Well-being in Entrepreneurship

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Johanna Kuske

aus

Hannover

Referent: Prof. Dr. Christian Schwens
Korreferentin: Prof. Dr. Mona Mensmann
Tag der Promotion:

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List of Abbreviations

%	Percent
ADHD	Attention deficit hyperactivity disorder
b/B/β	Coefficient value
B2B	Business-to-business
B2C	Business-to-customer
CEM	Coarsened exact matching
CI	Confidence interval
CIT	Current Issues in Tourism;
Disc.	Disciplines
DV	Dependent variable
e.g.	Exempli gratia / for example
Econ.	Economics
EID	Economic and Industrial Democracy
Ent.	Entrepreneurship
ERJ	Entrepreneurship Research Journal
et al.	Et alii / and others
ETP	Entrepreneurship Theory and Practice
FiP	Frontiers in Psychology
FiPH	Frontiers in Public Health
FIS	Frontiers in Sociology
GHQ	General health questionnaire
i.e.	Id est / that is
IEMJ	International Entrepreneurship and Management Journal
IJEBR	International Journal of Entrepreneurial Behavior & Research
IJEI	International Journal of Entrepreneurship and Innovation
IJERPH	International Journal of Environmental Research and Public Health
IJEV	International Journal of Entrepreneurial Venturing
IJI	International Journal of Innovation
IPMJ	International Public Management Journal
ISBJ	International Small Business Journal-Researching Entrepreneurship
JAS	Journal of Agricultural Science and Technology
JBV	Journal of Business Venturing
JBVI	Journal of Business Venturing Insights
JEEE	Journal of Entrepreneurship in Emerging Economies
JHS	Journal of Happiness Studies
JIK	Journal of Innovation & Knowledge
JoBR	Journal of Business Research
JoE	Journal of Entrepreneurship
JRCS	Journal of Retailing and Consumer Services
JRFM	Journal of Risk and Financial Management
JSBM	Journal of Small Business Management
JSED	Journal of Small Business and Enterprise Development

JTS	Journal of Tourism and Services
M	Mean value
Max	Maximum value
Mgmt.	Management
Min	Minimum value
MSE	Micro and Small Enterprise
n	Sample size
No.	Number
p	Significance level
p.	Page
PR	Personnel Review
Psy.	Psychology
r	Intercorrelation
R^2	R-squared
REH	Review of Economics of the Household
RMS	Review of Managerial Science
SBE	Small Business Economics
SD	Standard deviation
SE	Standard error
SER	Small Enterprise Research
SMEs	Small and medium-sized enterprises
Sust.	Sustainability
t	Time
UK	United Kingdom
α	Cronbachs's alpha
λ	Lambda

A Introduction

1 Focus of the Dissertation

Well-being is an increasingly growing and relevant research field in entrepreneurship (U. Stephan et al., 2023; Wiklund et al., 2019). Generally, well-being describes individuals who feel well and function effectively (Ryan & Deci, 2001). Prior research highlights that well-being is an umbrella term that includes a variety of psychological states, affects, and behaviors on a negative to positive continuum (Wiklund et al., 2019). On the negative side, well-being (or, respectively, ill-being) concerns individuals' experience of strain or mental disorders (Sonnentag et al., 2023; U. Stephan et al., 2023). On the positive side, well-being can refer to individuals' satisfaction with their lives or jobs, general feelings of happiness, or high levels of vitality and functionality. Given this variety, current research on well-being in entrepreneurship is manifold, ranging from studies investigating how entrepreneurial work shapes individuals' well-being (e.g., U. Stephan et al., 2023), the role of mental health for entrepreneurial entry and intention (e.g., Gunia et al., 2021), or strategies to protect entrepreneurs' well-being (e.g., Wach et al., 2020).

Researching well-being in the context of entrepreneurship is particularly valuable due to the specific characteristics of the entrepreneurial working reality. Entrepreneurs are the central agents in entrepreneurship, including self-employed individuals, start-up founders, and small business owners, and managers (Gartner, 1988; Gorgievski & Stephan, 2016; Henrekson & Sanandaji, 2014). While entrepreneurs may differ with regard to their business models and growth aspirations, their working realities share two specific characteristics: They are responsible for running a business and they work for themselves (Gorgievski & Stephan, 2016). This working reality, in turn, has unique implications for research on well-being. First, the responsibility for running a business often comes with hiring and managing employees

(Nikolova et al., 2023; van Lancker et al., 2021). Thus, entrepreneurs are not only responsible for their own well-being but also for protecting their employees' well-being. Second, working for oneself exposes entrepreneurs to a working environment that requires them to work long hours and deal with uncertainty and pressure, which can jeopardize their well-being (Lerman et al., 2020). Hence, it is crucial that entrepreneurs learn how to protect their own well-being. Finally, the responsibility of running a business and working for oneself implies that entrepreneurs' individual behaviors and feelings play an important role for their business (Shepherd et al., 2015; U. Stephan, 2018). As such, whether entrepreneurs feel well and function effectively is likely to have direct consequences for them personally and their business, which highlights the importance of studying the outcomes of entrepreneurs' well-being. In line with these implications, this dissertation studies well-being in entrepreneurship from three perspectives: (1) entrepreneurs' responsibility for protecting their employees' well-being, (2) entrepreneurs' learning of how to protect their own well-being, and (3) the consequences of entrepreneurs' well-being.

Regarding the perspective of entrepreneurs' responsibility for protecting their employees' well-being, the context of managers from micro and small enterprises (MSEs) – that is, entrepreneurs, who run businesses with up to 49 employees (European Commission, 2003) – is particularly relevant. Prior research highlights that work stress is a central threat to employees' well-being and that formal stress prevention practices are effective in protecting employees' well-being in MSEs (Howard et al., 2022; Schreibauer et al., 2020; Schwatka et al., 2018). These practices include, for example, systematic analyses of the workplace to detect and reduce sources of stress as well as training programs supporting employees to cope with stress (LaMontagne et al., 2007). Yet, despite the evidence on their relevance and effectiveness, MSE managers rarely adopt formal stress prevention practices (Engels et al., 2022; Howard et al., 2022).

