion signals.

Second, we further contribute to understanding uncertainty elaboration by integrating employees' own (harmonious and obsessive) passion into the picture. We demonstrate the ambivalent role of passion in employee decision-making, which makes harmoniously passionate employees more susceptible to (signal-based) uncertainty, whereas their obsessive passion shields these effects. We theorize that harmonious passion enables employees to cognitively process uncertainty (and associated threats), whereas obsessive passion renders them less attentive because of the rigid persistence and narrow focus with this form of passion (Vallerand et al., 2023). By showcasing the role of employee passion in regulating their behavior under uncertainty, we complement previous research on the role of passion in leader-

employee relationships (Breugst et al., 2012; Hubner et al., 2020; Newman et al., 2021) and contribute to the recent discourse on contingencies in employees' behavioral responses to uncertainty (Griffin & Grote, 2020).

4.2 Theoretical Background

Entrepreneurial Passion as a Signal

Passion encourages entrepreneurs to go the extra mile (Cardon et al., 2013; Cardon & Kirk, 2015), helps them convince investors (Mitteness et al., 2012; Murnieks et al., 2016; Warnick et al., 2018), motivates employees (Hubner et al., 2020) and – ultimately – improves firm performance (Drnovsek et al., 2016). Several studies highlight entrepreneurial passion's capacity to signal entrepreneurs' characteristics to various receivers, such as investors or employees. However, among the few studies that emphasize the effects of entrepreneurs' passion for their employees (Breugst et al., 2012; Hubner et al., 2020), the main focus resides on how the different positive emotions and salient identity cues influence employee outcomes. These studies provide an important stepping stone for understanding entrepreneur-employee interactions but also limit their perspective towards a rather positive connotation of entrepreneurial passion. More recently, entrepreneurship scholars have begun to integrate a more nuanced picture of passion by emphasizing not only different roles (Cardon et al., 2009) but by putting a potentially damaging side of passion on the plate – obsessive passion (Fu et al., 2022; Pollack et al., 2020; Stroe et al., 2018).

We build on these recent advancements in the field and separate passion in terms of its displayed strength and its type (harmonious vs. obsessive). This approach is grounded in the dualistic passion model, which differentiates between harmonious and obsessive passion based on how passion is internalized into one's identity (Vallerand et al., 2003). We argue that

how entrepreneurs have internalized and how strongly they display their passion can signal additional insights to employees.

Consistent with the dualistic passion model (Vallerand et al., 2003), passion is defined as an individual's inclination for meaningful activities which one loves to spend time with. One's passion reflects what is important to them and highlights the activities that are important for them to engage in. Depending on how strongly individuals enact and display their passion, others can derive valuable information about passionate individuals from such signals. Further, the dualistic passion model's (Vallerand et al., 2003) differentiation of harmonious and obsessive provides additional information about passionate individuals.

Harmonious passion is autonomously internalized into one's identity, fostering high intrinsic motivation and enabling individuals to fully immerse themselves in their work without guilt or distraction (Pollack et al., 2020; Vallerand et al., 2003). This autonomous internalization allows individuals to balance their passion with emerging work and life demands flexibly (Curran et al., 2015). Moreover, harmoniously passionate individuals typically exhibit a strong mastery goal orientation, associated with intrinsic motivation for skill development and task mastery (Vallerand et al., 2007). Existing research on leaders' (harmonious) passion suggests its positive impact on passion contagion (Ho & Astakhova, 2020; Ho et al., 2021). Similarly, employees' harmonious passion is linked to many positive outcomes, including job and career satisfaction, job performance, flow, intrinsic motivation, and attention (Burke et al., 2015; Ho et al., 2011; Houlfort et al., 2014).

Unlike harmonious passion, obsessive passion is characterized by a controlled form of internalization, where individuals feel pressured to engage in an activity. Obsessively passionate individuals may encounter conflicts with other areas of their lives due to their passion's constrained and compulsive nature, despite their love for the activity. This can diminish positive affect and increase negative affect, such as guilt, pressure, and anxiety, both

during the activity and when prevented from engaging in the activity (Vallerand et al., 2003; Vallerand et al., 2010). Additionally, those with higher levels of obsessive passion tend to exhibit cognitive rigidity, making it challenging to shift their focus to other responsibilities (Kakarika et al., 2022). Previous research on leaders' obsessive passion yields mixed results.

While it can undermine the positive impact of change-oriented leadership on firm performance (C. Sirén et al., 2016), it may also convince potential co-founders to join a venture (Fu et al., 2022). In the case of employees, obsessive passion negatively impacts attention, leads to depression and turnover intentions, and triggers rumination, resulting in emotional exhaustion (Burke et al., 2015; Donahue et al., 2012; Ho et al., 2011; Houlfort et al., 2014).

Challenges for Start-up Employees During Decision-making

Start-up employees rely heavily on their entrepreneurial leaders for guidance in their jobs (Stephan et al., 2024) and face the challenge of acting in line with leadership while effectively contributing to the exploration and exploitation of business opportunities in a constantly changing work environment (Griffin & Grote, 2020; Hitt et al., 2012; March, 1991). To this end, they can engage in both advantage-seeking (exploitation) and opportunity-seeking (exploration) efforts, both of which aim to navigate companies through uncertainty and contribute to venture success (Griffin & Grote, 2020; Griffin et al., 2007; Hitt et al., 2012; March, 1991). Exploitation requires the investment of resources to take advantage of opportunities – usually by leveraging knowledge and mapped means-end assumptions (Choi et al., 2008; Shane & Venkataraman, 2000). At the same time, exploration involves seeking (further) opportunities with highly uncertain but potentially higher rewards in the long run (Hitt et al., 2012; Schmitt et al., 2017; C. A. Sirén et al., 2012).

Employees rely on leader signals to guide such behavior under uncertainty (Connelly et al., 2011) because employees typically do not have as much knowledge as their leaders

about the current situation and the firm's strategic goals. When employees must make autonomous decisions that align with leaders' interests, they perceive uncertainty. This uncertainty stems from their perceived inability to predict the consequences of their decisions on their future work situation, the effects on themselves, and how best to proceed (McKelvie et al., 2011; Milliken, 1987). Perceptions of uncertainty potentially pose a threat to achieving both personal and business objectives (Hirsh et al., 2012; McMullen & Shepherd, 2006), motivating individuals to mitigate it by interpreting signals from their leader.

The signaling process between leader and employee reduces information asymmetries between the two parties (Connelly et al., 2011; Spence, 1973). While initially used to predict a party's unobservable qualities, signaling theory has more recently been applied in the organizational behavior and leadership context to study how employees make assumptions about wanted (or unwanted) behaviors based on supervisor signals (Ramaswami et al., 2010; Xu et al., 2019). In this vein, (entrepreneurial) leaders use their behaviors to signal their preferences and opinions to employees. These signals can help employees better understand what is important to their leader and adjust their decision-making accordingly.

In this way, startup employees become active participants (rather than passive recipients) in receiving and responding to signals from their entrepreneurial leaders. As a result of processing these signals (Drover et al., 2018), employees determine how to respond to these signals in the pursuit of opportunities. For instance, with high levels of uncertainty triggering anxiety and doubts (Hirsh et al., 2012), employees may be prompted to explore additional information to reduce these negative affective states instead of immediately exploiting an opportunity (Carver, 2004; Cervone et al., 1994).

An individual's characteristics affect how uncertainty perceptions translate into exploitation and exploration tendencies (Griffin & Grote, 2020; McKelvie et al., 2011; Schmitt et al., 2017), and we argue that an employee's passion for work could be one such

trait. Harmonious passion is associated with positive affective experiences and provides features (e.g., goal mastery orientation, cognitive flexibility) (Vallerand et al., 2007) that potentially enhance exploratory behaviors, making employees react more strongly to uncertainty by refraining from exploitation while cherishing exploration (Avnet & Higgins, 2003; Fredrickson, 2001). Conversely, with its cognitive rigidity, the externally controlled internalization of obsessive passion should limit the effects of uncertainty perception. Obsessively passionate employees find it more challenging to disconnect from an opportunity and open up for exploration, even when the uncertainty of the opportunity is high (Vallerand et al., 2008; Vallerand et al., 2007). Therefore, we argue that the role of perceived uncertainty in startup employees' decisions on exploring or exploiting a given opportunity is contingent upon employees' individual dualistic passion inclination (Figure 4).

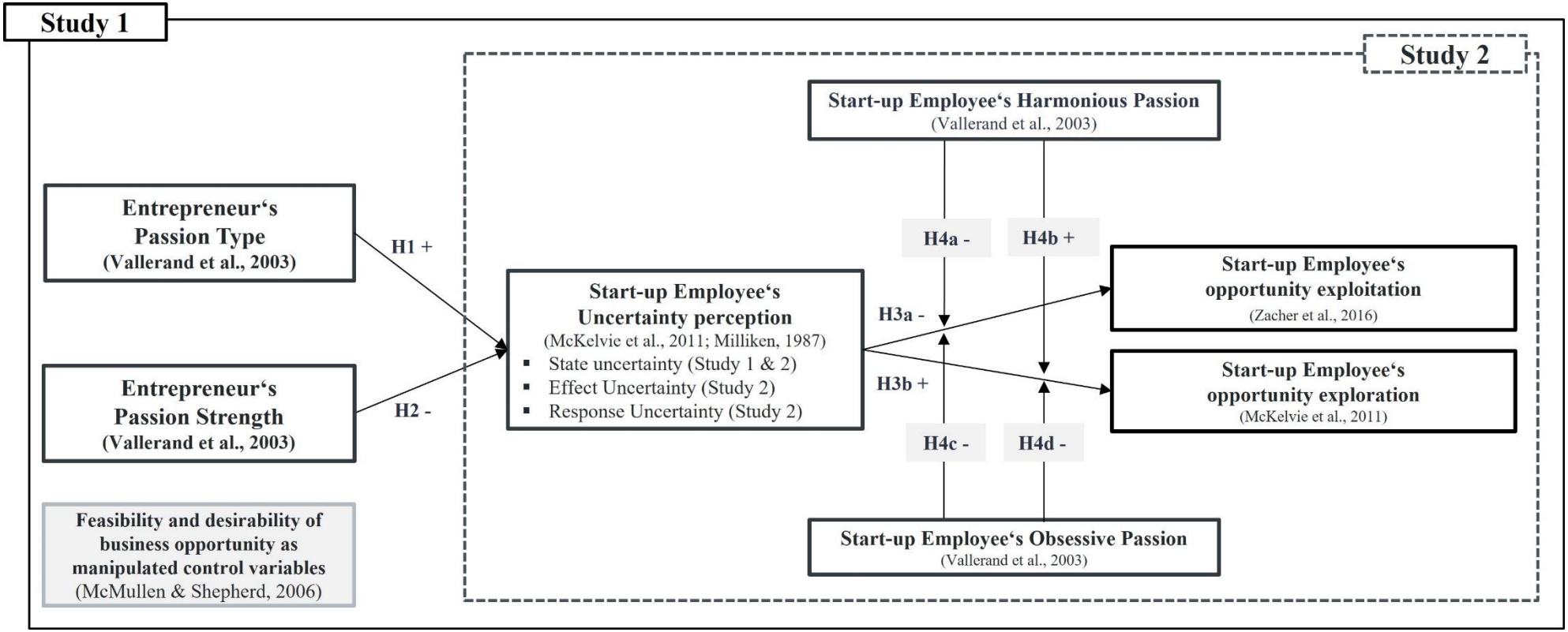

Figure 4: Theoretical model

Entrepreneurial Leaders' Passion as a Signal for Employees' Decision-making

Entrepreneurial leaders' passion type (harmonious or obsessive passion) conveys valuable information about how entrepreneurs internalized their passion and likely behave while pursuing opportunities. Entrepreneurs with a high harmonious passion can deliberately direct their passion toward their chosen path rather than solely being motivated by external incentives, such as achieving performance targets (Vallerand et al., 2007). As a result, entrepreneurs can balance their passion with new obligations and challenges that typically arise when running a business is unpredictable. This can result in experiencing greater enjoyment and fun while simultaneously reducing negative emotions, such as guilt and anxiety when engaging in entrepreneurial activities (Burke et al., 2015; Ho et al., 2011; Vallerand et al., 2003). We argue that employees also receive these positive characteristics of harmonious leader passion, signaling a sense of security when making uncertain decisions about a particular opportunity. When employees receive signals of harmonious passion, they are more likely to expect entrepreneurial leaders to respond more positively and flexibly to their decisions, even if they lead to undesirable outcomes.

On the contrary, obsessively passionate leaders are controlled by their passion and feel pressured to engage in entrepreneurial activities. A greater focus on external incentives such as achieving performance objectives is associated with this and generally results in less positive affect (e.g., enjoyment) and more negative affect (e.g., guilt and anxiety) when engaging in and being prevented from engaging in an activity (Vallerand et al., 2003; Vallerand et al., 2010; Vallerand et al., 2007). Further, due to their obsessive passion, leaders may seek to focus only on their passion and, if necessary, perform self-serving actions (Camps et al., 2012). Therefore, we expect that employees will also perceive these adverse effects of obsessive leader passion through signaling, which will further pressure and unsettle employees during decision-making. When employees perceive signals of obsessive passion

from their leaders, they anticipate that they are more likely to react negatively and rigidly to decisions that deviate from their obsessive intentions. Due to the uncertain reactions of their obsessive leaders, the consequences of employees' decisions heavily impact their ability to make their decisions, leading to an increased perception of uncertainty.

H1: Signals of leaders' obsessive (harmonious) passion for an opportunity increases (decreases) employees' uncertainty perception.

Whereas previous research on leaders' role-based entrepreneurial passion attests to the capacity to signal entrepreneurs' underlying clear motivation for pursuing their venture (Murnieks et al., 2016; Oo et al., 2019; Warnick et al., 2018), we argue that signals of entrepreneurial passion can generally emit how important entrepreneurial activities are for the entrepreneur. This reasoning is in line with Vallerand et al. (2003), who define passion as a strong inclination for activities that are important for individuals and that they seek to invest time in. Therefore, leaders expressing entrepreneurial passion for pursuing specific business opportunities can convey clear information about the importance for the leader and thus guide employees' decision-making.

We argue that entrepreneurs' signals of passion strength, how strongly they display their passion for particular business opportunities, will influence employees' perceived uncertainty when making decisions. A stronger display of entrepreneurs' passion will emphasize the significance of activities and showcase to employees that the entrepreneur intends to further engage in this business opportunity. Hence, employees will perceive less uncertainty with stronger signals of passion strength, whereas displaying only moderate passion strength may lead to employees feeling less clear about the importance of specific business opportunities to the leader.

H2: Leaders' passion strength reduces employees' uncertainty perception.

Uncertainty Perception as a Mediating Mechanism for Employees' Exploitation and Exploration

As receivers of entrepreneurs' (passion) signals, employees interpret the resulting uncertainty that shapes their tendency to contribute to specific entrepreneurial actions (Choi et al., 2008; Griffin & Grote, 2020; Schmitt et al., 2017; C. A. Sirén et al., 2012). The decision-making literature in entrepreneurship research distinguishes between advantage-seeking (exploitation) and opportunity-seeking (exploration) behaviors that are both beneficial for businesses to overcome inherent uncertainty and achieve venture success (Griffin & Grote, 2020; Hitt et al., 2012; March, 1991).

Uncertainty is generally seen as detrimental to choosing and exploiting entrepreneurial opportunities (McMullen & Shepherd, 2006) because exploiting opportunities can increase the potential for downside risk if they do not turn out to be profitable. When employees perceive higher levels of uncertainty, they lack the required information to predict the outcomes of pursuing opportunities in their future work situation and potential response alternatives (McMullen & Shepherd, 2006; Milliken, 1987; Townsend et al., 2018). Thus, uncertainty prevents employees from using known means-end connections to make a clear call on whether an activity will lead to a desired outcome, which inhibits their exploitation behavior (McKelvie et al., 2011). Therefore, we assert that employees avoid exploiting opportunities with increased levels of perceived uncertainty to steer clear of potentially adverse outcomes, including negative feedback from supervisors due to committing to an uncertain opportunity (Anseel et al., 2015).

H3a: With increasing uncertainty perception, employees are less likely to exploit opportunities.

On the other hand, we expect employees to pursue exploratory behaviors to obtain more information to reduce potential threats resulting from uncertainty. Exploratory actions focus on gathering information on further opportunities and postponing commitment to a specific opportunity, reducing perceived uncertainties in entrepreneurial environments (Choi et al., 2008; McKelvie et al., 2011). Several studies show that increased perceived uncertainty can activate people's alertness and perseverance in making sense of the uncertain situation (E. Anderson et al., 2019; Baas et al., 2011). The uncertainty-induced anxiety can prompt entrepreneurial exploration and create an awareness that people engaged in entrepreneurship need to take exploratory actions to gradually develop their business by incorporating new information, which helps to reduce uncertainty (Fisher, 2012; Griffin & Grote, 2020; McKelvie et al., 2011; Schmitt et al., 2017). Hence, we argue that employees decide to reduce undesirable uncertainty by exploring further opportunities (Baumeister et al., 2007).

H3b: With increasing uncertainty perception, employees are more likely to explore further opportunities.

Employees' dualistic passion as a boundary condition in dealing with uncertainty

According to signaling theory, the signaling process and outcome co-depend on the employee since the receiver interprets the sender's signals based on their own individual characteristics (Connelly et al., 2011; Ho & Astakhova, 2020; Ho et al., 2021). Recent studies on employees' behavior under uncertainty suggest that goal-related traits like passion, particularly in entrepreneurship, may influence how individuals regulate perceived uncertainty and make decisions (Griffin & Grote, 2020; Griffin et al., 2007). For example, Ho and Astakhova (2020) find that employees' perceived importance of performance to self-esteem is a critical boundary condition in the signaling process from leader to employee.