Regarding the perspective of entrepreneurs' learning to protect their own well-being, extant research suggests that learning how to run their own business and cope with feeling stressed can protect entrepreneurs' well-being (A. E. Ahmed et al., 2022; U. Stephan et al., 2022; Williamson et al., 2021). In addition, prior theorizing proposes that hybrid entrepreneurship (i.e., the phase of starting a new business while keeping one's wage-job; Folta et al., 2010) serves as a unique learning environment, which feeds forwards into full entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014). Specifically, hybrid entrepreneurship allows individuals to learn new skills from the experience of working as an entrepreneur while keeping the security of their wage-job (Benitez et al., 2023; Ferreira, 2020; Raffiee & Feng, 2014). Hence, hybrid entrepreneurship may also be a suitable environment for individuals to learn skills to protect their well-being from experiencing how to run their own business and how to cope with feeling stressed.

Regarding the perspective of the consequences of entrepreneurs' well-being, prior research indicates that high levels of well-being can have positive consequences for entrepreneurs' personal lives, work behaviors, or businesses, while low levels of well-being negatively impact these outcomes (U. Stephan, 2018). Recent theorizing further differentiates between different well-being components, including positive cognitive and affective well-being (e.g., life satisfaction and happiness), negative affective well-being (e.g., strain), and mental health disorders (e.g., depression) (Sonnentag et al., 2023; U. Stephan et al., 2023), which may each have unique implications for entrepreneurs and their businesses. Especially in the context of mental health disorders, current research debates whether negative well-being can also have positive, functional outcomes for entrepreneurs, as these entrepreneurs may be less reluctant to take risks (Wiklund et al., 2020; Wiklund et al., 2018).

Overall, this dissertation contributes to current knowledge on well-being in entrepreneurship by considering means through which entrepreneurs can protect their employees' and own well-

being as well as the outcomes of entrepreneurs' well-being (U. Stephan et al., 2023; Wiklund et al., 2019). Specifically, the theoretical model of MSE managers' decision to adopt formal stress prevention practices explains how attitudes and perceptions drive entrepreneurs' decision to protect their employees' well-being (Harney & Alkhalaf, 2020; Suter et al., 2023). Moreover, this dissertation elaborates on current theorizing on learning during hybrid entrepreneurship to account for the circumstances under which a phase in hybrid entrepreneurship benefits entrepreneurs' well-being in subsequent full entrepreneurship (Raffiee & Feng, 2014; M. Stephan et al., 2023). Finally, the dissertation contributes to a more nuanced perspective and future research agenda on outcomes of well-being by acknowledging the multidimensionality of well-being (U. Stephan, 2018; Wiklund et al., 2020).

Methodologically, this dissertation uses three distinct research methods to study well-being in entrepreneurship. Study 1 relies on qualitative interview data, which was collected through interviews with German MSE managers from craft and service sectors. Qualitative content analysis was used to, first, identify which factors drive MSE managers' decision to adopt formal stress prevention practices and, second, to develop a theoretical model of how these factors influence the adoption decision. Existing theory further guided the development of the theoretical model. To test the hypotheses of Study 2, this dissertation uses secondary panel data from the United Kingdom Household Longitudinal Survey *Understanding Society*, which covers the years 1991 to 2019. Using Coarsened Exact Matching, the study accounts for possible structural differences between individuals who enter full entrepreneurship directly and those who enter via hybrid entrepreneurship. The main analysis applies hierarchical linear regressions. In addition, the study uses several robustness checks to test the validity of the findings, including a Heckman Selection Model to control for the potential selection effect that the decision to enter full entrepreneurship drives the effect on entrepreneurs' well-being. Moreover, an individual-fixed effects estimator was used to account for time-constant

individual-specific heterogeneity in a post hoc test. Finally, Study 3 uses a systematic literature review to provide an overview of current research on the outcomes of entrepreneurs' well-being components and infers a future research agenda. By following a pre-defined search strategy and inclusion- and exclusion criteria, the study applies a transparent and replicable process to identify and review the relevant studies.

2 Research Gaps

The continuous and growing scholarly attention establishes *well-being in entrepreneurship* as a central topic in entrepreneurship research. Nevertheless, there are still research gaps which remain underexplored and warrant further examination. Specifically, this dissertation focuses on the attitudes and perceptions that drive MSE managers' decision to protect their employees' well-being, the circumstances under which hybrid entrepreneurship benefits entrepreneurs' well-being and the outcomes of entrepreneurs' well-being. Figure A-1 summarizes the core research questions of this dissertation, which I will elaborate in more detail in the following.

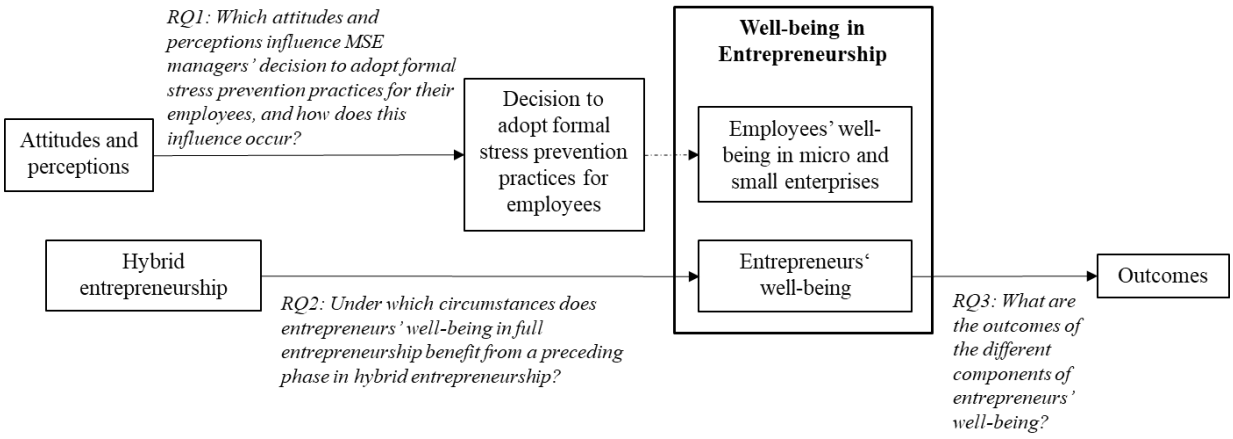

Figure A-1 Overview of the Research Questions

The first gap that this dissertation seeks to fill concerns MSE managers' decision to adopt formal stress prevention practices for their employees. Exploring this research question is crucial to overcome the problem that MSE managers rarely introduce these planned,

systematic, and evidence-based practices in their enterprises (Engels et al., 2022; Howard et al., 2022), even though prior research shows that employees in MSE experience work stress and that formal practices can effectively prevent such stress (Schreibauer et al., 2020; Schwatka et al., 2018).

Prior research indicates that the specific characteristics of MSEs may make it particularly challenging for MSE managers to adopt formal stress prevention practices (Harney & Alkhalaf, 2020; Kroon & Paauwe, 2021). First, their limited resources and a high workload keep MSE managers from building expertise and awareness for their role as an employer (Chadwick et al., 2013; Harney et al., 2022). As a result, they are unlikely to prioritize work stress prevention, which can have severe consequences for their business and their employees (Irvine & Suter, 2023; Leka, Jain, et al., 2015). Second, MSE managers tend to prefer informal means to address their employees' needs due to their close relationships (Harney & Alkhalaf, 2020; Krishnan & Scullion, 2017; Suter et al., 2023). Yet, informal approaches may not be thorough enough to identify and mitigate the complex, intangible, and highly individual sources and consequences of employee work stress (Cocker et al., 2012; Leka, van Wassenhove, & Jain, 2015; Martin et al., 2009). As individuals' attitudes and perceptions usually drive MSE managers' decisions (e.g., Howe & Krosnick, 2017; Shepherd et al., 2015), a central research gap is understanding MSE managers' perspective on their decision to adopt formal stress prevention practices. Thus, the first study of this dissertation asks:

> *RQ1:* W*hich attitudes and perceptions influence MSE managers' decision to adopt formal stress prevention practices for their employees, and how does this influence occur?*

The second gap that this dissertation seeks to fill concerns the influence of hybrid entrepreneurship on entrepreneurs' well-being in full-time entrepreneurship. Considering the far-reaching personal and business-related consequences of entrepreneurs' well-being (U. Stephan, 2018), there is a need to identify environments in which entrepreneurs can learn how

to protect their well-being. Hybrid entrepreneurship refers to a phase in which individuals start a new business while keeping their wage-job (Folta et al., 2010). Prior research suggests that this combination of self- and wage-employment allows individuals to learn from experiencing entrepreneurial work without giving up secure employment (Benitez et al., 2023; Ferreira, 2020; Folta et al., 2010). In turn, as hybrid entrepreneurs will experience how to run a business and cope with feeling stressed, current theorizing on learning during hybrid entrepreneurship implies that individuals can also learn skills to protect their own well-being during hybrid entrepreneurship.

Yet, entrepreneurial learning theory indicates that learning new skills during hybrid entrepreneurship involves a complex process, which depends on individuals' ability to transform experiences into skills (Politis, 2005; Winkler et al., 2021). Moreover, insights from role conflict theory suggest that interfering role demands might constrain such transformation (Anglin et al., 2022; Hsu et al., 2016; Nambisan & Baron, 2021). Given that hybrid entrepreneurs face demands from multiple roles (i.e., their entrepreneurial work, wage-job, and private life; Carr et al., 2023), accounting for these role demands is particularly relevant when theorizing about learning in hybrid entrepreneurship. Thus, the second study of this dissertation investigates:

> *RQ2: Under which circumstances does entrepreneurs' well-being in full entrepreneurship benefit from a preceding phase in hybrid entrepreneurship?*

The third gap that this dissertation seeks to fill concerns the outcomes of entrepreneurs' well-being. Prior research highlights that well-being has important implications for entrepreneurs in terms of their health, working behavior, or performance (U. Stephan, 2018), yet rarely acknowledges the multiple components of well-being. That is, well-being does not only differ with regards to its valence (i.e., negative to positive well-being), but also in terms of focus, including cognitive and affective components as well as mental health disorders (Sonnentag et

al., 2023; U. Stephan et al., 2023). Research debating the functionality of mental health disorders in entrepreneurship further highlights the importance of differentiating between the different well-being components when studying outcomes of entrepreneurs' well-being (Wiklund et al., 2020; Wiklund et al., 2018). Yet, a consolidated overview of current research on the outcomes of entrepreneurs' well-being that account for the different well-being components is still missing. Hence, the third study of this dissertation asks:

RQ3: What are the outcomes of the different components of entrepreneurs' well-being?

3 Research Objectives

3.1 Overview of the Studies

Overall, this dissertation includes three studies examining well-being in entrepreneurship focusing on entrepreneurs' decision to protect their employees' well-being as well as antecedents and outcomes of entrepreneurs' well-being. Table A.1 summarizes each study's central characteristics and illustrates the different research questions, individual contributions to research on well-being in entrepreneurship, and specific methodologies and theories used to fill the research gaps.