We therefore argue that employees' behavioral response to perceived uncertainty depends on their harmonious or obsessive passion. Harmoniously passionate employees experience positive feelings of deep absorption and cognitive engagement in their tasks and strive to learn as much as possible about them to pursue their personal mastery goals (Ho et al., 2011; Vallerand et al., 2007). Moreover, while passionate activities occupy an important place in their lives, harmoniously passionate people can move more flexibly between activities (Fredrickson, 2001, 2013; Pollack et al., 2020). These features stand against opportunity exploitation in highly uncertain situations.

Harmoniously passionate employees are more likely to disengage from the uncertain situation and turn to other activities they are also passionate about (Fredrickson, 2001; Vallerand et al., 2014), rather than relentlessly pursuing an opportunity with unclear outcomes. As they are in autonomous control of their passion (Vallerand et al., 2003), we argue that harmoniously passionate individuals are less likely to get entangled in highly uncertain opportunities, which entail risks that may dampen the positive experiences associated with harmonious passion. Instead of overcommitting to exploiting an uncertain opportunity, harmoniously passionate individuals may prefer to explore alternative opportunities, allowing them to maintain their harmonious passion. Hence, we hypothesize that harmoniously passionate employees are even less motivated to exploit opportunities under high uncertainty.

> *H4a: Employees' harmonious passion moderates the relationship between perceived uncertainty and exploitation behavior such that higher harmonious passion enhances the negative effect of perceived uncertainty on employees' tendency to exploit opportunities.*

The same mechanisms that cause harmonious passion to increase the negative effect of uncertainty on exploitation should also increase the positive effect of uncertainty perception on exploration. Based on their enhanced mastery goal orientation (Vallerand et al., 2007), harmoniously passionate employees should strive to overcome uncertainty through further exploration, given that exploration enhances the relevant knowledge and improves related skills. Moreover, harmonious passion accompanies enhanced cognitive flexibility, lowering exploration costs (Isen, 2000). Furthermore, as harmonious passion enables individuals to disengage from a singular activity, exposure to multiple stimuli can expand an individual's potential opportunity space (Fredrickson, 2013). Accordingly, exploration of uncertain opportunities resonates with harmoniously passionate employees' motivation for mastery goal orientation (Vallerand et al., 2007), and the prospective outcome of exploration becomes more valuable to them. When the burden of an activity is reduced and the value augmented, it becomes more likely that an individual will pursue this activity (Vroom, 1964; Wigfield & Cambria, 2010). Consequently, we argue that harmonious passion will enhance the positive effect of uncertainty perception on employees' exploration behavior.

H4b: Employees' harmonious passion moderates the relationship between perceived uncertainty and exploration behavior, such that higher harmonious passion enhances the positive effect of perceived uncertainty on employees' tendency to explore opportunities.

Obsessively passionate employees have an externally controlled internalization of passion, enhancing feelings of pressure to engage in the underlying activity (Vallerand et al., 2003). They are rather controlled by than in control of their passion. While the intense drive to engage in passionate activities can reduce positive affect and increase negative affect (Vallerand et al., 2010), it should also reduce the impact of uncertainty perceptions in the

decision to exploit an opportunity. Obsessively passionate employees are more persistent in taking advantage of opportunities, even if it involves a high degree of uncertainty (Bélanger et al., 2013; Vallerand et al., 2010). They want to pursue an opportunity no matter the costs or consequences. Accordingly, employees may perceive (signal-based) uncertainty but disregard it because it does not fit their obsessive inclinations. Their cognitive elaboration of uncertainty becomes more superficial, and they even tend to downplay the potential negative consequences associated with pursuing a highly uncertain opportunity (Bélanger et al., 2019). For this reason, the adverse effects of uncertainty on opportunity exploitation should be less prevalent among obsessively passionate employees.

H4c: Employees' obsessive passion moderates the relationship between perceived uncertainty and exploitation behavior such that higher obsessive passion reduces the negative effect of perceived uncertainty on employees' tendency to exploit opportunities.

We argue that the same mechanisms of obsessive passion to reduce the negative effect of uncertainty on exploitation should also reduce the positive effect of uncertainty perception on opportunity exploration. Since individuals with obsessive passion are controlled by their passion, the associated compulsive experience of anxiety, pressure, and guilt (Pollack et al., 2020; Vallerand et al., 2014) should outweigh the anxiety inherent in uncertainty and reduce employees' urge to mitigate their perceived uncertainty inherent in opportunities through exploratory behavior. Further, obsessively passionate employees are less alert to the anxiety associated with uncertainty because their obsessive passion narrows their cognitive attention and pushes them to think about and rigidly pursue their passion (Donahue et al., 2012; Vallerand et al., 2007). This cognitive rigidity makes them less able and willing to explore other opportunities – even when uncertainty is perceived as high. Moreover, their obsessive

passion monopolizes their thinking and thus makes it hard for them to shift their attention (Ho et al., 2011) and embrace novel opportunities. Obsessively passionate individuals will more likely disregard the possibility of engaging in information searches associated with opportunity exploration as they are less open to external feedback (Kakarika et al., 2022). For these reasons, the positive effects of uncertainty on opportunity exploration should be less prevalent among obsessively passionate employees.

H4d: Employees' obsessive passion moderates the relationship between perceived uncertainty and exploration behavior, such that higher obsessive passion reduces the positive effect of perceived uncertainty on employees' tendency to explore opportunities.

4.3 Methodology

We conducted two metric-conjoint experiments to assess the role of leaders' entrepreneurial passion as a signal in employees' decision-making under uncertainty. Entrepreneurship research has widely used conjoint studies (Moser et al., 2017; Scheaf et al., 2018; F. Zhu & Newman, 2023) as they are particularly suitable for investigating decision-making processes and resistant to potential biases associated with survey data, e.g., self-reporting biases (Choi & Shepherd, 2004; Lohrke et al., 2010; Shepherd & Zacharakis, 2018).

In our first conjoint experiment (Study 1), we manipulated signals of entrepreneurial leaders' passion type and strength and tested the effects on employees' perceived uncertainty and the decision to exploit or explore business opportunities. While Study 1 suggests that leaders' passion signals affect employees' uncertainty perception and subsequent decision-making, we did not manipulate them; rather, we assessed employees' uncertainty perception and decision for exploitation and exploration. Considering the theorized mediating effect of leaders' passion signals on the decision to exploit or explore business opportunities, we chose

to conduct a complementary conjoint experiment. Therefore, within the second conjoint experiment (Study 2), we examine how employees' uncertainty perception (manipulated independent variable) affects the decision to support leaders' exploitative or explorative actions. We followed the recent recommendations of Hsu et al. (2023) to observe mediating effects with the help of multiple experiments. Thus, we decided to not only measure the mediating variable of uncertainty perception in Study 1 but also to manipulate perceived uncertainty in Study 2. This allows us to replicate, validate, and expand our empirical setup and avoid endogeneity issues arising from the simultaneous measurement of multiple dependent variables (B. S. Anderson et al., 2019).

4.4 Study 1

Design and Sample

For the first conjoint experiment, we sampled data from startup employees with the help of a professional German panel provider (Cint). We asked participants to self-validate their current company as a startup. In addition, we controlled for startups that have been operating for less than ten years and have under 250 employees. All respondents who have completed the questionnaire received a small compensation for participating in this experiment.

We instructed participants to imagine that they are working for a startup and that their CEO has assigned them to assess new business opportunities. Evaluating these business opportunities may help the startup choose the best opportunity to scale the company. For each business opportunity, we provided participants with manipulated information about the leader's passion type and strength of this passion signal. Additionally, we provided information on the feasibility and desirability of the business opportunity in each scenario as manipulated control variables, thus enhancing the credibility of our conjoint experiment

consistent with previous studies (Volkmer et al., 2024; Warnick et al., 2018). After reading each scenario, employees indicated their level of perceived uncertainty. They stated whether to suggest to their entrepreneurial leaders to either exploit the presented business opportunity or explore other business opportunities. Before the experiment, all participants read definitions for all four manipulated attributes and received a practice scenario to familiarize themselves with the decision situation at hand. The final conjoint experiment comprises 16 conjoint scenarios (four attributes with two levels each), which we chose to partially replicate to minimize participants' response fatigue by randomly picking four scenarios (Aiman-Smith et al., 2002; Karren & Barringer, 2002), similar to prior studies (Fu et al., 2022; Kier & McMullen, 2018). Altogether, participants thus evaluated 21 conjoint scenarios.

In total, we obtained 169 complete responses, of which 90 remained after controlling for sample criteria, response duration, and carelessness (Meade & Craig, 2012). Thus, we have 1440 decisions nested within 90 individuals, which should provide robust results for our analyses (Scherbaum & Ferreter, 2009). On average, participants were 36.81 years old, 64.0% were female and had been working for 3.51 years at their current company, which is 5.11 years old (mean firm age) and has 23 employees (mean firm size). With 30% each, most participants have completed vocational training or received a university degree.

Measures

Manipulated Independent and Control Variables (Level 1)

We carefully manipulated our independent variables based on prior research (Fu et al., 2022; Scheaf et al., 2018). All attributes differed in two dimensions. Entrepreneurial leaders' passion type was either "harmonious" (coded 0) or "obsessive" (coded 1), while passion strength was set to "moderate" (coded 0) or "strong" (coded 1) (Fu et al., 2022; Vallerand et al., 2003). We derived both passion strength and type descriptions based on Vallerand et al.'s (2003) conceptualization and measurement of dualistic passion. The feasibility and

desirability of business opportunities were presented as “high” or “low” (see Appendix B). We thoroughly pre-tested our conjoint experiment by conducting six interviews with startup employees using a think-aloud approach to ensure that the scenarios and manipulated variables are well understood (Volkmer et al., 2024). Furthermore, they validated the relevance of our manipulated attributes, pointing out that the perception of their leader’s passion plays a vital role in their uncertainty perception in everyday work. Lastly, interviewees articulated their understanding of our experiment and indicated any issues.

In addition to the conjoint experiment, participants responded to a post-experiment questionnaire. All items in Study 1 were translated from English into German using a double back-translation procedure (Brislin, 1970) supported by researchers in our network (Schaffer & Riordan, 2003). All items were assessed using a 7-point Likert scale.

Dependent Variables – Uncertainty Perception, Exploitation, and Exploration

Uncertainty perception

After reading each profile, participants indicated their level of perceived uncertainty when evaluating the displayed business opportunity, responding to the statement, “I am very uncertain about this business opportunity.” We created this measure based on the conceptualization of state uncertainty associated with the perceived unpredictability of the environment during decision-making (Milliken, 1987). This follows prior studies on uncertainty perception in entrepreneurship (McKelvie et al., 2011; McMullen & Shepherd, 2006; Schmitt et al., 2017). The scale ranged from 1 (not at all) to 7 (fully agree).

Willingness for Exploitation and Exploration of Business Opportunities

After assessing employees’ perceived uncertainty, we asked participants to rate their tendencies regarding exploiting the business opportunity and exploring further business opportunities. To measure employees’ willingness to exploit business opportunities, we adopted the measurement of willingness to exploit given opportunities by McKelvie et al.

(2011) from the employee perspective. Thus, participants indicated if they would actively propose the displayed business opportunity to their leader for exploitation, answering to a single item, ”It is very likely that I would actively propose to exploit this business opportunity”. Turning to employees’ willingness to explore business opportunities, we adapted an item for explorative behavior by Zacher et al. (2016), i.e., “Searching for new possibilities with respect to my work” (p. 39), shifting its focus from an organizational to an entrepreneurial setting. Hence, participants were asked to indicate their willingness to explore other opportunities, i.e., “It is very likely that I would prefer to explore other business opportunities”. Both constructs were measured on 7-point Likert scales.

Measured Individual-level Moderator and Control Variables (Level 2)

Moderator Variables: Employee Harmonious and Obsessive Passion

We measured employees’ entrepreneurial passion by adapting the dualistic passion scale (Marsh et al., 2013). We adjusted the wording of the original items from “activity” to “job” to be more relevant to employees’ work situations. Example items include “My job is in harmony with the other activities in my life” for harmonious employee passion and “I have almost an obsessive feeling for my job” for obsessive employee passion. Both employee obsessive and harmonious passion scales showed good internal consistency (Cronbach’s alpha for harmonious passion = 0.83; for obsessive passion = 0.86).

Control Variables

Besides employees’ age and gender (coded 0 = male, 1 = female), we assessed several control variables that may potentially affect employees’ uncertainty perception such as an employee’s prior working experience, experience as a leader, and entrepreneurial experience (McMullen & Shepherd, 2006; Shane & Venkataraman, 2000). In addition, we controlled for respondents’ firm size and firm age.

Results Study 1

To evaluate the test-retest reliability, we followed best practice recommendations by Schüler et al. (2024). First, we calculated ICCs (ICC 3k) for all dependent variables, which range from 0.56 to 0.58 on average. Further, we examined slope differences between rounds, which indicate no significant differences. Considering these parameters, we conclude that the findings in this study yield acceptable reliability.

Table 8 presents the means, SDs, and correlations for all dependent variables and level 2 variables for Study 1. We calculated variance inflation factors (VIFs) to control for multicollinearity. All VIFs were below 1.8 thus we inferred that multicollinearity was not a problem for our analysis (O'Brien, 2007).

Table 8: Means, standard deviations, and correlations (Study 1)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Uncertainty Perception	3.88	1.63										
2. Exploration	4.56	1.58	0.30**									
3. Exploitation	4.29	1.58	-0.23**	-0.08**								
4. Gender	0.64	0.48	0.00	0.04	-0.02							
5. Working Experience	12.87	10.01	-0.01	0.02	-0.01	0.02						
6. Firm size	23.84	33.75	0.06*	0.04	-0.02	0.08**	-0.19**					
7. Firm age	5.11	3.05	-0.06**	-0.03	-0.05	-0.14**	0.18**	-0.06**				
8. Entrepreneurial Experience	0.22	0.42	-0.00	0.05*	-0.03	-0.05*	0.03	-0.21**	-0.11**			
9. Leader Experience	3.94	3.94	-0.01	0.06*	-0.04	-0.23**	0.39**	-0.07**	0.25**	0.09**		
10. Employee Harmonious Passion	5.03	0.98	-0.00	0.02	0.07**	0.13**	0.11**	0.05*	-0.11**	0.05*	0.13**	
11. Employee Obsessive Passion	3.03	1.30	0.04	0.01	0.16**	-0.08**	-0.23**	0.12**	-0.22**	0.13**	-0.04	0.00

Note: M and *SD* represent mean and standard deviation, respectively. We only report correlations between dependent variables and individual-level measured variables on Level 2, as Level 1 correlations are zero due to our conjoint experiment design employing an orthogonal design. For Gender, 0 = male, 1 = female. * indicates $p < 0.05$. ** indicates $p < 0.01$.

We employed multilevel structural equation models using the lavaan package in R (Rosseel, 2012) to match the data structure of conjoint experiments. All non-binary control and moderator variables were z-standardized to ease interpretation. Table 9 presents our model testing the effects of leaders' passion signals on uncertainty perception (Model 1). We find significant effects for leaders' passion type increasing employees' perceived uncertainty ($b = 0.11$, $p = 0.027$). In addition, we find that passion strength reduces employees' uncertainty perception ($b = - 0.15$, $p = 0.004$). Therefore, both hypotheses H1 and H2 are supported. Considering our manipulated controls, we find that feasibility and desirability reduce uncertainty perception (feasibility: $b = - 0.38$, $p < 0.001$; desirability: $b = - 0.41$, $p < 0.001$).

Table 9: Regression models for direct & indirect effects (Study 1)

	Model 1: Uncertainty Perception			Model 2: Exploration			Model 3: Exploitation		
Variable	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Direct Effects									
Passion Type	0.11	0.051	0.027*	-0.04	0.079	0.573	-0.12	0.079	0.124
Passion Strength	-0.15	0.053	0.004**	-0.20	0.093	0.036*	0.17	0.076	0.031*
Feasibility	-0.38	0.069	<0.001***	-0.18	0.123	0.139	0.36	0.148	0.015*
Desirability	-0.41	0.069	<0.001***	-0.20	0.121	0.098	0.36	0.134	0.007**
Uncertainty Perception				0.30	0.098	0.002**	-0.32	0.123	0.009**
Interaction Effects									
Obsessive Passion X Uncertainty Perception				-0.00	0.09	0.969	0.29	0.115	0.012*
Harmonious Passion X Uncertainty Perception				0.17	0.107	0.122	-0.28	0.126	0.027*
Controls									
Working experience [a]	0.01	0.057	0.842	-0.03	0.069	0.653	0.02	0066	0.72
Gender	0.00	0.105	0.969	0.20	0.137	0.153	-0.03	0.15	0.82
Firm age [a]	-0.06	0.05	0.209	-0.00	0.057	0.939	0.02	0.054	0.732
Firm size [a]	0.07	0.029	0.017*	-0.07	0.058	0.26	-0.12	0.077	0.127
Entrepreneurial experience	0.01	0.1	0.894	0.25	0.136	0.068	-0.18	0.137	0.196
Leader experience [a]	0.01	0.045	0.787	0.1	0.072	0.169	-0.09	0.069	0.178
Model coefficients									
Robust CFI	0.993								
Robust TLI	0.979								
RMSEA	0.012								
Number of observations	1440								
Number of Clusters (id)	90								

Note: *b* = unstandardized regression coefficients; SE = cluster robust standard errors. * p < 0.05, ** p < 0.01, *** p < 0.001. For passion strength, 0 = low, 1 = high; For passion Type, 0 = harmonious, 1 = obsessive; For feasibility and desirability, 0 = low, 1 = high. For gender, 0 = male, 1 = female. [a] z-standardized controls and moderator variables.

We further specified models regarding the effects of uncertainty perception on subsequent employees' willingness to exploit and explore business opportunities (Table 9). Our results indicate that uncertainty perception reduces exploitation (b = - 0.32, p = 0.009), and increases exploration (b = 0.30, p = 0.002), supporting hypotheses H3a and H3b.

We investigated the function of employees' dualistic passion as a moderator in dealing with uncertainty perception. Table 9 presents our models for all interaction effects. In support of hypotheses H4a and H4c, we find significant moderations of employees' harmonious (b = - 0.28, p = 0.027) and obsessive passion (b = 0.29, p = 0.012) on the relationship between uncertainty perception and exploitation. High levels of harmonious passion strengthen the negative effect of uncertainty perception on exploitation, while obsessive passion increases the negative effect of uncertainty perception on exploitation. More precisely, employees' harmonious passion negatively moderates the effect of uncertainty perception on exploitation when employees' harmonious passion is around the mean level (b = - 0.21, SE = 0.02, p < 0.001) and + 1 SD above the mean (b = - 0.39, SE = 0.03, p < 0.001). In addition, the positive moderation effect of obsessive passion on the relationship between employees' perceived uncertainty and exploitation is significant - 1 SD below the mean (b = - 0.45, SE = 0.03, p < 0.001) and around the mean level (b = - 0.19, SE = 0.02, p < 0.001). Turning to exploration, we do not find significant interactions of employees' dualistic passion on the relationship between uncertainty perception and exploration (Table 9, harmonious passion: b = 0.17, p = 0.122; obsessive passion: b = -0.00, p = 0.969), hence rejecting hypotheses H4b and H4d. Visualizing our findings for interaction effects, we further conducted simple slope analyses for all significant moderation effects (see Figures 5 and 6 below).

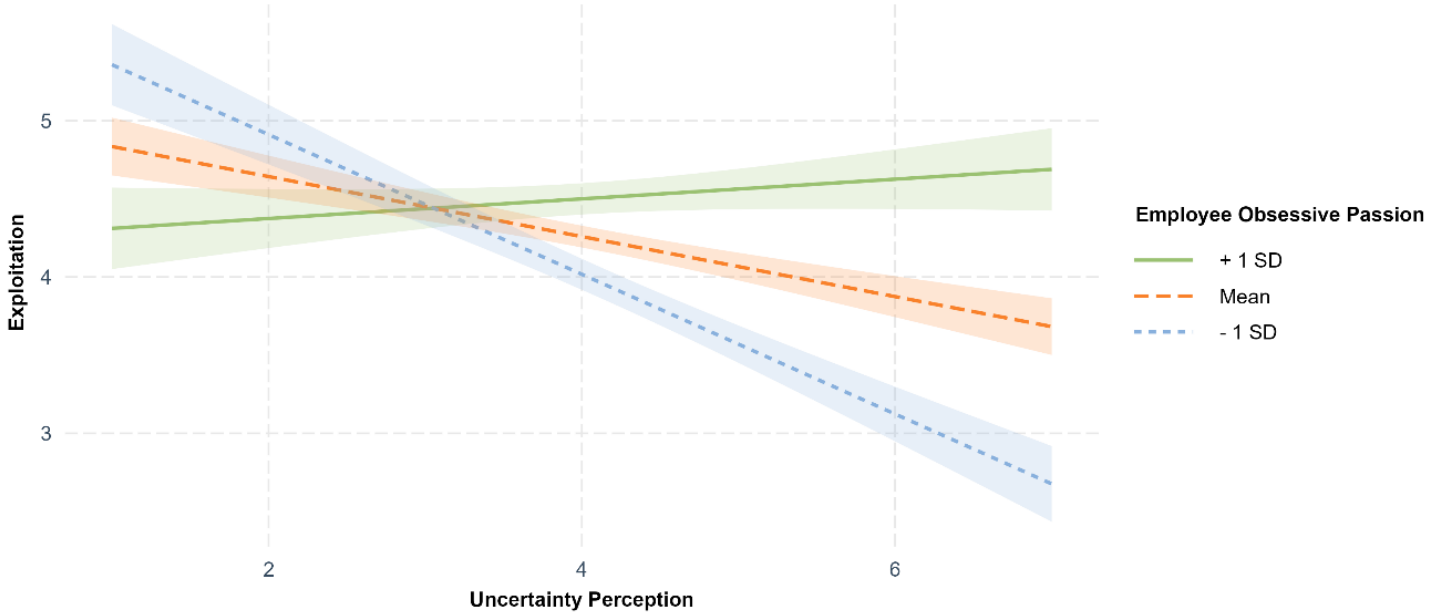

Figure 5: Simple slope plot for the interaction effect of employee obsessive passion on uncertainty perception and exploitation

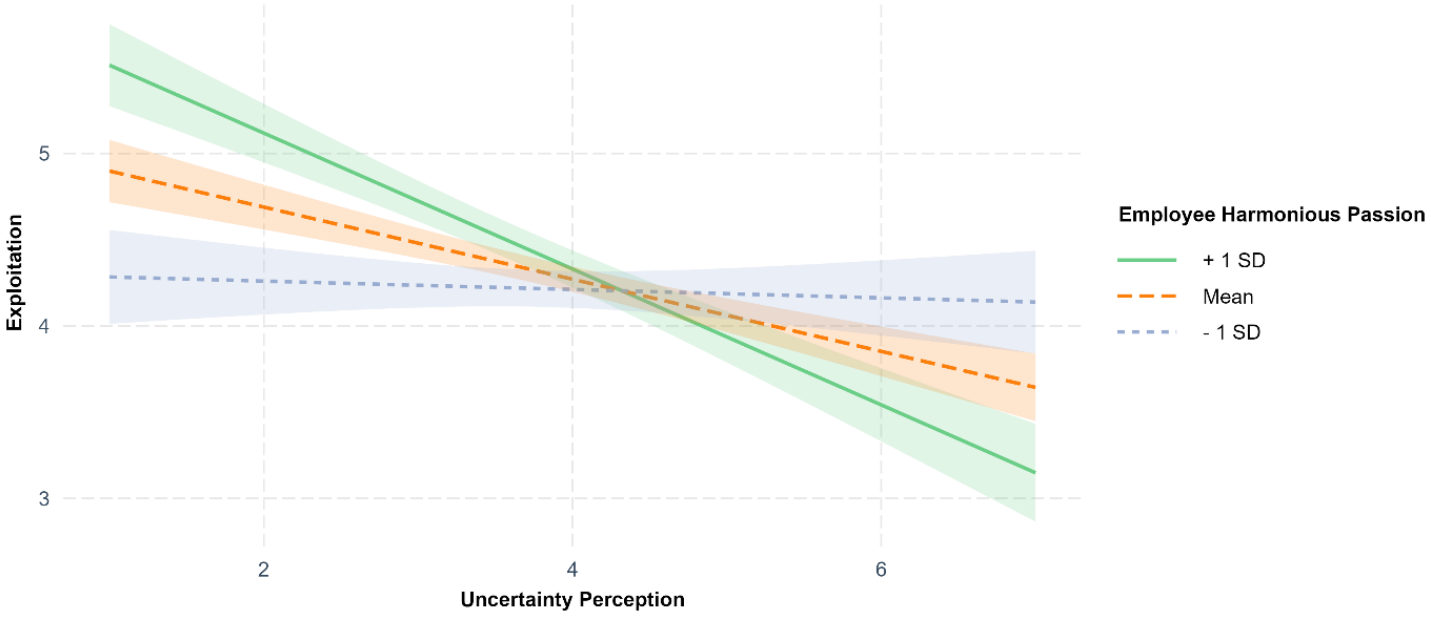

Figure 6: Simple slope plot for the interaction effect of employee harmonious passion on uncertainty perception and exploitation

Additional Analyses

We further assessed employees' uncertainty perception as a mediator between leaders' passion signals (passion type and passion strength) and our independent variables, i.e., exploitation and exploration. We find that uncertainty perception fully mediates the effects of leaders' passion type on employees' exploitation and exploration tendency, but only partially mediates the effects of passion strength on exploitation and exploration.

Furthermore, we implemented a series of robustness checks. First, we additionally controlled for participants' positive and negative affect during the decision-making procedure, which may affect their perceived uncertainty (E. Anderson et al., 2019). Second, we controlled for outliers based on respondents' mean deviations and compared outlier-eliminated data with our findings. Overall, all our findings remained stable and consistent for all robustness checks.

4.5 Study 2

Design and Sample

Similar to Study 1, we sampled startup employees via a new panel provider (Consumerfieldwork), limiting potential biases from recurring respondents. We informed participants that they were working for a startup, and the CEO tasked them with evaluating potential business opportunities for scaling. Further, we provided information on the feasibility and desirability of the business opportunities by assigning them as constant values in the scenario description (Shepherd & Zacharakis, 2018). In Study 2, we manipulated employees' perceived uncertainty levels after reading each business opportunity, i.e., their perceived state, effect, and response uncertainty (Milliken, 1987), to test their effect on exploitation and exploration. We manipulated each dimension of perceived uncertainty at two levels – high and low. Employing an orthogonal full design, we eliminated potential

multicollinearity between types of perceived uncertainty and reduced the number of scenarios to eight (Hahn & Shapiro, 1966). We fully replicated our conjoint experiment to increase estimation power; thus, respondents evaluated 16 cards in total.

We created two versions of our conjoint experiment to capture the nuances of environmental uncertainty (Milliken, 1987). We, therefore, differentiated between descriptions of perceived (Version 1) and objective uncertainty, i.e., uncertainty exists for each respondent (Version 2). Hence, versions marginally differed in the manipulation of perceived uncertainty. After data collection, we conducted a slope difference test, which did not indicate significant differences between versions. We, therefore, combined both versions into a full data set.

In total, 176 startup employees participated in the conjoint experiment of Study 2. After filtering for careless responses, sample criteria, and response duration, our final data set consists of 92 participants (yielding 1472 observations; 53 participants in Version 1, 39 respondents in Version 2). On average, participants are 44.61 years old, 50% female, and 27.7% received a university degree. The startups they work for are, on average, 6.41 years old and employ 65 people. On average, they have been working for 4.43 years at their current company.

Measures

Manipulated Independent Variables (Level 1)

We manipulated participants' uncertainty perception, i.e., state, effect, and response uncertainty, based on prior conceptualizations (McMullen & Shepherd, 2006; Milliken, 1987), distinguishing all attributes in "low" (coded 0) or "high" (coded 1).

Dependent Variables – Exploitation and Exploration

Identical to Study 1, respondents indicated if they would actively propose the displayed business opportunity to their leader for implementation (exploitation) or prefer to

explore additional business opportunities (exploration). Both constructs were measured on a 7-point Likert scale using our adopted measures (McKelvie et al., 2011; Zacher et al., 2016).

Measured Individual-level Moderator and Control Variables (Level 2)

Moderator Variables: Employee Harmonious and Obsessive Passion

We replicated our measurement of employees' dualistic passion from Study 1 (Marsh et al., 2013; Vallerand et al., 2003). Scales for employees' dualistic passion showed good internal consistency (Cronbach's alpha for harmonious passion = 0.92; obsessive passion = 0.89).

Control Variables

We employed identical control variables as in Study 1, thus controlling for respondents' age, gender (coded 0 = male, 1 = female), prior working experience, experience as a leader, and entrepreneurial experience.

Results Study 2

To test the test-retest reliability of our study, we calculated ICCs (ICC 3k) for both dependent variables, which exceeded 0.64 (on average). In addition, following recommendations by Schüler et al. (2024), we conducted simple slope differences for all dependent variables, which showed no significant differences. We therefore conclude that the findings yield reliable results. Table 10 shows Means, SDs, and correlations for all Level 2 variables. We calculated variance inflation factors (VIFs) to control for multicollinearity. All VIFs are below 1.6, indicating no sign of severe multicollinearity (O'Brien, 2007).

Table 10: Means, standard deviations, and correlations (Study 2)

Variable	*M*	*SD*	1	2	3	4	5	6
1. Exploitation	4.02	1.59						
2. Exploration	4.76	1.44	-0.19**					
3. Gender	0.50	0.50	-0.04	-0.02				
4. Working Experience	20.02	10.58	-0.00	0.08*	-0.15**			
5. Leader Experience	6.52	6.94	0.04	0.04	-0.34**	0.49**		
6. Employee Harmonious Passion	5.00	1.20	0.18**	0.09*	-0.13**	0.13**	0.20**	
7. Employee Obsessive Passion	3.02	1.38	0.21**	-0.07	-0.26**	0.02	0.22**	0.21**

Note. M and *SD* are used to represent mean and standard deviation, respectively. We only report correlations between dependent variables and individual-level measured variables on Level 2, as Level 1 correlations are zero due to our conjoint experiment design employing an orthogonal design. For Gender, 0 = male, 1 = female. * indicates $p < .05$. ** indicates $p < .01$.

We fit hierarchical regression models employing the lme4 package in R (Bates et al., 2015) to test hypotheses H3 and H4. Table 11 presents all models testing the direct effects of uncertainty perception on exploitation and exploration. Our results show that state, effect, and response uncertainty negatively affect employees' tendency to exploit business opportunities (state uncertainty: $b = -0.77$, $p < 0.001$; effect uncertainty: $b = -0.83$, $p < 0.001$; response uncertainty: $b = -0.51$, $p < 0.001$). Further, we find that all dimensions of uncertainty perception are significantly and positively related to exploration (state uncertainty: $b = 0.29$, $p < 0.001$; effect uncertainty: $b = 0.33$, $p < 0.001$; response uncertainty: $b = 0.24$, $p < 0.001$), yielding support to hypotheses H3a and H3b.

Considering hypothesis H4a suggesting a moderation effect of harmonious passion on state uncertainty and exploitation, we only find marginal support on the 0.1 level ($b = -0.12$, $p = 0.087$). While the moderating effect of employees' harmonious passion on response uncertainty and exploitation is non-significant ($b = 0.05$, $p = 0.425$), our data indicates a significant moderation on effect uncertainty and exploitation ($b = -0.17$, $p = 0.015$). Further, we find full support for hypothesis H4c, suggesting that employees' obsessive passion moderates the relationship between uncertainty perception and exploitation. In addition to state uncertainty ($b = 0.28$, $p < 0.001$), we find significant moderation effects for effect uncertainty ($b = 0.31$, $p < 0.001$) and response uncertainty ($b = 0.20$, $p = 0.003$) and exploitation. Furthermore, we find that employees' obsessive passion moderates the effect of state uncertainty on exploitation when obsessive passion is – 1 SD below ($b = -1.11$, $SE = 0.10$, $p < 0.001$), around ($b = -0.82$, $SE = 0.07$, $p < 0.001$), and + 1 SD above the mean level ($b = -0.52$, $SE = 0.10$, $p < 0.001$).

Table 11: Regression models for direct & indirect effects (Study 2)

	Model 4: Exploration			Model 5: Exploitation		
Variable	*b (β)*	*SE*	*p*	*b (β)*	*SE*	*p*
Directs Effects						
State Uncertainty	0.29 (0.10)	0.066	<0.001***	-0.77 (-0.24)	0.067	<0.001***
Effect Uncertainty	0.33 (0.11)	0.067	<0.001***	-0.83 (-0.26)	0.067	<0.001***
Response Uncertainty	0.24 (0.08)	0.064	<0.001***	-0.51 (-0.16)	0.066	<0.001***
Interaction Effects						
Obsessive Passion X State Uncertainty	-0.30 (-0.14)	0.065	<0.001***	0.28 (0.13)	0.068	<0.001***
Obsessive Passion X Effect Uncertainty	-0.30 (-0.11)	0.065	<0.001***	0.31 (0.14)	0.068	<0.001***
Obsessive Passion X Response Uncertainty	-0.23 (-0.11)	0.064	<0.001***	0.20 (0.09)	0.067	0.003**
Harmonious Passion X State Uncertainty	0.32 (0.15)	0.065	<0.001***	-0.12 (-0.05)	0.068	0.087
Harmonious Passion X Effect Uncertainty	0.31 (0.15)	0.065	<0.001***	-0.17 (-0.07)	0.069	0.015*
Harmonious Passion X Response Uncertainty	0.20 (0.09)	0.065	0.003**	0.05 (0.02)	0.068	0.425
Controls						
Gender	0.02 (0.01)	0.189	0.896	0.15 (0.05)	0.157	0.337
Working experience	0.00 (0.03)	0.010	0.675	0.00 (-0.02)	0.008	0.679
Firm age	0.03 (0.05)	0.034	0.459	0.02 (0.03)	0.028	0.544
Firm size	0.00 (0.04)	0.001	0.492	0.00 (0.06)	0.001	0.172
Entrepreneurial experience	0.45 (0.11)	0.261	0.084	0.33 (-0.07)	0.217	0.126
Leader experience	0.01 (0.03)	0.016	0.675	-0.01 (-0.03)	0.013	0.563
Model coefficients						
R conditional		0.39			0.41	
R2 marginal		0.13			0.27	
RMSE		1.16			1.22	
Number of observations		1456			1456	
Number of Clusters (id)		91			91	

Note: *b* = unstandardized regression coefficients; *β* = standardized regression coefficients; SE = cluster robust standard errors. * p < 0.05, ** p < 0.01, *** p < 0.001. For state, effect, and response uncertainty, 0 = low, 1 = high. For Gender, 0 = male, 1 = female. We use hierarchical regression models employing the lme4 package in R for all models.