Table A.1 Characteristics of the Three Studies Included in this Dissertation

Study	Title	Research Objective	Contribution	Theoretical Perspective	Core Constructs	Methodology	Sample
1	Too Small to Care? Developing a Model Explaining Managers' Decision to Adopt Employee Stress Prevention Practices in Micro and Small Enterprises	Exploring the attitudes and perceptions underlying MSE managers' decision to adopt formal stress prevention practices for their employees	Developing a theoretical model of MSE managers' decision to adopt formal stress prevention practices for their employees Refining MSE managers' role as employers regarding their closeness with employees and role as central gatekeepers	Attitudes and perceptions as a predictor of decision-making	Outcome: Decision to adopt formal stress prevention practices Factors: Perceived closeness with employees, perceived expertise in stress prevention, attitude toward formal practices, attitude toward external support, attitude toward work stress, and perceived employee buy-in	Semi-structured interviews Qualitative content analysis	24 German managers from micro and small enterprises (1-49 employees) from the craft and service sector
2	Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship	Examining the circumstances under which entrepreneurs' well-being in full entrepreneurship benefits from a preceding phase in hybrid entrepreneurship	Elaborating on current theorizing on learning during hybrid entrepreneurship by accounting for learning constraints due to role demands outside entrepreneurship and gender differences	Learning in hybrid entrepreneurship Entrepreneurial learning theory Role conflict theory and role salience	Dependent variable: Well-being in full entrepreneurship Independent variable: Preceding phase in hybrid entrepreneurship Moderators: Rigid hours in the wage-job, caring responsibilities, gender	Hierarchical linear regression analyses with coarsened exact matching, heckman selection model	Secondary data, 1.737 entrepreneurs from the United Kingdom
3	Well for what? A Systematic Literature Review on the Outcomes of Entrepreneurs' Well-being	Reviewing current research on the outcomes of entrepreneurs' well-being	Untangling differences in the outcomes of entrepreneurs' well-being components Advancing the debate on the functionality of mental health problems in entrepreneurship	Multidimensionality of well-being	Well-being components: Positive cognitive, affective, and other well-being, negative affective well-being, and mental health problems Outcomes: Performance and success, entrepreneurial career choices, entrepreneurial behavior and cognition, health and well-being, and social environment	Systematic literature review	63 studies published in peer-reviewed academic journals

3.2 Study 1: Too Small to Care? Developing a Model Explaining Managers' Decision to Adopt Employee Stress Prevention Practices in Micro and Small Enterprises

The first study of this dissertation qualitatively explores which attitudes and perceptions drive MSE managers' decision to adopt stress prevention practices for their employees and how these attitudes and perception influence this decision.

The study points out the special characteristics of MSEs, which may make it particularly challenging for MSE managers to adopt stress prevention practices – despite prior evidence that employees in MSEs experience work stress and that formal practices are effective in preventing such stress (Howard, Antczak, & Albertsen, 2022; Schreibauer et al., 2020; Schwatka et al., 2018). First, the constrained resources and high workload make it unlikely that MSE managers are aware of their responsibility as employers (Chadwick et al., 2013; Harney & Alkhalaf, 2020; Kroon & Paauwe, 2021), which bears the risk of underestimating or downplaying employee work stress and its consequences. Second, MSE managers typically prefer informal approaches to managing their employees due to their close relationships (Harney & Alkhalaf, 2020; Krishnan & Scullion, 2017; Suter et al., 2023), which may not always be effective in preventing the complex and intangible sources and consequences of employee work stress. Given these challenges, the study focuses on the central role of MSE managers' attitudes and perceptions for their decision to adopt stress prevention practices for their employees.

Using qualitative content analysis (Gioia et al., 2013), the study inductively analyses 24 semi-structured interviews with MSE managers to identify *which* attitudes and perceptions influence MSE managers' adoption decision. All managers run businesses with less than 50 employees in the craft and service industry in Germany. Moreover, the study builds on prior theory to

develop a theoretical model to explain *how* these attitudes and perceptions influence MSE managers' decision to adopt formal stress prevention practices.

3.3 Study 2: Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship

The second study examines the conditions under which a preceding phase in hybrid entrepreneurship benefits entrepreneurs' well-being in subsequent full entrepreneurship by considering interfering role demands outside entrepreneurship (i.e., rigid hours in the wage-job and caring responsibilities) and gender differences.

By engaging in theory elaboration (Fisher & Aguinis, 2017), this study integrates insights from entrepreneurial learning theory (Politis, 2005) and role conflict theory (Anglin et al., 2022) to refine current theorizing on learning during hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014). That is, role demands from hybrid entrepreneurs' wage-job and private life constrain their ability to transform the experience of running their own business and coping with feeling stressed into skills that protect well-being. Specifically, the study examines the moderating effect of rigid hours in the wage-job and caring responsibilities on the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being in subsequent full entrepreneurship. Moreover, the study follows research on gender differences in role salience (Ahl, 2006; Anglin et al., 2022) to argue that rigid hours in the wage-job particularly constrain male hybrid entrepreneurs, while caring responsibilities are particularly interfering for female hybrid entrepreneurs.

The study tests the hypotheses on a sample of 1,737 entrepreneurs from the United Kingdom Household Longitudinal Survey *Understanding Society* (University of Essex, 2021). In the main analysis, the study applies a linear regression analysis with weights from Coarsened Exact Matching (CEM). Moreover, the study validates their findings in three robustness checks and

a post hoc analysis, including a Heckman Selection Model to address the possibility of a selection effect and an individual fixed-effects panel estimator.

3.4 Study 3: Well for What? A Systematic Literature Review on the Outcomes of Entrepreneurs' Well-being

The third study of this dissertation systematically reviews current knowledge on the outcomes of entrepreneurs' well-being by accounting for the multiple components of well-being.

To differentiate among well-being components, the study expands an existing framework from prior research (U. Stephan et al., 2023). Specifically, the study differentiates between the valence of well-being, that is, positive and negative well-being. Moreover, the study distinguishes between different foci of entrepreneurs' well-being, such as cognitive, affective, and general well-being as well as mental health problems. Regarding mental health problems, this study also includes non-stress-related disorders to account for the debate on whether mental health disorders, such as ADHD, have a functional impact in the context of entrepreneurship (Wiklund et al., 2020; Wiklund et al., 2018).

Methodologically, the study systematically reviews current research published *after* U. Stephan (2018). By applying pre-defined inclusion and exclusion criteria, the review identifies 63 studies on the outcomes of entrepreneurs' well-being, which are coded according to their well-being component and outcome category.

4 Additional Remarks

The following list illustrates the publication status of the studies included in this dissertation. In addition, Table A.2 summarizes each author's contributions and at which conferences Johanna Kuske presented the papers.