Turning to exploration, our results indicate significant moderation effects for employees' harmonious passion for all dimensions of uncertainty perception and exploration (on state uncertainty: $b = 0.32$, $p < 0.001$, on effect uncertainty: $b = 0.31$, $p < 0.001$, on response uncertainty: $b = 0.20$, $p < 0.001$). Interaction plots indicate that employees' harmonious passion moderates the relationship between state uncertainty and exploration when harmonious passion is around the mean level ($b = 0.38$, SE = 0.08, $p < 0.001$) and + 1 SD above the mean level ($b = 0.63$, SE = 0.11, $p < 0.001$).

Lastly, our results indicate significant moderation effects for employees' obsessive passion on all dimensions of uncertainty perception and exploration (obsessive passion on state uncertainty: $b = - 0.30$, $p < 0.001$; on effect uncertainty: $b = - 0.30$, $p < 0.001$; on response uncertainty: $b = - 0.23$, $p < 0.001$). Moreover, we find that employees' obsessive passion moderates the effect of state uncertainty on exploration when obsessive passion is – 1 SD below the mean level ($b = 0.65$, SE = 0.11, $p < 0.001$) and around the mean level ($b = 0.38$, SE = 0.08, $p < 0.001$). Hence, hypotheses H4b and H4d are supported. All simple slope analyses for significant moderation effects on state uncertainty are depicted in Figures 7,8, and 9 below.

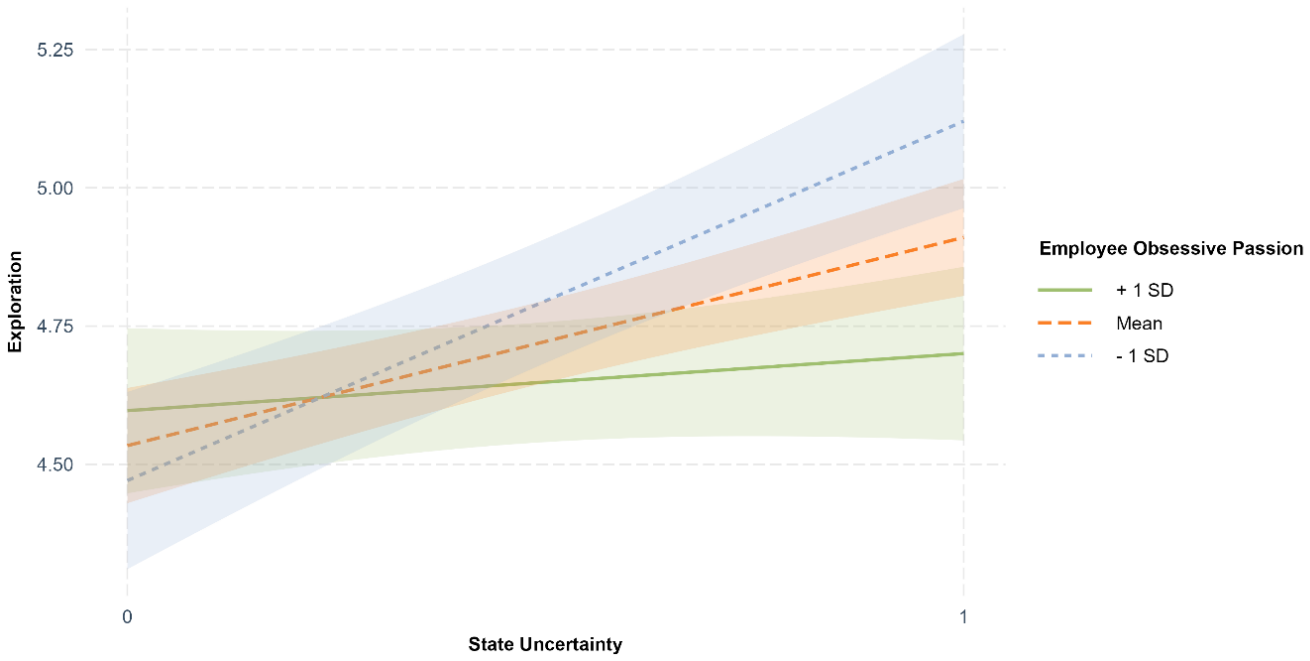

Figure 7:Simple slope plot for the interaction effect of employee obsessive passion on state uncertainty and exploration

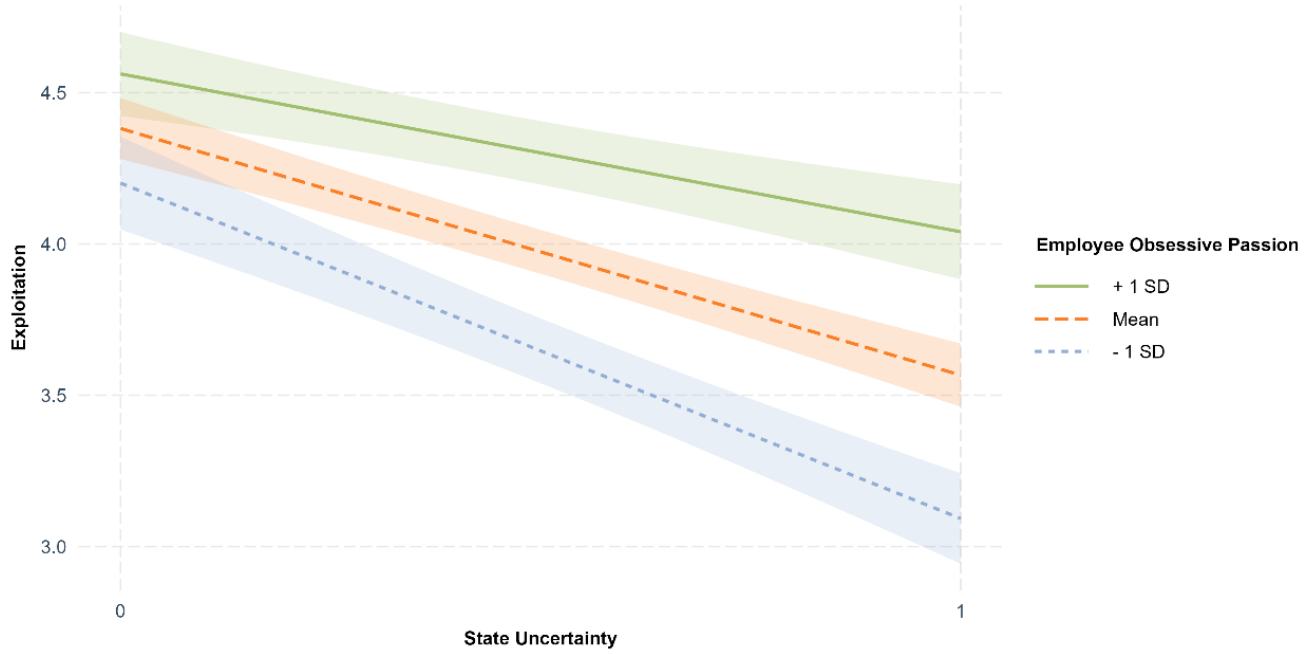

Figure 8: Simple slope plot for the interaction effect of employee obsessive passion on state uncertainty and exploitation

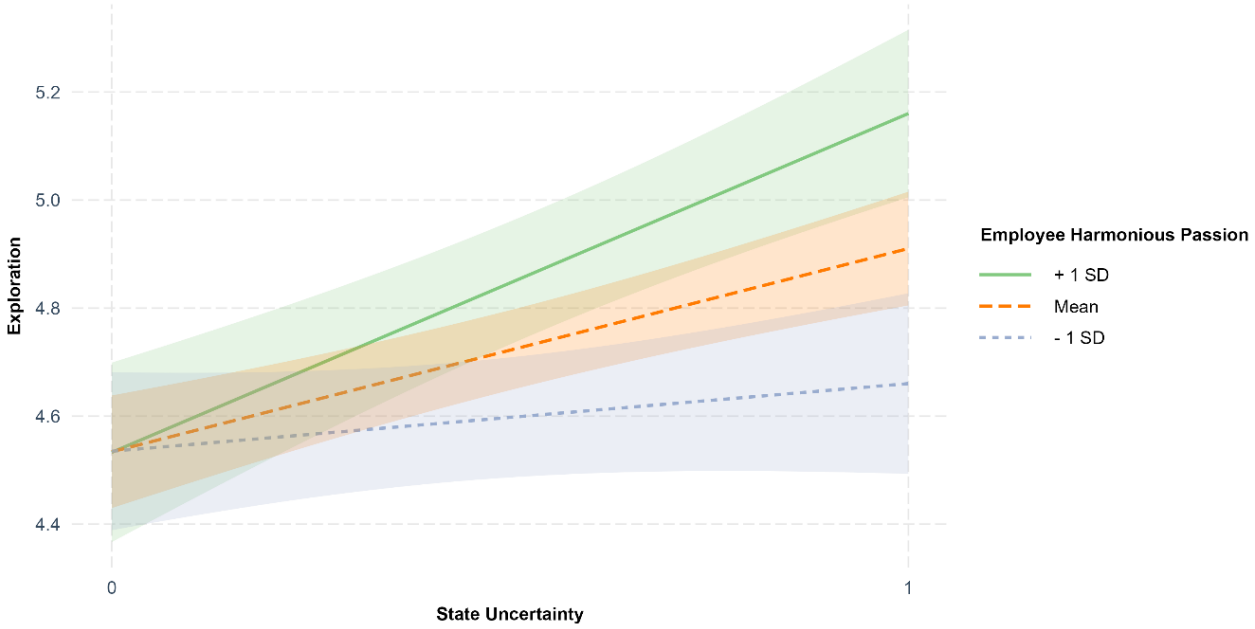

Figure 9: Simple slope plot for the interaction effect of employee harmonious passion on state uncertainty and exploration

Additional Analyses

We conducted various robustness checks to enhance the reliability and credibility of our findings. Congruent with our analytical procedure in Study 1, we controlled for participants' positive and negative affect. Furthermore, we computed error outliers based on participants' responses' mean deviations and compared model results with our initial findings. Overall, all results remain stable for all robustness checks.

4.6 Discussion

Our study provides novel insights into how and under which circumstances entrepreneurial leaders' passion signals stimulate employees' entrepreneurial decision-making at the uncertain startup workplace, acknowledging that entrepreneurs' passion can have ambivalent effects on employee outcomes. Drawing on signaling theory (Connelly et al., 2011; Spence, 2002) and the dualistic passion model (Vallerand et al., 2003), we develop a

theoretical model on the influence of entrepreneurs' passion signal on employees' uncertainty perception that determines their tendency to support the exploitation and exploration of business opportunities. We test our hypotheses in two complementary experimental studies and show that (a) signals of entrepreneurial leaders' passion type (harmonious and obsessive) can decrease or increase employees' uncertainty, b) signals of leaders' passion strength reduce employees' uncertainty perception, (c) employees' uncertainty perception is the causal mechanism linking entrepreneurial leaders' passion signals with employees' decision-making and (d) the signaling and interpretation process is moderated by employees' dualistic passion. While we find strong empirical support for most of our hypotheses in both studies, the results pertaining to the moderation effects of employees' dualistic passion are mixed. We will discuss these findings and their contributions to research on passion and leadership in entrepreneurship.

Entrepreneurs' Passion Signals and Employee Behavior Under Uncertainty

The examination of our model suggests that employees' cognitive elaboration of entrepreneurs' passion signals (passion type and passion strength) can either reduce or promote their uncertainty perception, which informs their decisions to support to exploit and explore opportunities in the uncertain work environment of entrepreneurship (Griffin & Grote, 2020; McMullen & Shepherd, 2006). This is of particular importance because employees essentially contribute to business success and competitive advantage through their innovative behaviors, even if they did not co-found the company (Breugst et al., 2012; Wallace et al., 2013). So far, research has predominantly focused on role-based entrepreneurial passion signals and their effect on employee-level outcomes (e.g., Breugst et al., 2012; Hubner et al., 2020), while the limited studies on dualistic passion signals of leaders have mainly examined passion contagion (Ho & Astakhova, 2020; Ho et al., 2021). Therefore,

overall, we have limited insights into how leaders' (dualistic) passion signals affect employees' decision-making.

Our results suggest that while signals of leaders' passion strength generally reduce employees' perceptions of uncertainty during decision-making, employees' perceived uncertainty also depends on leaders' passion type, signaling that passion is harmoniously or obsessively internalized. Consistent with our theoretical underpinnings, we observe that entrepreneurs' passion can serve as an uncertainty-reducing signal by indicating the entrepreneur's motivation by strongly displaying a passion for activities they seek to engage in but enhancing uncertainty perception when entrepreneurs signal an obsessive form of passion.

Moreover, our research enhances current theoretical considerations by presenting an integrative perspective that elucidates how and when entrepreneurial leaders' passion type and passion strength influence employees' perceptions and subsequent entrepreneurial behaviors. Considering the limited attention to the potential ambivalent effects of leader passion on employees' cognitions and work behaviors (Newman et al., 2021), we conclude that more research is needed on how entrepreneurs can harness the potential of their employees (Cardon & Stevens, 2004) and under which conditions they (unintentionally) mislead their employees through their passion signals. Moreover, entrepreneurs' passion signals could not only impact how employees process uncertainty regarding the execution of entrepreneurial tasks but also social uncertainty (FeldmanHall & Shenhav, 2019; Hogg, 2007), which could be the subject of future studies, for example, in the context of employees' fairness perceptions (van den Bos & Lind, 2002).

Investigating the consequences of leaders' dualistic passion signals and employee responses seems a fruitful avenue for future studies and has important practical implications for entrepreneurial leaders. Motivating their employees to behave in the interest of their

business is a central task for entrepreneurial leaders (Vidyarthi et al., 2014), which is why entrepreneurial leaders need to send the appropriate signals to foster entrepreneurial thinking and acting in the face of uncertainty (Brundin et al., 2008).

The Mediating Role of Uncertainty Perception and Employees' Passion Inclination as a Boundary Condition for Employee Decision-making

Our results indicate that employees' uncertainty perception (partially) mediates how leaders' harmonious and obsessive passion signals affect employees' decision-making, and this effect is contingent on employees' passion inclination. Specifically, we show that while harmonious passion can enable employees to reduce perceived uncertainty, its obsessive form offers ambivalence, which counteractively increases perceptions of uncertainty and produces corresponding behavioral outcomes.

Thereby, our study contributes to the predominantly conceptual literature on employee work behavior under uncertainty (Griffin & Grote, 2020; Griffin et al., 2007) and provides empirical evidence on entrepreneurial leader passion as an antecedent of uncertainty perception, which is a key mechanism driving employee behavior in uncertain organizational contexts such as entrepreneurial firms. While we find that employees' uncertainty perception only partially mediates the effects of leaders' passion type and passion strength on employee outcomes, we encourage scholars to look further into these explanatory mechanisms for leaders' passion. Future studies should also consider the reverse effects of employees' uncertainty perception and subsequent actions on leaders' passion and uncertainty perceptions. This would broaden our understanding of how receivers' feedback reciprocally affects the signaler (Connelly et al., 2011)

Moreover, we showcase how employees' passion inclinations alter the behavioral responses of employees under uncertainty in such that harmonious passion makes employees more receptive to signal-based uncertainty, while obsessive passion shields these effects. By

demonstrating that employees interpret their leaders' passion signals according to their dualistic passion disposition, we add to the literature on passion as a signal (e.g., Ho & Astakhova, 2020; Mitteness et al., 2012) and contribute to the current discourse on cognitions in signaling (Drover et al., 2018). Previous research on employee passion (Breugst et al., 2012; Hubner et al., 2020) highlights that employees' lived passion can diverge from leaders' passion and alter their decisions to act entrepreneurially, potentially threatening venture growth and success. For example, Hubner et al. (2020) show that, among workers with high levels of passion at baseline, entrepreneurs' perceptions of passion do not alter their evaluation of entrepreneurial pursuits and conclude that a leader's expression of passion appears to be less influential for employees who are already passionate. Our results challenge this, as the adoption of the dualistic passion model shows that it is not only the presence of passion that matters but particularly its harmonious or obsessive nature. However, considering our mixed findings across both studies, more research is needed that considers employees' dualistic passion as a moderating factor in employees' decision-making under uncertainty.

Limitations and Future Research Directions

Although our multi-study design has several methodological advantages, some limitations exist. First, while both conjoint experiments offer solid internal validity and stable results across various robustness checks and model specifications, common limitations of conjoint experiments include reduced external validity and restrictions in the number of attributes (Karren & Barringer, 2002). In our study, we employ written descriptions for signals of leaders' passion type and passion strength. While these signals become more directly accessible, this approach may affect the external validity of our findings. Prior studies have employed more observable forms of signals that refer to signalers' underlying qualities, e.g., leadership style (Connelly et al., 2011; Ho & Astakhova, 2020). However, we conducted several interviews with startup employees before data collection to enhance external validity

and secure their understanding of the signals' descriptions. We encourage scholars to replicate and adapt our study by employing other research designs to enhance our findings' external validity further.

Second, as we manipulated the signals of leaders' passion type and passion strength, we neglected additional facets of producing the signals for leaders, such as signal cost (Connelly et al., 2011). In addition, effective signaling processes depend on efficacious signals from signaler to receiver (Connelly et al., 2011). However, while obsessive passion is linked to emotional exhaustion and rumination (Burke et al., 2015), producing signals of obsessive passion may negatively affect entrepreneurial leaders and the signaling process overall. When obsessively passionate leaders constantly think about their passion and feel the urge to pursue it, the clarity of leaders' signals can become tarnished. While producing such signals is costly for the entrepreneurial leaders' well-being, we contend that leaders' passion type signals are signaled unintentionally as they represent their leaders' stable self-identity. Future research is needed to investigate how signal cost affects leaders' choice to produce signals. Further, leaders may be willing to produce intentional signals to cover and distort unintentionally produced signals, such as their representation of self-identity, to improve employee and firm outcomes. We deem this an exciting pathway for future research on signaling in entrepreneurship.