- **Study 1:** Kuske, Johanna, Zapkau, Florian B., Gänser-Stickler, Gertraud. M., & Schwens, Christian (2024). "Too Small to Care? Developing a Model Explaining Managers' Decision to Adopt Employee Stress Prevention Practices in Micro and Small Enterprises." *Industrial Marketing Management*. 121, 40–54. DOI: 10.1016/j.indmarman.2024.06.005.
- **Study 2:** Kuske, Johanna; Schulz, Matthias; Schwens, Christian (2024). "Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship." *Entrepreneurship Theory and Practice.* Advanced online publication. DOI: 10.1177/10422587241288108.
- **Study 3:** Kuske, Johanna. "Well for what? A Systematic Literature Review on the Outcomes of Entrepreneurs' Well-being." Unpublished working paper.

Table A.2 State of Publication of the Three Studies Included in this Dissertation

Study	Current State	Conferences	Share of Contributions	
1	Published in *Industrial Marketing Management (IMM)*	24th Annual Interdisciplinary Conference on Entrepreneurship, Innovation, and SMEs (G-Forum), Virtual Edition, September 28th - October 2nd, 2020 – awarded with "Family Business and Mittelstand Research Award 2020"	Johanna Kuske Florian B. Zapkau Gertraud M. Gänser-Stickler Christian Schwens	55% 15% 10% 20%
2	Published in *Entrepreneurship Theory and Practice (ETP)*	25th Annual Interdisciplinary Conference on Entrepreneurship, Innovation, and SMEs (G-Forum), Dresden, September 22nd - 23rd, 2022 – awarded with "Entrepreneurship Research Newcomer-Award 2022" 83rd Annual Meeting of the Academy of Management (AOM), Boston, August 4th-8th, 2023	Johanna Kuske Matthias Schulz Christian Schwens	50% 25% 25%
3	Unpublished working paper	Unpublished working paper	Johanna Kuske	100%

Study 1 involved four co-authors, Study 2 involved three co-authors, and Study 3 is a single-author study by Johanna Kuske. Regarding Study 1, Johanna Kuske's contribution includes: writing the original draft, writing revised versions and editing, conceptualizing the paper, administering the project, collecting the data, conducting the formal analysis, curating the data, visualizing the results, and validating the results. Florian B. Zapkau contributed to Study 1 by: supporting the writing of the original draft and revised versions, supporting the visualization of results, and acquiring funding. Gertraud M. Gänser-Stickler contributed to Study 1 by: supporting the writing of revised versions, conducting the formal analysis, visualizing the results, and validating the results. Christian Schwens contributed to Study 1 by: supporting the writing of the original draft and revised versions, supporting the conceptualization of the paper, supporting the visualization of results, acquiring funding, and providing supervision.

Regarding Study 2, Johanna Kuske contributed by: writing the original draft, writing revised versions and editing, conceptualizing the paper, administering the project, conducting the formal analysis, curating the data, visualizing the results, and validating the results. Matthias Schulz contributed to Study 2 by: supporting the writing of the original draft as well as the revised versions and editing, conducting formal analysis, conceptualizing the paper, and providing supervision. Christian Schwens contributed to Study 2 by: supporting the writing of the original draft as well as the revised versions, supporting the conceptualization of the paper, and providing supervision. All authors acknowledged their respective shares of contribution (see Figure F-1 and Figure F-2 in the Appendix).

The studies in this dissertation were awarded the "Family Business and Mittelstand Research Award 2020" (Study 1) and "Entrepreneurship Research Newcomer-Award 2022" (Study 2). Moreover, Johanna Kuske was awarded the "EUniWell Research Thesis Prize 2023" in recognition of the best dissertation in the EUniWell topic area Individual & Social Well-being at the University of Cologne.

B Study 1: Too small to care? Developing a model explaining managers' decision to adopt employee stress prevention practices in micro and small enterprises

1 Introduction

Employee work stress poses a serious threat to employee well-being and firm performance (Sonnentag et al., 2023). Work stress refers to both psychological demands in the workplace and an individual's psychological and physical reactions to these demands (Ganster & Rosen, 2013). Employees experience work stress and its consequences irrespective of an enterprise's size (e.g., Newman et al., 2015; Schreibauer et al., 2020). However, employers can protect employee well-being by adopting formal stress prevention practices, which means introducing planned, systematic, and evidence-based measures to prevent employee work stress in the enterprise (Kröll et al., 2017; Nolan & Garavan, 2016). Formal stress prevention practices include, for example, psychosocial risk assessments or stress management training, which are typically offered and implemented by external providers (Jain et al., 2021; LaMontagne et al., 2007). Evidence suggests that formal stress prevention practices effectively reduce depression and anxiety among employees and improve the perceived health culture in smaller workplaces (Hogg et al., 2021; Schwatka et al., 2018). Moreover, research shows that the improved well-being of employees fosters enterprise performance (Ford et al., 2011). However, even though prior research establishes the presence of employee work stress and highlights the effectiveness of formal stress prevention practices in smaller enterprises (Howard et al., 2022; Schreibauer et al., 2020; Schwatka et al., 2018), managers of micro and small enterprises (MSEs) (i.e., the key decision-makers in enterprises with fewer than 50 employees, European Commission, 2003) rarely decide to adopt such practices (Engels et al., 2022; Howard et al., 2022).

The adoption of formal stress prevention practices may be particularly challenging for MSE managers due to the specific characteristics of MSEs (Harney & Alkhalaf, 2020; Kroon &

Paauwe, 2021). First, MSE managers usually face constrained resources and a high workload (Harney et al., 2022), which makes it difficult to build sufficient expertise and awareness of their role as employers (Chadwick et al., 2013). In turn, they rather downplay their responsibility for topics such as employee training or health promotion (Hasle et al., 2012; Taylor et al., 2016). However, not taking responsibility for work stress prevention not only jeopardizes employee well-being and firm performance but also violates labor protection laws (Irvine & Suter, 2023; Leka, Jain, et al., 2015). Second, managers and employees are often very close in smaller enterprises, which allows MSE managers to respond informally to their employees' (stress-related) needs (Harney & Alkhalaf, 2020; Krishnan & Scullion, 2017; Suter et al., 2023). However, relying on informal approaches instead of carefully designed formal practices makes it difficult to detect and prevent the complex, intangible, and highly individual sources and consequences of work stress (Cocker et al., 2012; Leka, van Wassenhove, & Jain, 2015; Martin et al., 2009). Given these challenges, understanding the perspective of MSE managers is crucial because they are the key decision-makers in MSEs (Harney et al., 2022; van Lancker et al., 2021) who decide whether to adopt formal stress prevention practices. Therefore, consistent with research emphasizing the importance of individuals' attitudes and perceptions for their decision-making (e.g., Howe & Krosnick, 2017; Shepherd et al., 2015), the present research explores the following research question: *Which attitudes and perceptions influence MSE managers' decision to adopt formal stress prevention practices for their employees, and how does this influence occur?*

In keeping with this research question, we aim to identify the attitudes and perceptions as well as the process underlying MSE managers' decision to adopt formal stress prevention practices. We draw on insights from 24 semi-structured interviews with MSE managers. All MSEs are from the service or craft sector, which typically focus fully or partially on business-to-business (B2B) markets. In our analysis, we proceed as follows: First, using an inductive approach

(Gioia et al., 2013; van Burg et al., 2020), we explore six attitudes and perceptions that drive MSE managers' decision to adopt formal stress prevention practices for their employees: *MSE managers' (1) perceived closeness with employees, (2) perceived expertise in stress prevention, (3) attitude toward formal practices, (4) attitude toward external support, (5) attitude toward work stress,* and *(6) perceived employee buy-in.* Second, having explored these attitudes and perceptions, we develop a theoretical model explaining how they influence MSE managers' decision to adopt formal stress prevention practices.

Our study contributes to prior research on MSE managers' experience with managing work stress and its consequences (e.g., Dawkins et al., 2018; Suter et al., 2023). Previous research showed that stressful incidents at work influence managers' decision to adopt practices aimed at preventing *their own stress* in smaller enterprises (Dawkins et al., 2018; Martin et al., 2020). We advance this conversation by identifying different attitudes and perceptions that explain MSE managers' decision to adopt formal practices to protect *their employees'* well-being. In addition, we advance prior research focusing on how MSE managers *deal* with employees who already suffer from mental health conditions, such as anxiety or depression (Irvine & Suter, 2023; Suter et al., 2023). Specifically, we expand this literature by focusing on MSE managers' decision to adopt formal practices aimed at *preventing* these potential worst-case consequences of work stress.

We also contribute to research on MSE managers' role as employers in two ways (e.g., Harney & Alkhalaf, 2020; Kroon & Paauwe, 2021). First, we advance previous research on the role of close relationships in how MSE managers handle employee-related issues (Harney et al., 2022; Kroon & Paauwe, 2021) by untangling an ambivalent influence in the context of employee stress prevention. That is, we explain how perceived closeness with employees can simultaneously foster and impede MSE managers' adoption decision by shaping their attitudes toward formal practices, external support, and work stress differently. Second, our theoretical

model expands research on the central role of MSE managers as gatekeepers (Harney et al., 2022; Shepherd et al., 2015) by showing that MSE managers consider not only their own attitudes but also the expected reactions of their employees when deciding to adopt formal stress prevention practices.

In addition, we infer concrete practical recommendations to guide external providers of formal stress prevention practices (e.g., private or health insurance providers as well as occupational health and safety agencies) on how to engage in their B2B relationships with MSE managers. Based on our proposed theoretical model, we recommend three strategies to increase MSE managers' perceived expertise in stress prevention to positively shape their attitudes and ultimately foster their adoption decision. First, to positively shape MSE managers' attitude toward work stress, we suggest offering awareness courses that cover real cases illustrating the health risks of work stress. Second, to foster MSE managers' attitude toward formal practices, when presenting formal stress prevention benefits, we recommend highlighting not only the obvious purpose of preventing work stress and complying with the law but also the benefits related to employee attraction and retention. Finally, to improve MSE managers' attitude toward external support, we encourage external providers to highlight their valuable expertise in the complex topic of stress prevention and their neutrality in addressing sensitive issues in the workplace.

2 Theoretical Background

2.1 Work Stress and Stress Prevention in MSEs

Prior research differentiates between the sources of work stress and individuals' responses to work stress and highlights its consequences for individuals and enterprises (Ganster & Rosen, 2013). Demands in the working environment, such as high workload, conflicts, or ambiguity,

represent potential sources of work stress (Gonzalez-Mulé et al., 2021; Schwepker & Good, 2017). Individuals' responses to work stress can be physical and psychological, including exhaustion, nervousness, or concentration difficulties (Ganster & Rosen, 2013; Nixon et al., 2011). According to Lazarus and Folkman (1984), the experience of work stress depends on whether individuals appraise the source as threatening as well as whether they perceive that they have the resources available to cope with it. These appraisals of situations and the availability of resources vary across time and individuals (Sonnentag et al., 2023). Regarding its consequences, work stress gradually and subtly impairs employees' mental and physical well-being, leading to, for example, headaches, burnout, anxiety, or cardiovascular diseases (Ford et al., 2011; Ganster & Rosen, 2013; Sonnentag et al., 2023). Ultimately, work stress and its influence on employees' well-being compromise enterprise performance by influencing employees' job performance and intention to leave (Bande et al., 2015; Ford et al., 2011; Gilboa et al., 2008). Thus, work stress is complex, as its sources, individuals' responses, and ultimate consequences are intangible and individual.

Although studies suggest that employees in smaller enterprises experience greater job quality and lower levels of work stress than employees in larger organizations (Díaz-Chao et al., 2017; Encrenaz et al., 2019; Lai et al., 2015), they are still exposed to stressful working conditions (Schreibauer et al., 2020). For example, employees in smaller enterprises experience stressful work demands such as high work intensity, frequent interruptions, workplace bullying, and harassment (Lewis et al., 2017; Wagner et al., 2022). Consequently, Newman et al. (2015) find that 70% of employees in smaller enterprises experience moderate to high stress levels. Furthermore, work stress in small enterprises negatively influences employees' sleep quality and mental health, causes musculoskeletal disorders, decreases their overall well-being, and ultimately impairs their work performance (B. Chen et al., 2022; Knani et al., 2021; Kunz et al., 2023).