Lastly, our experimental setting limits our ability to detect dynamic relationships between passion and uncertainty. While we find that signals of leaders' passion type and passion strength affect employees' uncertainty perception, our research design does not suffice to investigate reciprocal relationships of passion and uncertainty among employees and their leaders. We encourage future research to conduct longitudinal studies over more extended periods of time to gain a better understanding of the interplay of passion and uncertainty in entrepreneurial firms and test potential recursive effects. Considering the

burgeoning research on team entrepreneurial passion (Cardon, Post, & Forster, 2017; Santos & Cardon, 2019), we conclude that a multilevel perspective may be even more fruitful in which mixed passion signals, a team's passion diversity (Cardon, Post, & Forster, 2017) and a team's adaptive coordination under uncertainty (Grote et al., 2018) could be examined. This would further contribute to our understanding of both team entrepreneurial passion and dealing with uncertainty, particularly when addressing the dualistic nature of passion (Vallerand et al., 2003).

4.7 Conclusion

Our findings suggest that signals of leaders' passion can influence employees' behavior when making decisions under uncertainty. Distinguishing leaders' passion signals into passion type and passion strength has severe implications for employees' perceived uncertainty and subsequent entrepreneurial action. Further, employees' passion disposition is a critical boundary condition for dealing with their perceived uncertainty. Thus, we introduce a more nuanced perspective of passion in dealing with uncertainty as both leaders' and employees' passion significantly shape the fortune of a startup.

CHAPTER V: FIT IN OR GET OUT – PERCEIVED PASSION FIT AND TEAM MEMBER EXIT

Abstract

Using a person-environment fit perspective, this study investigates how entrepreneurs' passion fit shapes the decision to voluntarily exit their entrepreneurial team when entering a new venture stage. We employ a metric conjoint experiment with 77 entrepreneurs (each answering 16 conjoint profiles, leading to 1,232 decisions) to test our hypotheses. Our results show that entrepreneurs' complementary and supplementary passion fit decrease the decision to exit the start-up team. Further, we highlight the moderating effect of an entrepreneur's proactive personality that weakens the reductive effect of supplementary passion fit on team member exit. These findings offer contributions to research on entrepreneurial passion and team member exit by demonstrating how entrepreneurs' perceptions of passion fit with the venture stage and team can inform exit decisions.

Keywords:

Entrepreneurial passion, exit decision, team entrepreneurial passion, PE fit theory, metric conjoint.

5.1 Introduction

Why do some entrepreneurial team members voluntarily decide to leave their venture, despite having invested not only money but also passionately followed their 'heart' (Cardon et al., 2013)? The majority of entrepreneurs start and manage their business as a team i.e., a group of two or more people sharing ownership of equity, autonomy of decision-making, and entitativity (Knight et al., 2020). However, entrepreneurial teams undergo significant changes during their start-up life cycle, such as initial founding members deciding to leave the firm – which can have strong implications for team functioning and venture performance (Patzelt et al., 2021). These team member exits are sometimes driven by externalities such as investor pressure (Collewaert, 2012; Collewaert & Fassin, 2013; Loane et al., 2014), but sometimes initiated voluntarily by team members (D. R. DeTienne et al., 2015; Justo et al., 2015). In this paper we focus on the latter - voluntary team member exits - during start-up transitions, which continue to puzzle entrepreneurial team research (Patzelt et al., 2021).

We argue that the decision to exit one's start-up happens in the course of a de-identification process, which is mainly influenced by how well the focal entrepreneur's passion still fits into the (new) start-up stage and the rest of the entrepreneurial team. Entrepreneurial passion, entrepreneurs' intense, positive feelings associated with meaningful role identities (Cardon et al., 2009) has been noted as a key driver both on an individual and team level, i.e., team entrepreneurial passion (TEP) (see for a recent review (Newman et al., 2021). We take the existing insights from entrepreneurial passion research (Cardon et al., 2009; Taggar et al., 2024), and combine them with person-environment (PE) fit theory (Cable & Edwards, 2004; Muchinsky & Monahan, 1987) to advance the perspective on team member exit. PE fit theory describes the perceived compatibility of individuals and their environment based on distinct characteristics, such as attitudes, values, and goals, which shape individuals' intention to remain or exit their environment (Kristof-Brown & Zimmerman, Ryan D., Johnson, Erin C., 2005).

We argue that entrepreneurs' passion can trigger perceptions of fit with their environment, as it is an essential and self-defining characteristic for entrepreneurs. Drawing on the well-established distinctions of complementary and supplementary PE fit (Cable & Edwards, 2004; Muchinsky & Monahan, 1987), we differentiate two forms of PE fit based on entrepreneurial passion, i.e., complementary and supplementary passion fit, and examine their influence on entrepreneurs' decision to exit their team. In addition, as PE fit is contingent on intraindividual differences (Guan et al., 2021), we examine how entrepreneurs' proactive personality, i.e., the personal disposition to take initiative and change environmental contexts for their needs (Bateman & Crant, 1993; Crant & Bateman, 2000), functions as a moderator within this decision-making context. As proactive personalities rather actively adjust their environment than remain passive (Bateman & Crant, 1993), we argue that an entrepreneur's proactive personality shapes how they perceive fit with the environment and thus moderates the decision to exit the team.

Using a metric conjoint experiment with 77 entrepreneurs (completing 16 conjoint profiles each, leading to 1232 decisions) we test our hypotheses and are able to make two contributions to research on entrepreneurial passion and PE fit. First, we expand research on entrepreneurial passion by highlighting that entrepreneurial passion's influence on decision-making hinges on the perceived compatibility with entrepreneurs' (social) environment. Extending previous research on the interconnectedness of (shared) entrepreneurial passion and the start-up environment (e.g., Becker et al., 2023; Boone et al., 2020; Collewaert et al., 2016), our study demonstrates that entrepreneurial passion can inform entrepreneurs' decision-making beyond the level of intensity or passion focus. By theorizing two distinct types of passion-centric PE fit, we thereby present new mechanisms for research on entrepreneurial teams that can help to explain team member dynamics (Patzelt et al., 2021).

Second, we contribute to research on entrepreneurial exit by moving the focus to entrepreneurial teams. While research on team member exit has been rather scarce (Gregori & Parastuty, 2021; Piva & Rossi-Lamastra, 2017), in general, studies on entrepreneurial exit have predominantly focused on financial factors to explain exit intentions and outcomes (e.g., D. DeTienne & Wennberg, 2016; D. R. DeTienne et al., 2015; Souitaris et al., 2020). Our study provides a more nuanced understanding of how founders‘ perceived compatibility with both their social environment (the start-up team) and their venture stage based on passion fits may prevent exit intentions. Our passion-centric approach offers a comprehensive perspective on team member exit, linking individual characteristics to the team and venture context. Our study thereby demonstrates that all three facets need to be addressed to gain a more holistic understanding of entrepreneurial exit.

5.2 Theoretical Background

Passion Within Entrepreneurial Teams and Team Member Exit

Despite entrepreneurial exit being an essential part of the entrepreneurial process (D. R. DeTienne et al., 2015), scholars have paid more attention to studying the motives driving venture initiation compared to exiting the venture (Murnieks, Klotz, & Shepherd, 2020). Team member exit, the process in which an entrepreneur leaves the entrepreneurial team while others remain working in the venture (Gregori & Parastuty, 2021), has received even less scientific interest. For instance, previous research suggests that social ties among team members and perceptions of equity distribution can influence the decision to exit the team (Breugst et al., 2015; D'hont et al., 2016; Zolin et al., 2011).

The existing studies on team member exit largely focus on team composition (D. R. DeTienne et al., 2015; Piva & Rossi-Lamastra, 2017; Ucbasaran et al., 2003; Vanaelst et al., 2006), but fall short of identifying individual characteristics of entrepreneurs, e.g., emotion

and identity-related aspects, that determine their intention to exit the team (Gregori & Parastuty, 2021; Rouse, 2016). For example, Rouse (2016) finds that founders' exit pathways strongly connect to de-identification and identification as well as emotional processes. Extending this line of work, our study focuses on founders' entrepreneurial passion which encompasses experiences of intense positive feelings when engaging in entrepreneurial activities "associated with roles that are meaningful and salient to the self-identity of the entrepreneur" (Cardon et al., 2009, p. 517).

Entrepreneurial passion is a vital factor for entrepreneurs to overcome certain hurdles when engaging in venture-related tasks and activities (Cardon et al., 2009). For example, entrepreneurs with a passion for developing love to grow the venture further, e.g., by hiring new employees, whereas entrepreneurs with a passion for inventing are keen on identifying new business opportunities (Cardon et al., 2013; Cardon et al., 2009). While previous research notes that entrepreneurial passion may vary based on the current start-up stage and the resulting challenges thereof (Cardon et al., 2013), how transitions into new venture stages affect entrepreneurs' passion enactment and resulting decision-making remains underexplored. Considering the importance of successful transitions into new venture stages to achieve venture growth (Sternad & Mödritscher, 2022), why entrepreneurial passion drives some entrepreneurs to persist in working with their team within the start-up while others decide to pursue their passion elsewhere and exit, requires further examination.

From one perspective, as previous research finds that entrepreneurial passion leads to grit and persistence (Cardon & Kirk, 2015; Kiani et al., 2023; Mueller et al., 2017), arguably, passion may motivate entrepreneurs to face the ongoing obstacles within the entrepreneurial journey. In this vein, entrepreneurial passion may drive entrepreneurs to pursue long-term goals and refrain from exiting the team.

However, this argument may be too simplistic as it does not take into consideration how transitioning to new start-up phases may alter the way in which entrepreneurs can enact their passion. For instance, during the venture inception phase passion for inventing and founding are essential, whereas activities related to passion for developing are less central (Cardon et al., 2009; Patzelt et al., 2021). Hence, entrepreneurs with passion for developing may feel less verified and experience a threat to enacting this identity fully (Kakarika et al., 2022; Petriglieri, 2011). We argue that such identity conflicts may explain how entrepreneurs engage in de-identification processes (Patzelt et al., 2021; Rouse, 2016) which can lead to team member exit.

Further, as entrepreneurial teams can develop a shared sense of what they are passionate about based on individual team members' passion (Cardon, Post, & Forster, 2017), entrepreneurs' perceptions of matching this collective passion may inform their decision to stay within or exit the team. For example, team members emerging around a focal TEP share a collective identity that keeps them engaged in their team (Powell & Baker, 2017). On the other hand, lacking this shared sense of TEP may leave team members disconnected from the team and prompt them to pursue their individual passions. Advancing this perspective, we argue that entrepreneurial passion is an essential parameter for understanding team member exit on an individual and team level. Further, by focusing on team member exit, our study seeks to provide a new theoretical perspective on passion and membership dynamics which prior studies have called for (de Mol et al., 2020; Uy et al., 2021). In the particular context of our study, transitions between start-up phases, our theoretical underpinnings are grounded in the well-established fundamentals of person-environment (PE) fit theory.

Person-environment Fit Theory & Team Member Exit

PE fit describes the perceived compatibility of individuals' characteristics and their work environment (Kristof-Brown & Zimmerman, Ryan D., Johnson, Erin C., 2005). PE fit theory has been extensively used to explain individuals' turnover intentions and has been

applied to study individuals fit to entrepreneurship (Chi et al., 2020; Koller et al., 2022; Markman & Baron, 2003; Haiyuan Zhao et al., 2023), which is why we argue for its applicability to entrepreneurial team member exit as well.

PE Fit can be distinguished into complementary and supplementary fit (Muchinsky & Monahan, 1987). Complementary fit means weakness or need of the environment is offset by the strength of the individual, and vice versa" (Muchinsky & Monahan, 1987, p. 271). Supplementary fit occurs when an individual "supplements, embellishes, or possesses characteristics which are similar to other individuals in this environment" (Muchinsky & Monahan, 1987, p. 270). While these two types of PE fit are often highly correlated (Seong et al., 2015), they are derived from separate theoretical perspectives (Cable & Edwards, 2004). Psychological need fulfillment serves as the theoretical foundation to explain complementary fit. As such, the theory of psychological need fulfillment explains that individuals become unsatisfied with their environment if it falls short of providing what the individual desires (Cable & Edwards, 2004) with the consequence that individuals are more likely to de-select themselves from contexts (e.g. organizations or teams) that do not provide complementary fit (Kristof-Brown & Guay, 2011). For supplementary fit, the theoretical roots are set on similarity attraction processes (Cable & Edwards, 2004). Thus, typically, research examines the value congruence between employees and organizations (Kristof, 1996). The main argument here is that organizations (or teams) are more attractive when individuals share similar values, which also results in lower attrition from such well-fitting contexts (e.g., Schneider, 1987, 2001).

Given its value in understanding why individuals select in or de-select from a given context, recent studies have started to examine entrepreneurial passion also from a PE fit perspective (de Mol et al., 2018; Kiani et al., 2022; Schulte-Holthaus & Kuckertz, 2024). Additionally, from an identity-centrality perspective, entrepreneurial passion encapsulates an entrepreneur's self-defining characteristics, which may function as information on whether the

environment, i.e., job role or group membership, “matches self-defining characteristics” (Guan et al., 2021, p. 7). Based on these theoretical underpinnings, we outline how perceptions of complementary and supplementary passion fit influence team members’ exit intentions.

How Complementary and Supplementary Passion Fit Influence Team Member Exit Decisions.

Entrepreneurial passion and its associated role identities emphasize entrepreneurs’ inherent values, what is meaningful and salient to their self-identity, and what they love to invest time in (Cardon et al., 2009). Therefore, we argue that entrepreneurs will persist in environments that enable them to enact their passion as individuals seek to maintain and enact behaviors that are consistent with their identity (Fauchart & Gruber, 2011; Shepherd & Haynie, 2009). As such, we expect entrepreneurs to contemplate whether the current venture environment in which they are active in provides enough capabilities to fulfill their need to act out their passion. Based on PE fit theory, we define this fit as complementary passion fit which refers to the perceived match between individuals’ desire to enact entrepreneurial passion and the supplies within the environment to satisfy this desire (Cable & Edwards, 2004).

For instance, if the current venture stage requires actions associated with passion for inventing and developing, entrepreneurial passion for founding may be less relevant. This may the case when ventures enter the growth stage characterized by having mastered challenges in product development and reaching first market success which may further be increased in this stage (Fisher et al., 2016). Therefore, scanning the environment for new business opportunities or improving the product (passion for inventing) as well as finding additional customers for the product and hiring new employees (passion for developing) (Cardon et al., 2013), may be more vital in the growth phase than a passion for founding. As prior research indicates, founders are more likely to exit their current venture and establish new firms within transition phases from one venture phase to another (Dobrev & Barnett, 2005).

Despite passionate entrepreneurs being persistent in growing their venture (Cardon & Kirk, 2015; Kiani et al., 2023), we argue that entrepreneurs' perceived fit of their passion with the environment (complementary passion fit) influences their decision to remain within or exit the team. Complementary passion fit enables team members to find the necessary requirements for continuously enacting their passion within the current environment (start-up phase) in which their team is engaged. Therefore, team members are able to enact and verify their passion and the associated role identity which strengthens the social ties within the group (Cast & Burke, 2002; Stryker & Burke, 2000).

In contrast, when entrepreneurs perceive a lack of complementary passion fit, they will perceive the current environment as insufficient for enacting their passion and confirming the related role identity. As such, we expect that team members will decide to exit their current venture team to find a more beneficial setting to pursue their passion and preserve their role identity. In sum, we hypothesize:

H1: An entrepreneur's complementary passion fit reduces the decision to exit the entrepreneurial team.

Besides a complementary passion fit, we argue that team members' perceived compatibility of their individual passion and the passion of other team members can function as a supplementary PE fit, which influences entrepreneurs' decision to exit the team. Within entrepreneurial teams, team members can develop TEP which comprises "shared intense positive feelings for a collective team identity that is high in identity centrality" (Cardon, Post, & Forster, 2017, p. 286). Therefore, entrepreneurial teams sharing TEP have identified commonalities of what they are passionate about as a team. As such, TEP may function as an important identity structure to which team members feel connected. Collective identities keep team members engaged such that they seek to remain within the team (Powell & Baker, 2017;

Stryker & Burke, 2000), through the separation of in-group and out-group. In line with Guan et al. (2021) , we argue that TEP as a collective identity may serve as a critical factor in deriving supplementary passion fit. As supplementary fit describes the perceived compatibility of values, goals, or personal traits with the environment (Seong et al., 2015), sharing TEP within the team exemplifies a value congruence of what team members are passionate about and act accordingly (Cardon, Post, & Forster, 2017). By sharing a TEP within the team, entrepreneurs will likely feel compatible with their team members in terms of passion which will decrease their intention to exit the team.

Furthermore, on the contrary, lacking TEP within the team demonstrates that team members possess diverging role identities they individually value and are passionate for. Within the theoretical framework of TEP, Cardon, Post, and Forster (2017) note that the top-down effects of TEP on team members can trigger similarity-attrition-processes that are rooted in PE fit theory (Kristof-Brown & Guay, 2011), which may lead to the exit of team members who feel dissimilar to the team (Cardon, Post, & Forster, 2017). Therefore, not sharing a joint TEP within the team, may lead team members to feel less compatible and to disidentify from the team (Ashforth et al., 2011). Hence, we argue that lacking TEP within the team represents a person-group misfit and will increase an entrepreneur's intention to exit the team. In sum, we hypothesize:

H2: An entrepreneur's supplementary passion fit reduces the decision to exit the entrepreneurial team.

Proactive Personality as a Moderating Factor in Exit Decisions

While we argue that both forms of passion fit may reduce a team member's decision to exit the team, we expect intraindividual differences to moderate these fit perceptions (Guan et al., 2021). As this study focuses on start-up transitions that encompass drastic changes of the

venture environment, we focus on proactive personality as a moderator which defines individuals' tendency to actively drive environmental change (Bateman & Crant, 1993). Proactive individuals seek to fulfill their long-term goals and anticipate environmental changes that they deal with immediately (Frese & Fay, 2001). Rather than being prone to environmental changes, proactive individuals are aware that they "do not have to play the hand they are dealt" (Thomas et al., 2010, p. 276). In contrast, people with less proactive personalities remain more passive and thus only react to environmental changes (Thomas et al., 2010). For example, proactive employees engage in job-crafting behaviors to adapt to their work environment and stay performant within their roles (Bakker et al., 2012).

We therefore expect that proactive personality influences how entrepreneurs deliberate environmental changes and associated fit perceptions which determine their plan of action, i.e., whether to persist within or exit the team. Proactive personalities are driven to succeed at work and possess a high need for achievement (Fuller & Marler, 2009; Thompson, 2005). Hence, we expect that proactive entrepreneurs seek to fully engage in their passion to reach venture success (Mueller et al., 2017), and therefore commit to the team and venture when they perceive a high complementary passion fit.

On the contrary, when proactive entrepreneurs become aware of a complementary passion misfit, we argue that these individuals will decide to exit the team to further pursue their passion as proactive personalities rather change the environment than themselves (Parker & Collins, 2010). Further, proactive personalities scan their work environment for new opportunities that they can take advantage of (Bateman & Crant, 1993). Hence, perceptions of a complementary passion misfit may urge them to identify new work environments and thus lead to exiting the team to gain a better passion-environment fit for themselves. We therefore theorize:

H3: Proactive personality moderates the relationship between complementary passion fit and team member exit in such that the reductive effect of complementary fit on exit is further strengthened.

In contrast to complementary passion fit, we argue that entrepreneurs' proactive personality will negatively moderate the effect of supplementary passion fit on team member exit. As proactive individuals tend to explore new opportunities for themselves rather than adapt to the environment (Bateman & Crant, 1993; Parker & Collins, 2010), we argue that entrepreneurs with high levels of proactive personality tend to focus on themselves and, therefore, neglect the relevance of supplementary passion fit for their decision-making. While previous research in an established organizational setting attests that proactive employees seek to maintain and foster high-quality work relationships with others to improve their work environment (N. Li et al., 2010), proactive entrepreneurs have to make more strategic and impactful decisions, which may need to be more self rather than team-focused. Considering the uncertain and unstable context of our study (start-up transitions), we reason that proactive entrepreneurs will rather prioritize themselves in driving environmental change than being attached to the team. In support of this argument, a recent study by Stephan et al. (2024) finds that proactive entrepreneurs neglect the social support for employees during unstable venture phases. Given that the scenario for our conjoint experiment depicts a venture entering the scaling phase, we argue that participants may perceive the venture environment as unstable as transition phases are often accompanied by team membership changes (Patzelt et al., 2021). Therefore, we reason that, despite perceive supplementary passion fit, proactive personalities may seek to exit the venture to avoid the venture instability, exit the team, and establish better working conditions for themselves. In sum, we hypothesize:

H4: *Proactive personality moderates the relationship between supplementary passion fit and team member exit in such that the reductive effect of supplementary fit on exit is weakened.*

5.3 Methodology

To examine the effects of passion fit, i.e., supplementary, and complementary fit, on entrepreneurs' decision to exit the team, we conducted a metric conjoint experiment[1]. Conjoint experiments are useful for investigating entrepreneurial decision-making processes by manipulating decision factors within the experiment (Lohrke et al., 2010). Conjoint experiments are particularly suitable for investigating team member exit as these decisions are hard to investigate as they are "typically shrouded in secrecy" (Preller et al., 2023, p. 5). Within the conjoint experiment, participants are asked to make several ad hoc decisions which limit retrospective and recall biases that post hoc methods are prone to (Shepherd & Zacharakis, 1999). Further, by manipulating the independent variable and measuring moderator and control variables post-experiment, the conjoint experiment enables us to limit endogeneity issues (Brian S. Anderson et al., 2022).

In designing our experiment, we conducted eight interviews with entrepreneurs focusing on team member exit and the role of passion within this decision-making process. While only half of the entrepreneurs had personal experience with team member exit, all interviews equipped us with helpful insights to design our conjoint experiment and enhance ecological validity.

[1] Registered prior to journal submission in OSF: https://osf.io/cmtke/?view_only=ac6f76deea73415cb8c49c8fd0661d51

Experimental Design and Sample

Based on prior research on PE and person-group fit (Chi et al., 2020; Edwards, 2008; C. S. Li et al., 2019), literature on passion (Cardon, Post, & Forster, 2017; Cardon et al., 2009; Fu et al., 2022) and our pre-study interviews, we manipulated our two main variables supplementary and complementary passion fit. In addition and in line with prior conjoint experiments (Behrens & Patzelt, 2016; Volkmer et al., 2024), we added manipulated control variables for financial restrictions, personal growth, and growth potential of the venture as prior research indicates their influence on team member exit (e.g., D. R. DeTienne & Cardon, 2012; Lin et al., 2022).

Each decision scenario comprises five manipulated attributes that were presented as either high (= 1) or low (= 0). To reduce participants' cognitive overload (Aiman-Smith et al., 2002), we employed a fractional design limiting the number of decision profiles to 8 which were fully replicated to examine test-retest reliability (Schüler et al., 2024). In total, participants responded to 17 decision profiles, including a test profile before (which was not used for the analyses) starting the conjoint experiment. After the test profile, we controlled for participants' understanding of all attributes by asking them to assign each attribute to the corresponding definition. In our post-experiment survey, we further acquired measurements for the moderator variables and several control variables, as well as demographics, to enhance our understanding of the sample.

We collected data from entrepreneurs which we contacted directly via LinkedIn or through e-mailing incubator and accelerator programs. Participants did not receive any type of monetary incentive, as is often the case for conjoint experiments conducted via a professional panel provider. A total of 118 German entrepreneurs participated in our conjoint experiment. We removed careless respondents based on response time (7 respondents) and repetitive response patterns (e.g., straight liners, 11 removed), and employed three bogus items (18

respondents) and a comprehension check for manipulated attributes to filter inattentive respondents (5 removed). Our final sample consists of 77 entrepreneurs, resulting in 1,232 observations, which provides sufficient estimation power and robust results (Scherbaum & Ferreter, 2009). On average, participants were 31.69 years old, the majority had obtained an academic degree (77.92%), and 7 respondents had obtained a PhD (9.09%). Further, 25 respondents are serial entrepreneurs who founded more than one venture (32.47%), and 19 participants had personal experience with team member exit (24.67%).

Measurements

The conjoint experiment and post-experiment survey were conducted in German. We followed the established double back-translation procedure, translating original items from English to German (Brislin, 1970). We further conducted pre-tests with ten entrepreneurs using an in-depth thinking-aloud approach to guarantee the overall understanding of the manipulated attribute, the scenario description, and the realism of our study. Figure 10 presents our conceptual framework including the manipulated independent, the dependent, and the moderator variables.

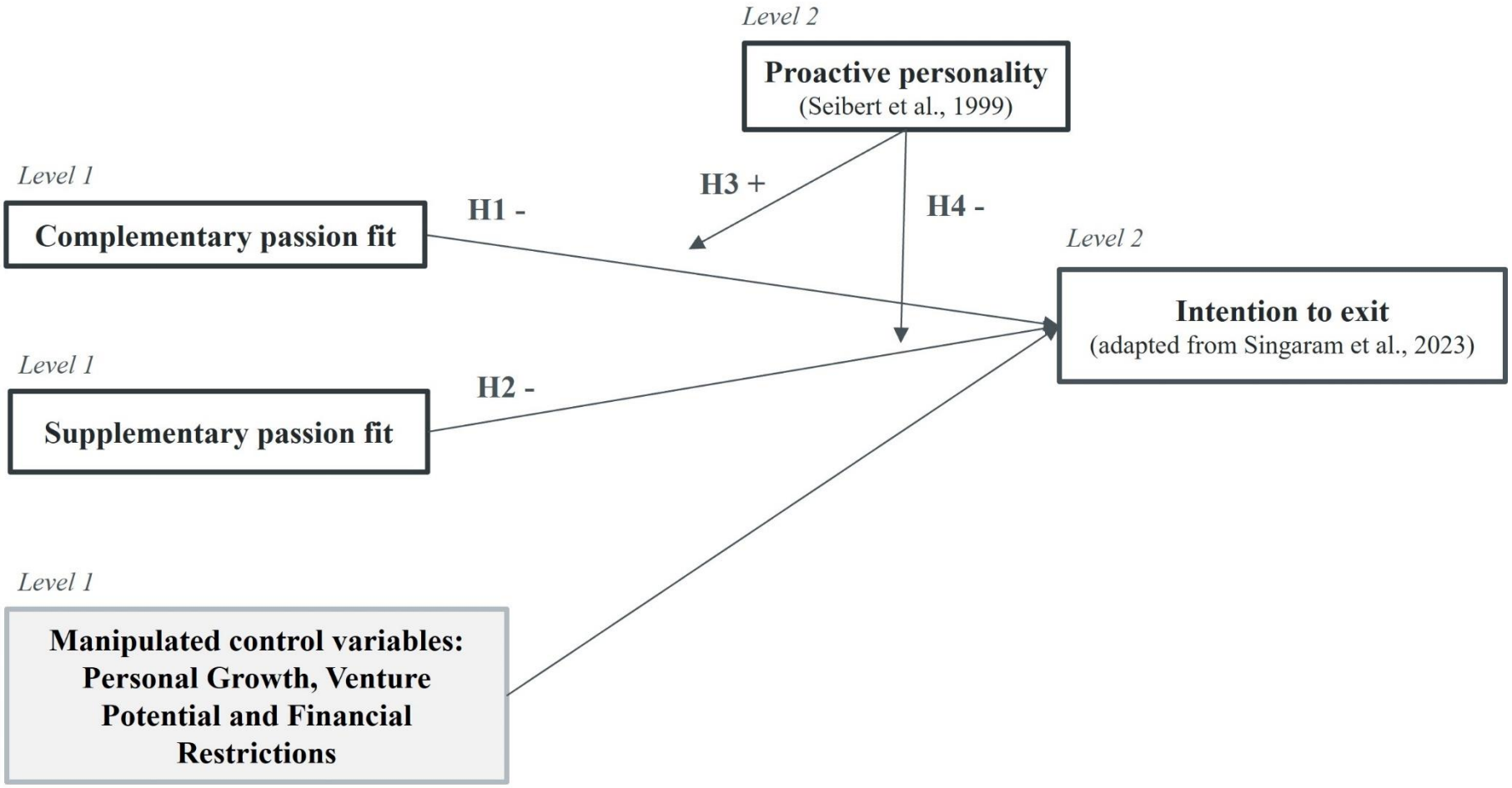

Figure 10: Overview conceptual model

Dependent Variables

In line with prior conjoint experiments (Fu et al., 2022; Schüler et al., 2024; Warnick et al., 2018), we measured our dependent variable with a single item. To measure entrepreneurs' intention to exit the team, we used a single item by Singaram et al. (2024), adjusting the exit intention from organization to team: "How likely is it that you would leave your founding team based on the given factors?" Respondents answered on a seven-point Likert scale ranging from 1 = 'very unlikely' to 7 = 'very likely".

Level 1 Variables (Manipulated Independent Variables)

Each decision scenario comprised five manipulated independent variables, including complementary and supplementary passion fit (variables of focus) and three additional independent variables as manipulated controls to enhance the realism of our study (Warnick et al., 2018). Based on the PE and person-group fit (Cable & DeRue, 2002; Cable & Edwards, 2004; C. S. Li et al., 2019) as well as (team) entrepreneurial passion literature (Cardon, Post, & Forster, 2017; Cardon et al., 2009), we created manipulated variables to capture entrepreneurs' complementary and supplementary passion fit. As the context of our study centers on the transition into the startup's growth phase, our description of complementary passion fit is associated with entrepreneurs' perceived compatibility of their individual entrepreneurial passion and the requirements of the new start-up phase. On the other hand, supplementary passion fit expresses entrepreneurs' perceived compatibility of individual and team passion. Therefore, the manipulated variable outlines to what extent team members share a passion for the same activities and are compatible in this regard. For both complementary and supplementary passion fit, we presented two levels of these variables (low and high).

In addition, based on the results of our pre-study and literature on exit, we chose to incorporate three additional manipulated independent variables as control variables: 1) personal growth, 2) venture potential, and 3) financial restrictions. Various studies attest that these

factors influence entrepreneurs' decision to exit or persist in their venture (D. R. DeTienne & Cardon, 2012; Lin et al., 2022). Personal growth refers to the level of opportunities for personal development in the next venture phase the startup is heading toward in our scenario. Personal growth may be influential on founders' exit decisions as the high potential for personal growth may outweigh alternative options outside the venture (D. R. DeTienne, 2010; Lin et al., 2022). Venture potential reflects the assumed venture potential to grow in the next phase which previous research declares a decisive factor for exiting the venture (Lin et al., 2022). Lastly, we manipulated entrepreneurs' financial constraints which they would face when deciding to exit the team in the short term. We argue that entrepreneurs may decide to persist within their team when they perceive strong financial restrictions as these may limit their ability to pursue personal options besides the venture (D. R. DeTienne, 2010; D. R. DeTienne et al., 2015; Lin et al., 2022). Appendix C presents the scenario overview and descriptions for all manipulated independent variables.

Moderator Variable (level 2)

To measure our hypothesized moderator variable, proactive personality, we draw on the shortened 10-item scale by Seibert et al. (1999), adapted from Bateman and Crant's (1993) original measure. For this scale (Cronbach's $\alpha = 0.83$) sample items include "I am constantly on the lookout for new ways to improve my life" and "No matter what the odds, if I believe in something, I will make it happen." Responses were assessed using a 7-point Likert scale ranging from 1 = "strongly disagree" to 7 = "strongly agree".

Control Variables (level 2)

To maximize the robustness of our findings, we used several control variables that may influence entrepreneurs' decision to exit the team. We controlled for respondents' gender (coded 0 = male; 1 = female; 2 = diverse and age (in years) as both characteristics have been found to influence exit decisions (D. R. DeTienne & Cardon, 2012; Hsu et al., 2016; Justo et

al., 2015; Wennberg et al., 2010). Further, we assessed entrepreneurs' experience as a serial entrepreneur as they may be more willing to exit the venture (Ucbasaran et al., 2001). Additionally, we accounted for entrepreneurs' personal experiences of team member exit (coded 0/1) as this may alter their decision-making process. Lastly, as team size may affect exit decisions (Ucbasaran et al., 2003), we set the team size at two entrepreneurs within our scenario description. This further eased participants' understanding of to whom passion fit may be related to.

5.4 Results

Results for Direct and Moderation Effects

For our analyses, we utilized the 16 main decision profiles (eight initial and eight replicated profiles), for which each of the 77 participants provided answers (a total of 1,232 observations). Our results indicate an acceptable test-retest reliability of 0.68. In addition, following the proposed workflow by Schüler et al. (2024), slope difference tests are non-significant. Table 12 presents the means, SD, and correlations for all measured level 2 variables and the dependent variable. Given our nested data structure, we applied multi-level regression analysis in R. Table 13 provides the results of our analysis.

Table 12: Means, standard deviations, and correlations

Variable	*M*	*SD*	1	2	3	4	5
1. Team Exit	2.74	1.33					
2. Serial Entrepreneur	0.32	0.47	0.07				
3. Age	31.69	7.14	-0.18*	0.19*			
4. Exit Experience	0.25	0.43	0.09	0.12	-0.00		
5. Gender	0.27	0.45	-0.12	-0.11	0.03	-0.01	
6. Proactive Personality	5.17	0.76	-0.08	0.20*	0.14	0.17*	-0.01

Note: M and *SD* represent mean and standard deviation, respectively. We only report correlations between dependent variables and individual-level measured variables on Level 2, as Level 1 correlations are zero due to our conjoint experiment design employing an orthogonal design. Gender is dummy coded (0 = male, 1 = female). * indicates $p < 0.05$.

Table 13: Results of multilevel regression models

	Model 1 (Base model incl. controls)			Model 2 (Interaction for complementary passion fit)			Model 3 (Interaction for supplementary passion fit)			Model 4 (Full model incl. random intercept)		
Variable	*ß*	*SE*	*p*	*ß*	*SE*	*p*	*ß*	*SE*	*p*	*ß*	*SE*	*p*
Intercept	0	0.34	< 0.001	0	0.35	< 0.001	0	0.35	< 0.001	0	0.33	< 0.001
Complementary passion fit	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001
Supplementary passion fit	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001	-0.29***	0.07	< 0.001
Personal growth	-0.31***	0.07	< 0.001	-0.31***	0.07	< 0.001	-0.31***	0.07	< 0.001	-0.31***	0.07	< 0.001
Venture potential	-0.38***	0.07	< 0.001	-0.38***	0.07	< 0.001	-0.38***	0.07	< 0.001	-0.38***	0.07	< 0.001
Financial restrictions	-0.16***	0.07	< 0.001	-0.16***	0.07	< 0.001	-0.16***	0.07	< 0.001	-0.16***	0.07	< 0.001
Age	-0.1*	0.01	0.01	-0.1*	0.01	0.01	-0.1*	0.01	0.01	-0.13**	0.01	0.001
Gender	0.07	0.16	0.063	0.07	0.16	0.065	0.07	0.16	0.065	0.07	0.16	0.066
Serial entrepreneur	0.06	0.16	0.121	0.06	0.16	0.139	0.06	0.16	0.139	0.06	0.15	0.126
Exit Experience	0.03	0.17	0.394	0.03	0.17	0.425	0.03	0.17	0.425	0.03	0.16	0.422
Proactive personality				0.03	0.08	0.574	-0.04	0.08	0.415	-0.04	0.11	0.536
Proactive Personality X Complementary Passion Fit				-0.03	0.07	0.433	0.09*	0.07	0.016	-0.03	0.07	0.432
Proactive Personality X Supplementary Passion Fit										0.09*	0.07	0.016
R^2 conditional/marginal			0.54 / 0.45			0.54 / 0.45			0.54 / 0.45			0.54 / 0.45
Sigma			1.25			1.25			1.25			1.25
Decisions (nested in Respondents)			1232 (77)			1232 (77)			1232 (77)			1232 (77)

Note: 1232 decisions from n = 77. *ß* = standardized regression coefficients, * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$. SE = Robust standard errors. Gender is dummy coded (0 = male, 1 = female).