In addition to the individual consequences for employees, research discusses the business-related consequences of employee work stress in smaller enterprises (Cocker et al., 2012, 2013; Knani et al., 2021). Long-term absence of even a single employee due to work stress-related illness can directly impact smaller enterprises, as they often require the presence of all employees to ensure a frictionless workflow (Cocker et al., 2013). In addition, absenteeism and presenteeism (i.e., coming to work despite illness; Johns, 2010) in smaller enterprises can become sources of work stress. That is, Knani et al. (2021) find that presenteeism increases work stress and depressive symptoms in affected employees in smaller enterprises. Furthermore, Cocker et al. (2012) suggest that absent or low-performing colleagues increase workload and work stress among the remaining employees in smaller enterprises who have to compensate for their colleagues. Similarly, recent qualitative evidence suggests that mental health conditions among MSE employees impact their coworkers' morale, increase coworkers' and MSE managers' workload, and reduce overall productivity (Irvine & Suter, 2023).

Formal stress prevention practices effectively protect employee well-being and promote firm performance by *preventing* employee work stress and its consequences (Kröll et al., 2017; LaMontagne et al., 2014; Martin et al., 2009). Research distinguishes between two types of formal practices to prevent stress in the workplace: primary and secondary stress prevention practices (Ivancevich et al., 1990; Kröll et al., 2017). Adopting primary stress prevention practices includes conducting psychosocial risk assessments, which systematically and effectively identify sources of employee work stress (i.e., psychosocial risks) and suggest measures to reduce such risks in the workplace (Oakman et al., 2022). External occupational health and safety agencies often offer (free) advice and resources (e.g., validated questionnaires and online tools) to support the implementation and interpretation of psychosocial risk assessments (Jain et al., 2021). The formal identification of psychosocial risks is an essential first step in preventing employee work stress, as it provides the basis for improving working

conditions or job designs accordingly (Tetrick & Winslow, 2015; van der Molen et al., 2020). Furthermore, research shows that using psychosocial risk assessments in MSEs improves employees' impressions of health culture and reduces the number of employees reporting depression within a year (Schwatka et al., 2018). Given the severe consequences of work stress (Niedhammer et al., 2021; van der Molen et al., 2020), employers in the European Union are legally required to regularly conduct psychosocial risk assessments (Janetzke & Ertel, 2017; Leka, Jain, et al., 2015). Nevertheless, for example, in Germany, only four to seven percent of MSEs perform such assessments regularly (Beck & Lenhardt, 2019).

Secondary stress prevention practices focus on enabling employees to cope with work stress to reduce its consequences (Ivancevich et al., 1990; Kröll et al., 2017). The adoption of secondary stress prevention practices includes hiring external providers to conduct group stress management training or to offer individual coaching sessions to employees (Kröll et al., 2017). Alternatively, the adoption of secondary stress prevention practices includes offering employees access to digital solutions, such as digital mindfulness applications (Bartlett et al., 2019). Several meta-analyses establish the effectiveness of secondary stress prevention practices, such as cognitive-behavioral interventions, relaxation exercises, and mindfulness training, in improving employee well-being (Bartlett et al., 2019; Kröll et al., 2017; Richardson & Rothstein, 2008). Concerning smaller enterprises, a recent review suggests that secondary stress prevention practices also effectively reduce anxiety and depression among employees (Hogg et al., 2021). Furthermore, comprehensive secondary stress prevention practices have long-term benefits for managers and employees in smaller enterprises by promoting mental well-being, decreasing anxiety, and reducing the stigmatization of depression and anxiety (Tsantila et al., 2023).

2.2 The Challenge of Adopting Formal Stress Prevention Practices in MSEs

MSEs have specific characteristics (Harney & Alkhalaf, 2020; Kroon & Paauwe, 2021) that may make the decision to adopt formal stress prevention practices particularly challenging for their managers. First, MSE managers have limited resources and attention due to their high workload and responsibility for multiple tasks in their enterprise (Harney et al., 2022). Thus, they often lack the time and opportunity to engage with and learn about their responsibility as an employer, for example, for employee selection, training, or health promotion (Chadwick et al., 2013; Hasle et al., 2012; Taylor et al., 2016). In addition, it is uncommon for MSE managers to have designated and experienced personnel, such as human resource departments, which typically support the selection and implementation of formal practices in larger firms (Krishnan & Scullion, 2017; Wu et al., 2014). In sum, MSE managers prioritize their responsibility as an employer to a lesser extent and rarely seek the support of external providers (Antcliff et al., 2021; Hasle et al., 2012; Taylor et al., 2016). However, if MSE managers do not assume the responsibility of preventing employee work stress, they risk severe consequences for their employees and enterprise. In particular, consequences such as absent or low-performing employees will be detrimental in MSEs, who rely on a limited number of employees (Cocker et al., 2012, 2013; Knani et al., 2021).

Second, the smaller workforce in MSEs facilitates close relationships between MSE managers and their employees (Harney & Alkhalaf, 2020; Harney et al., 2022). Knowing each employee personally allows MSE managers to react ad hoc and informally to employees' individual needs (Krishnan & Scullion, 2017; Suter et al., 2023). Accordingly, MSE managers tend to prefer informal approaches to managing their employees, including how they recruit and develop their employees and organize the work environment (Kroon & Paauwe, 2021). However, using informal approaches to prevent employee stress is likely insufficient because of the complexity and sensitivity of work stress. The sources of work stress are highly intangible and individual,

which make them difficult to detect without formal assessments (Martin et al., 2009; Rick & Briner, 2000). Furthermore, the discussion of work stress can create discomfort and lead to stigmatization in the workplace, reducing the likelihood of employees proactively addressing it without formal practices that provide structure (Martin & Fisher, 2014; Martin et al., 2018). As a result, informal approaches to prevent employee work stress entail the risk of overlooking or underestimating sources and consequences of stress and thereby jeopardize employees' well-being and enterprise performance (Leka, van Wassenhove, & Jain, 2015; Schwatka et al., 2018).