Hypotheses 1 and 2 state that entrepreneurs' perceived complementary and supplementary passion fit decreases the decision to exit the entrepreneurial team. Our results support these hypotheses and show that both complementary (β = - 0.29, p < .001) and supplementary passion fit (β = -0.29, p < .001) are negatively and significantly related to team exit. While perceptions of venture potential (β = - 0.38, p < .001) have the strongest implication for entrepreneurs' exit decisions, both types of passion fit are on par with personal growth (β = - 0.31, p < .001) and exceed the effect of financial restrictions (β = - 0.16, p < .001) on the exit decision. In summary, these findings yield support for hypotheses 1 and 2.

Further, our results indicate that the moderation effect of proactive personality on the relationship between complementary passion fit and team exit is non-significant (β = - 0.03, p 0.432). Therefore, hypothesis 3 is not supported. However, our results demonstrate that proactive personality moderates the effect of supplementary passion fit on team exit (β = 0.09, p = 0.016). The simple slope plot for this moderation effect (Figure 11) demonstrates that high levels of proactive personality lead to less team exit at low team passion fit yet increase the decision to exit the team at high levels of team passion fit. Hence, proactive personality moderates the effect of supplementary passion fit on exit decreasing the reductive effect (at -1 SD: b= - 1.23, p < 0.001; at +1 SD: b = - 0.89, p < 0.001). Therefore, hypothesis 4 is supported.

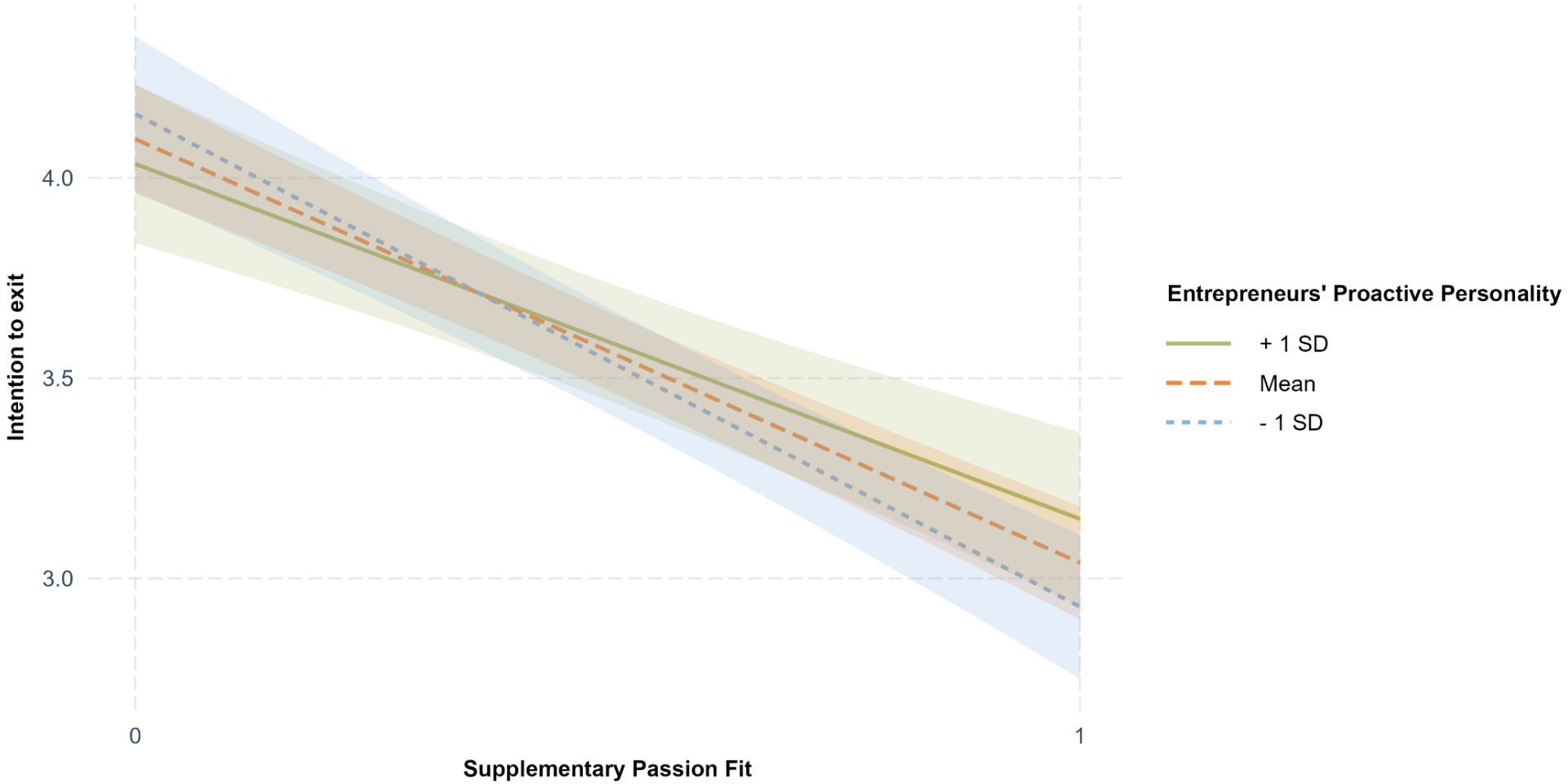

Figure 11:Simple slop plot for the moderator effect of proactive personality on supplementary passion fit and team exit

Robustness Checks

Complementarily, we implemented several robustness checks for our regression models. First, we additionally employed regression models controlling for participants' trait entrepreneurial passion using the established scales by Cardon et al. (2013) as this may affect their decision to exit the team. We did not find significant effects for entrepreneurs' passion on team exit and the results remained stable. Second, we compared our findings with outlier-eliminated data which we identified based on respondents' mean deviations. While all direct effects remain unchanged, we observed a significant moderation effect of proactive personality on complementary passion fit and team exit within the outlier-eliminated data. We will review these intricate findings in our discussion.

5.5 Discussion

Theoretical Implications

Employing a metric conjoint experiment, we investigate the role of entrepreneurial passion fit in exiting decisions from entrepreneurial teams based on a PE fit perspective. In summary, our findings demonstrate that entrepreneurs' perceptions of passion fit influence their decision to exit the team. We can illustrate two forms of passion fit, complementary and supplementary passion fit, which relate to distinct levels of PE fit. Whereas complementary passion fit is based on entrepreneurs' perceived compatibility of their individual passion and the venture environment, supplementary passion fit rests on perceptions of sharing the same passion with team members.

First, we advance current research on entrepreneurial passion by introducing two types of passion fits (complementary and supplementary passion fits) that influence entrepreneurs' decision-making. Using a passion-centric PE fit perspective, we challenge the notion of passion focus or intensity as parameters for entrepreneurial behavior (Collewaert et al., 2016;

Kiani et al., 2023; McSweeney et al., 2022), and examine a new theoretical mechanism of how passion can influence entrepreneurs' decision-making. Our study highlights that entrepreneurs' perception of passion compatibility with the venture environment (complementary passion fit) and team (supplementary passion fit) shape their decision-making to exit. We thereby advance prior studies focusing on PE fit as an influence on passion (de Mol et al., 2018; Schulte-Holthaus & Kuckertz, 2024) and provide empirical evidence for an "entrepreneurial identity-environment fit" (Kakarika et al., 2022, p. 1572).

The distinction between complementary and supplementary passion fit underlines the theoretical and empirical differences between individual and shared entrepreneurial passion (Cardon, Post, & Forster, 2017; Cardon et al., 2009). Supplementary passion fit, i.e., entrepreneurs' perceived compatibility of shared entrepreneurial passion, may help to explain why team passion diversity negatively impacts team dynamics and performance as misfits may lead team members to feel incompatible with the team and to disengage from the venture over time. Thus, our study offers first insights into causal mechanisms of shared passion and team member exit which prior studies have called for (Cardon, Post, & Forster, 2017; de Mol et al., 2020).

Second, we contribute to research on entrepreneurial exit by moving the focus to team member exit and introducing a team-level perspective. While previous studies on entrepreneurial exit have predominantly focused on financial factors to explain exit intentions and outcomes (e.g., D. DeTienne & Wennberg, 2016; D. R. DeTienne et al., 2015; Souitaris et al., 2020), research on team member exit, i.e., the process in which a member of an entrepreneurial team leaves the team (Gregori & Parastuty, 2021), is extremely scarce (Breugst et al., 2015; Murnieks, Klotz, & Shepherd, 2020). Our study provides a nuanced understanding of how the team-context influences founders' decision to exit the team when they lack compatibility of their shared entrepreneurial passion. We thereby move beyond functional team

diversity, e.g., heterogeneity in experience (Ucbasaran et al., 2003), to explain team member exit.

In addition, focusing on (shared) entrepreneurial passion as a critical factor in exit decisions, we provide empirical support for the theorized framework linking passion and exit (Cardon, Post, & Forster, 2017). As entrepreneurial passion comprises central role identities that are meaningful for the entrepreneur and team (Cardon, Post, & Forster, 2017; Cardon et al., 2009), we believe that our study may serve as a stepping stone for future research to broaden our comprehension of entrepreneurial identity and exit. This may further extend our understanding of how entrepreneurial identities shape and are shaped by critical events such as team member exit at later venture stages (Mmbaga et al., 2020).

Limitations and Future Research Avenues

Like any empirical investigation, our study has several limitations which we acknowledge as opportunities for future research. Our study employs a metric conjoint experiment to conceptualize and test the effects of passion fits, i.e., complementary and supplementary passion fit, on team member exit. While the conceptualization of these passion fits was derived from extant literature and qualitative interviews with entrepreneurs during a pre-study, we have opted to specify each type of passion fit in a general vein and did not specify the specific passion focus each fit may be associated with. To check the robustness of our findings, we controlled for participants' entrepreneurial passion (Cardon et al., 2013) and found no significant differences.

However, we acknowledge the importance of each passion type (inventing, founding, and developing) and encourage researchers to delve further into the differences in passion fits for each domain. Considering the importance of particular types of (shared) entrepreneurial passion for specific venture stages (Boone et al., 2020; Collewaert et al., 2016), we argue that

supplemental studies can expand our initial findings and improve scholarly knowledge on the relationship between passion and venture environment.

Given our methodological approach, we limited the number of manipulated variables in order to reduce participants' cognitive overload and time (Aiman-Smith et al., 2002). Further, future research may also tap into other forms of entrepreneurial passion, e.g., the conceptualization of dualistic passion by Vallerand et al. (2003), as an opportunity to broaden the scope of passion-centric PE fit (see Kakarika et al., 2022).

In addition, while our sample size is consistent with or exceeds previous conjoint experiments in entrepreneurship research (Ademi et al., 2023; Choi & Shepherd, 2004; Warnick et al., 2018), the sample size on level 2 (77 entrepreneurs) may be insufficient to detect individual differences among entrepreneurs. This may pertain to the non-significant effects of proactive personality as a moderator on the relationship between complementary passion fit and team member exit. While we find a significant moderation effect when controlling for outliers (Aguinis et al., 2013), we recommend replicating our study with a larger sample size to verify this result.

In addition, our findings indicate that proactive entrepreneurs behave more self-oriented rather than being influenced by the team; i.e., proactive personality negatively moderates the effect of supplementary passion fit on team member exit. These findings open interesting avenues for future research as passion is considered as socially contagious (Cardon, 2008; Hubner et al., 2020) and similarity in passion can foster network ties (Becker et al., 2023). Our findings suggest that proactive personality may be an important boundary condition to control for when examining how passion becomes contagious and why certain entrepreneurs shut themselves off from social ties.

Lastly, while our experimental research design can detect causal mechanisms (Shepherd & Zacharakis, 1999), we are unable to test these effects over longer periods of time. However,

entrepreneurial teams and their ventures are constantly adapting to the uncertain and dynamic environments they are active in (Shepherd et al., 2021). We, therefore, encourage future research to investigate the dynamic interplay of supplementary and complementary passion fit over time. Considering the detrimental effects of team turnover on the staying team members (Kuypers et al., 2018), it would be particularly insightful how passion fits not only lead to team member exit but how the remaining team members' perceived passion fits change as a result. Such research designs, although challenging, may further broaden our understanding of interpersonal dynamics and passion within venture teams (Schwarte et al., 2023).

Practical Implications

Besides several theoretical contributions, our study offers important practical implications for entrepreneurial teams, their coaches, and supporters (e.g., accelerator and incubator programs). Our findings illustrate that, beyond passion level or focus, entrepreneurs' perceptions of how their passion is suitable for the venture environment (complementary passion fit) and shared by their team members (supplementary passion fit) influence their decision-making. Therefore, we provide important insights for coaches and mentors of start-up teams to guide reflective processes among team members to adjust perceptions of passion misfits. Thus, entrepreneurial teams may be able to enact their individual passions more effectively (rectifying complementary passion misfits) and increase team cohesion (improving supplementary passion misfits).

Considering the importance of complementary and supplementary passion fit for entrepreneurs' decision-making, by working on passion misfits, coaches and enablers of start-up teams may be able to prevent team member exit. Although exits may be inevitable at times, coaches and supporters may find the results of this study useful in guiding entrepreneurial teams through and helping them cope with the aftermath of team member exits.

5.6 Conclusion

Despite the significance of team member exit for entrepreneurial teams, literature on this phenomenon is particularly scarce. Taking on a person-environment fit theory, we highlight the importance of founders' entrepreneurial passion as a decisive factor for understanding team members' exit decisions. Going beyond financial and venture-related factors, we theorize and test the influence of entrepreneurs' perceived complementary and supplementary passion fit on team member exit. Therefore, our study shows that multiple dimensions of passion-centric PE fit shape entrepreneurs' exit decisions.

CHAPTER VI: CONCLUSION

6.1 Synopsis of Overall Findings

Guided by three overarching research questions, this dissertation examined the role of entrepreneurial passion for entrepreneurial teams as a signal among entrepreneurial leaders and start-up employees and for entrepreneurs' decision- making. Figure 12 summarizes the main findings relating to each research question.

Figure 12: Summary of overall findings

In summary, the four chapters within this dissertation broaden the current understanding of how entrepreneurial passion can influence team functioning, decision-making, and leadership. First, Chapter II provides a new perspective on how entrepreneurial teams can develop a shared sense of what their team is passionate about and reach a consensus about a shared TEP. Drawing on the multilevel theory of emergence (Kozlowski & Klein, 2000), this study examines the interplay of team processes and TEP emergence among entrepreneurial student teams. We find that transition and interpersonal processes influence the emergence of TEP (TEP for inventing, founding, and developing), whereas action processes show no significant effect. Further, we find that TEP for inventing positively affects subsequent transition and interpersonal processes, and TEP for founding positively predicts consecutive action processes. These findings extend the burgeoning research on TEP emergence (X. Zhu et al., 2023) and emphasizes the dynamic and interpersonal nature of TEP development.

Second, Chapter III examines regulation processes of (shared) entrepreneurial passion among failing and non-failing start-up teams over time. Employing a multiple case study design (Eisenhardt, 1989), this study outlines two distinct pathways of passion regulation – team-focused and individual-focused pathways. Within both pathways, we find that entrepreneurial team members enact specific passion regulation mechanisms that determine how they live out their passion and how shared passion either strengthens or decreases over time. These findings highlight the complexity and interdependence of passion within teams and delve into the mechanisms that explain passion dynamics within start-up teams. We outline that entrepreneurial passion is manageable by entrepreneurial teams and strongly links to their team dynamics and functioning.

Third, Chapters IV and V examine the role of entrepreneurial passion in decision-making processes. Chapter IV investigates the role of entrepreneurial passion as a signal for

employees' decision-making and its effect on subsequent entrepreneurial actions. Drawing on the dualistic model of passion (Vallerand et al., 2003), we distinguish two types of passion signals, passion strength, and passion type, which explain how leaders' entrepreneurial passion may function as an ambiguous signal. Whereas signals of passion strength reduce employees' perceived uncertainty, signals of an obsessive passion type increase employees' uncertainty perception. Further, we find that employees' perceived uncertainty mediates the effects of leaders' passion signals on subsequent actions, i.e., exploring and exploiting business opportunities. In addition, the complementary conjoint experiments (Chapter IV) demonstrate that employees' dualistic passion moderates how their perceived uncertainty determines their decision for exploration and exploitation.

Lastly, Chapter V explores how entrepreneurial passion can affect entrepreneurs' decision-making to exit or persist in the start-up team. Utilizing a PE fit perspective (Cable & Edwards, 2004; Muchinsky & Monahan, 1987), we differentiate complementary passion fit, i.e., perceived compatibility of entrepreneurial passion and venture environment, and supplementary passion fit, i.e., perceived compatibility of individual and shared passion within the start-up team. Conducting a metric conjoint experiment, we find that both passion fits decrease entrepreneurs' decision to exit the start-up team during the transition into the growth phase of the venture. Further, we find that entrepreneurs' proactive personality moderates the relationship between supplementary passion fit and the decision to exit, emphasizing the intraindividual differences in PE fit (Guan et al., 2021).

In brief, this dissertation explores three underexplored areas within entrepreneurial passion research. Employing a broad array of methodological approaches, the overall findings of this dissertation contribute to research on entrepreneurial passion, entrepreneurial teams, entrepreneurial leadership, and entrepreneurial exit.

6.2 Theoretical Implications

This dissertation broadens the theoretical understanding of entrepreneurial passion by investigating passion's dynamic facets from multiple perspectives. Altogether, this dissertation provides important theoretical implications for research on entrepreneurial passion, particularly within entrepreneurial teams. In addition, each chapter of this dissertation offers relevant practical implications for entrepreneurs and supporters as well as avenues for future research. First, Chapter II, "The Reciprocal Relationship Between Team Entrepreneurial Passion and Team Processes", contributes to research on team entrepreneurial passion by presenting an interpersonal perspective on TEP emergence in nascent entrepreneurial teams. Drawing on the multilevel theory of emergence (Kozlowski & Klein, 2000), this study examines how team members' interactions, encapsulated in their team processes, foster TEP emergence. This study expands the theoretical framework by Cardon, Post, and Forster (2017) and extends previous research by explicating the effects of team member interactions on the development of shared passion within entrepreneurial teams (X. Zhu et al., 2023). Further, by conceptualizing TEP as an emergent state, our findings suggest that TEP and team processes may be reciprocally connected. These findings may further explain why certain teams are incapable of developing TEP and how TEP can be beneficial for team performance (Boone et al., 2020; Santos & Cardon, 2019). Future studies may explore additional team interactions and their effect on TEP development, e.g., team identification (Van Der Vegt & Bunderson, 2005), as suggested in this study.

Second, Chapter III (entitled: "Staying Ablaze – Passion Regulation in Failing and Non-Failing Entrepreneurial Teams") further expands the theoretical contribution to team entrepreneurial passion by investigating how (shared) entrepreneurial passion is regulated over time. Thus, we provide novel insights into specific regulation mechanisms of entrepreneurial passion amid start-up teams, contributing to the literature on interpersonal

passion dynamics (Schwarte et al., 2023; Taggar et al., 2024). In doing so, we challenge the notion of passion as a stable trait (Newman et al., 2021), yet demonstrate that entrepreneurial teams can manage and regulate their passion over time, which supports their team functioning. Lastly, contrasting failing and non-failing teams, we show that shared passion can become a glue between team members that keeps them together. This can help to explain why some teams remain intact while others experience team dissolution, thus connecting TEP with team dynamics (Patzelt et al., 2021). While the focus of this study lies on the conceptualization of entrepreneurial passion (Cardon, Post, & Forster, 2017; Cardon et al., 2009), we encourage researchers to turn their attention toward the dualistic passion model by Vallerand et al. (2003). As it remains unclear whether obsessively passion entrepreneurs may be able to adjust and regulate their passion enactment deliberately (Schwarte et al., 2023), this enigma may be particularly important to explore within the context of entrepreneurial teams.

Third, Chapter IV (entitled: "Driven by Passion – How Do Entrepreneurs' Passion Signals Influence Employees' Decision-Making under Uncertainty?") contributes to research on entrepreneurial passion and leadership by investigating the ambiguous effects of leaders' passion signals on employees' decision-making. Drawing on the dualistic passion model (Vallerand et al., 2003), this study provides a nuanced perspective on passion signals by distinguishing passion type and passion strength, which affect employees' perceived uncertainty in response to these signals. These findings illustrate that entrepreneurial leaders' passion can be influential on employees' decision-making and complement research on the value of entrepreneurial passion in entrepreneurial leadership (Breugst et al., 2012; Ho & Astakhova, 2020; Ho et al., 2021; Hubner et al., 2020). Further, as start-up employees are affected by and need to deal with the inherent uncertainty of entrepreneurship (Griffin & Grote, 2020), the study demonstrates that employees' dualistic passion moderates how the perceived uncertainty influences their entrepreneurial activities. Relating to Chapters II and

III, future research may explore how these signaling processes alter when employees need to process passion signals by multiple entrepreneurs within one entrepreneurial team.

Lastly, Chapter V (entitled: “Fit In or Get Out – Perceived Passion Fit and Team Member Exit”) provides novel insights into the decision-making processes of entrepreneurs’ exit from the start-up team by establishing a passion-centric PE fit perspective. The study demonstrates that entrepreneurs’ perceived compatibility of their passion with the venture stage (complementary passion fit) and team (supplementary passion fit) influence the decision to exit the venture team. Beyond passion intensity and focus (Cardon et al., 2009), these findings suggest that entrepreneurs cognitively process their entrepreneurial passion, which impacts their decision-making. Further, contributing to the literature on entrepreneurial exit (e.g., D. R. DeTienne, 2010; D. R. DeTienne et al., 2015; Loane et al., 2014; Ucbasaran et al., 2003), the study highlights that, besides financial and venture-related factors, entrepreneurs’ individual characteristics, such as entrepreneurial passion, shape exit decisions. Considering the recent scholarly attention to entrepreneurial passion and fit theory (Kakarika et al., 2022; Taggar et al., 2024), we encourage future research to explore how fit perceptions and passion may change over time as both passion and fit exhibit temporal dynamics (Lex et al., 2020; Riar et al., 2023; Uy et al., 2021; Vleugels et al., 2023).

6.3 Practical Implications

Besides the theoretical contributions, several important practical implications can be derived from this dissertation. Chapters II and III demonstrate that (team) entrepreneurial passion is contingent on how team members interact and regulate their (shared) passion over time. While the entrepreneurial journey is challenging and marbled with uncertain situations, actively managing and regulating the emotional rollercoaster ride can help to secure venture success (De Cock et al., 2020). As the findings of Chapter II reiterate, entrepreneurial teams

should pay attention to engaging in transition and interpersonal processes as it is beneficial for their shared passion. Further, Chapter III offers specific regulation mechanisms that entrepreneurial teams, as well as their supporters, may use as a guideline to ensure effective passion enactment and team functioning. In addition, Chapter II and Chapter III may be particularly useful for start-up coaches to support entrepreneurial teams by avoiding passion-related conflicts and negative team outcomes due to passion misregulation.

In addition, Chapter IV offers valuable insights for start-up teams and founders who have taken on the responsibility of leading their own employees. The findings from this chapter illustrate that entrepreneurial passion can become an ambiguous factor for entrepreneurs as employees may respond differently to the displayed passion of their leaders. As obsessive passion signals may increase employees' perceived uncertainty during decision-making processes, the results of this chapter caution entrepreneurs to mind how they signal their passion. In addition, the study suggests that entrepreneurial leaders need to be aware of employees' own passion as it affects how they respond to leaders' signals. Conscientiousness about their own passion, as well as their employees', can support entrepreneurs to become better leaders and improve leader-follower relationships.

Lastly, the results of Chapter V may further assist start-up coaches and supporters in avoiding team dissolution by proactively adjusting passion misfits among team members. Considering that passion dynamically develops over time and is manageable (Chapters II and III), start-up coaches, mentors, and team members themselves may voice concerns about passion misfits and, for instance, seek to adjust passion enactment within the team, i.e., improving complementary passion fit. Similarly, in line with Chapters II and III, through team reflections and open communication about their individual passions, entrepreneurial team members may start to develop a stronger sense of a shared TEP and thus reduce supplementary passion misfits over time.

In conclusion, this dissertation provides novel perspectives into entrepreneurial passion's dynamics, regulation, and cognitive processing. It thus demonstrates the multifaceted characteristics of passion in entrepreneurship that reach beyond the individual entrepreneur.

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APPENDIX

8.1 Appendix A: Chapter II

Factor loadings and reliabilities for all constructs

Transition Processes (α = 0.79)	**Factor loadings**	
To what extent does our team actively work t o …	*Min.*	*Max.*
1. Identify the key challenges that we expect to face?	0.77	0.80
2. Ensure that everyone on our team clearly understands our goals?	0.77	0.83
3. Develop an overall strategy to guide our team activities?	0.68	0.79
Action Processes (α = 0.83)	**Factor loadings**	
To what extent does our team actively work to …	*Min.*	*Max.*
1. Assist each other when help is needed	0.83	0.87
2. Coordinate our activities with one another	0.79	0.87
Interpersonal Processes (α = 0.85)	**Factor loadings**	
To what extent does our team actively work to …	*Min.*	*Max.*
1. Deal with personal conflicts in fair and equitable ways?	0.71	0.83
2. Encourage each other to perform our very best	0.81	0.88
3. Keep a good emotional balance in the team?	0.76	0.92
TEP for inventing (α = 0.87)	**Factor loadings**	
	Min.	*Max.*
1. For us, it is exciting to figure out new ways to solve unmet market needs that can be commercialized.	0.78	0.84
2. Searching for new ideas for products/services to offer is enjoyable to our team.	0.82	0.85
3. We, as a team, are motivated to figure out how to make existing products/services better.	0.59	0.80
4. Scanning the environment for new opportunities really excites my team.	0.80	0.81
TEP for Founding (α = 0.87)	**Factor loadings**	
	Min.	*Max.*
1. Establishing a new company excites us.	0.81	0.89
2. Owning our own company energizes my team.	0.79	0.83
3. For our team, nurturing a new business through its emerging success is enjoyable.	0.79	0.87
TEP for Developing (α = 0.83)	**Factor loadings**	
	Min.	*Max.*
1. We really like finding the right people to market our product/service to.	0.68	0.85
2. Assembling the right people to work for our business is exciting.	0.77	0.83
3. Pushing our employees and our team to make our company better motivates us.	0.78	0.85
Team Identification (α = 0.85)	**Factor loadings**	
	Min.	*Max.*
1. I do feel emotionally attached to my team.	0.79	0.91
2. I feel a strong sense of belonging to my team.	0.85	0.92
3. I feel as if my team´s problems are my own	0.46	0.61
4. I do feel like part of the family in my team.	0.79	0.85
Relationship Conflict (α = 0.84)	**Factor loadings**	
	Min.	*Max.*
1. How much relationship tension is there in your work group?	0.75	0.88
2. How often do people get angry while working in your group?	0.63	0.86
3. How much emotional conflict is there in your work group?	0.75	0.84

Note: Cronbach's Alpha is represented as the mean over four measurement periods. Factor loadings indicate the minimum and maximum for all constructs over four measurements. Average model fit for confirmatory factor analyses for all measurement periods: $p < 0.001$, RMSEA = 0.064, SRMR = 0.064, TLI = 0.82, CFI = 0.84.

Overview ICC's and mean $r_{wg(j)}$ for all team-level variables

	T2			T3			T4		
	mean $r_{wg(j)}$	**ICC (1)**	**ICC (2)**	**mean $r_{wg(j)}$**	**ICC (1)**	**ICC (2)**	**mean $r_{wg(j)}$**	**ICC (1)**	**ICC (2)**
Intense Positive Feelings – TEP for Inventing	0.88	0.05	0.19	0.84	0.08	0.24	0.84	0.10	0.34
Intense Positive Feelings – TEP for Founding	0.83	0.04	0.17	0.73	0.04	0.15	0.73	0.12	0.38
Intense Positive Feelings – TEP for Developing	0.81	0.07	0.26	0.75	0.03	0.12	0.73	0.05	0.19
Transition Processes	0.84	0.06	0.2	0.84	0.04	0.14	0.80	0.09	0.29
Action Processes	0.80	0.08	0.29	0.75	0.05	0.19	0.75	0.20	0.52
Interpersonal Processes	0.86	0.12	0.4	0.76	0.05	0.19	0.76	0.23	0.58
Relationship Conflict	0.89	0.19	0.51	0.84	0.34	0.7	0.83	0.43	0.78
Team Identification	0.70	0.15	0.4	0.60	0.14	0.38	0.64	0.22	0.54

Note: mean $r_{wg(j)}$ calculated for multi-item scales. N = 52 teams for three measurement waves. Data from T1 was omitted as team-level constructs were not assessed in this data collection period. In line with Bliese (2000), established thresholds include ICC (1) > 0.05 and ICC (2) > ICC (1). Drawing on Lebreton & Senter, 2008), within-group interrater agreement ranges from 0.00 to 0.30 ("lack of agreement"), 0.31 to 0.50 ("weak agreement"), 0.51 to 0.70 ("moderate agreement"), 0.71 to 0.90 ("strong agreement"), and 0.91 to 1.00 ("very strong agreement").

8.2 Appendix B: Chapter IV

Scenario description & overview manipulated variables (Study 1)

Scenario description

Please imagine the following situation: You work in a startup that is currently evaluating new business opportunities to scale the business. Your supervisor, the company's CEO, asks you to give an initial assessment of several business opportunities that differ in various dimensions. He requests you to evaluate the potential business opportunities presented below from your perspective for the startup based on the summarized information. The evaluation is completely anonymous. Your evaluation actively supports your startup.

Prior to the experiment, participants received the following overview of all manipulated variables:

Attribute	Levels
Leader's passion type	*Harmonious:* Your leader lives out their entrepreneurial passion harmoniously. *Obsessive:* Your leader lives out their entrepreneurial passion obsessively.
Leader's passion strength	*Moderate:* Your leader displays moderate entrepreneurial passion for this business opportunity. *High:* Your leader displays enormous entrepreneurial passion for this business opportunity.
Predictability of feasibility of business opportunity	*Low:* An initial feasibility analysis shows that it is hard to predict how this business opportunity will translate into an actual product or service. *High:* An initial feasibility analysis shows that it is easy to predict how this business opportunity will translate into an actual product or service.
Predictability of desirability of business opportunity	*Low:* An initial market analysis of the business opportunity shows that the target group's interest in potential products and services is hardly predictable. *High:* An initial market analysis of the business opportunity shows that the target group's interest in potential products and services is well predictable.

Scenario description & overview manipulated variables (Study 2)

Scenario description

Please imagine the following situation: You work in a startup, and the company's CEO is also your direct supervisor. Currently, the startup is looking for opportunities to scale and grow the company. With this in mind, the CEO asks for your input on several business opportunities. In advance, these business opportunities have already been positively reviewed for their desirability and feasibility and are considered suitable in principle. You are tasked to subjectively assess these business opportunities and to what extent you would recommend them for exploitation. Please imagine that after reading the business opportunities, you can perceive the following:

Attribute	Levels
Uncertainty with regard to the evaluation of the business opportunity	*Low:* After assessing the business opportunity, you perceive relatively little uncertainty regarding the evaluation of the business opportunity. *High:* After assessing the business opportunity, you perceive a lot of uncertainty regarding the evaluation of the business opportunity.
Uncertainty with regard to potential effects of your evaluation	*Low:* When reading this business opportunity, you perceive relatively little uncertainty about whether taking the business opportunity will have a positive or negative impact on the startup you are working in. *High:* When reading this business opportunity, you perceive a lot of uncertainty about whether taking the business opportunity will have a positive or negative impact on the startup you are working in.
Uncertainty regarding the ability to influence the business opportunity	*Low:* For this business opportunity, you perceive relatively little uncertainty about the extent to which you can influence the development of the business opportunity with your behavior. *High:* For this business opportunity, you perceive a lot of uncertainty about the extent to which you can influence the development of the business opportunity with your behavior.

8.3 Appendix C: Chapter V

Scenario description

Please imagine the following situation:

You are a co-founder of a startup that you founded three years ago with your co-founder. You hold equal shares in the company, which currently employs six people.

Over the past few years, you have passionately worked on building up and growing the company further. Now, you are on the verge of scaling the company that you have prepared over the last few months.

You are currently deliberating whether this would be a suitable opportunity to leave the startup and devote yourself to new projects. There are other promising options for you, including founding a new company. While these options still need to be defined in more detail, they are generally exciting in principle.

For this experiment, you will face various decision-making constellations in the startup team. We will present these to you in the following scenarios.

Please assume that the conditions mentioned above apply to all decisions in all scenarios.

Please only include the factors described in your decision-making process.

Please read the following scenarios carefully and indicate to what extent you would be willing to leave your founding team.

Descriptions of manipulated independent variables.

Attribute	Definition & Level descriptions
Fit of your individual entrepreneurial passion to the future requirements in the scaling process of your startup (complementary passion fit)	*Describes the extent to which your own entrepreneurial passion matches the future requirements in the scaling process of your startup.* *Low:* You assume that your passion does not fit well to the requirements of the scaling phase of your startup. *High:* You assume that your passion fits very well to the requirements of the scaling phase of your startup.
Shared entrepreneurial passion in the current entrepreneurial team (supplementary passion fit)	*Describes the existence of a shared entrepreneurial passion in the current entrepreneurial team.* *Low:* You are passionate about very different activities – i.e., you and your co-founder only share a joint passion to a small extent. *High:* You are passionate about the same activities – i.e. you and your co-founder share a joint passion to a high degree.
Opportunities for personal growth	*Describe the level of opportunities for personal growth in the upcoming scaling phase of your startup.* *Low:* The level of opportunities for personal growth in the upcoming scaling phase is low. *High:* The level of opportunities for personal growth in the upcoming scaling phase is high.
Growth potential of the current startup	*Describes the potential of your current startup to grow further in the upcoming scaling phase.* *Low:* The growth potential of your startup in the upcoming scaling phase is low. *High:* The growth potential of your startup in the upcoming scaling phase is high.
Financial impact of leaving the current founding team	*Describes the extent to which the decision to leave the founding team will have (at least) short term financial implications.* *Low:* You expect only minor financial restrictions as a result of leaving the team. *High:* You expect high financial restrictions as a result of leaving the team.