As central decision-makers and gatekeepers in their enterprise (Harney & Alkhalaf, 2020; Shepherd et al., 2015), MSE managers' perspective is pivotal for the decision to adopt formal stress prevention practices to promote their employees' well-being in MSEs. In particular, we focus on MSE managers' personal *attitudes* (i.e., how they evaluate a behavior or topic; Bohner & Dickel, 2011) and *perceptions* of themselves and their environment, which are crucial predictors of individual decision-making (Howe & Krosnick, 2017; Michaelidou & Hassan, 2014; Shepherd et al., 2015). Supporting the importance of attitudes and perceptions, Brosseau and Li (2005) show that MSE managers' attitude toward safety, their perceptions of how easily they can act, and their perceptions of their social environment positively influence their willingness to improve employee health (e.g., by checking safety equipment or talking to employees about safety risks in the workplace). Similarly, prior studies show that managers' attitudes and perceptions influence the adoption of new digital work processes or platforms in smaller enterprises (Baabdullah et al., 2021; Marzi et al., 2023). In this study, we explore the attitudes and perceptions underlying MSE managers' decision to adopt formal stress prevention practices to protect their employees' well-being.

3 Methodology

3.1 Research Setting and Data Collection

In accordance with the explorative nature of our research question, we chose a qualitative research design with semi-structured interviews (Cartwright et al., 2022; van Burg et al., 2020). The recruitment of interviewees and data collection took place between May and September 2019. In line with our research question, we focused on interviewing managers who are responsible for the decision to adopt formal stress prevention practices in an MSE. Consistent with prior research, we included owner-managers and hired managers, both of whom can be central decision-makers in MSEs (e.g., Dawkins et al., 2018; Fleming et al., 2016). We followed the recommendation of the European Commission (2003) and differentiated between micro enterprises (1 to 9 employees, n = 10) and small enterprises (10 to 49 employees, n = 14). To achieve a balanced representation of perspectives (Dawkins et al., 2018), we purposefully targeted both MSE managers who had not adopted a formal stress prevention practice (i.e., non-adopters; n = 13) and MSE managers who had already implemented a specific practice (i.e., adopters; n = 11). Given the low adoption rates of MSEs (Beck & Lenhardt, 2019; Engels et al., 2022; Howard et al., 2022), we contacted stakeholders in the occupational health and safety industry (i.e., health insurance providers and social accident insurance institutions) and asked them to refer MSE managers from their network to us who had adopted formal stress prevention practices. In addition, we recruited non-adopters through snowballing and recommendations from our network (Geiger, 2017; Suri, 2011; Wigger & Shepherd, 2020). The present study focuses on the craft and service sector, as prior research shows that the adoption of formal stress prevention practices is particularly low in these industries (Schwatka et al., 2021). The ethics committee of the first author's university approved our study.

In total, we conducted and analyzed 24 interviews for this study. Once we observed a recurrent replication of emerging topics during the execution and analysis of the interviews, we concluded that we had reached data saturation and stopped recruiting further interviewees (Hennink et al., 2017). We conducted the interviews both face-to-face (n = 11) and via telephone (n = 13), according to the preference of each interviewee. The personal contact during face-to-face interviews facilitated rapport building, which is especially valuable when discussing the sensitive topic of work stress (Irvine et al., 2013). Telephone interviews allowed us to accommodate MSE managers' limited time due to more flexible scheduling (A. Moore et al., 2010). In line with previous research, we did not observe any difference in the response patterns or richness of the data between the two interview modes (Sturges & Hanrahan, 2004).

We prepared an interview guide to support our interviews (Kallio et al., 2016). Based on two pilot interviews, we clarified ambiguous terms and shortened the interview guide so that the interviews would last approximately one hour. Depending on the availability of the interviewees, the interviews lasted between 45 and 90 minutes. Using an interview guide provided structure for the interviews and ensured that MSE managers were able to discuss all major topics. Moreover, the semi-structured approach allowed us to react flexibly and explore emerging topics in more depth, which is especially useful for an inductive analysis (Ayres, 2008). The first author conducted all interviews. Prior to the interviews, the interviewees received information about the study via email and provided written consent for data collection and analysis. In addition, participants provided demographic information via a short questionnaire.

3.2 Data Analysis

With the consent of our interviewees, we audio-recorded and transcribed all the interviews. To analyze the transcripts, we used the inductive content analysis procedure of Gioia et al. (2013),

which is especially useful for investigating research questions on which limited empirical evidence is available. Furthermore, Gioia and colleagues (2013) recommend the procedure for research questions "framed in 'how' terms aimed at surfacing concepts and their inter-relationships" (p. 26). Consistently, we aimed to identify the attitudes and perceptions driving MSE managers' decision to adopt formal stress prevention practices. Subsequently, we developed theory on how these attitudes and perceptions relate to each other and affect the adoption decision. Inductive content analysis is a rigorous method for structuring qualitative data for theory development (Cornelissen, 2017; Murphy et al., 2017). Management researchers frequently employ this methodology to analyze interview data (e.g., Geiger, 2017; Kaski et al., 2018; van Burg et al., 2020).

The data analysis consisted of two parts: (1) analysis of the interviews and (2) theory development (Gioia et al., 2013). In the first part, we followed three steps to analyze the interviews using MAXQDA (VERBI, 2020). In the first step, the first author coded the interviews to infer first-order concepts, whose meaning and wording reflected the interviewees' statements. This step included coding all sections related to our research question and provided us with additional background information on MSE managers and their enterprises. In the second step, three co-authors structured the identified first-order concepts into 15 second-order themes based on commonalities. In the last step, three co-authors aggregated the second-order themes into six attitudes and perceptions that determine MSE managers' decision to adopt formal stress prevention practices. During the entire process, the co-authors continuously challenged the logic underlying the data structure and consulted in case of misalignment (Molecke & Pinkse, 2017; Wigger & Shepherd, 2020). While having only one author coding the first-order concepts is consistent with prior research (Molecke & Pinkse, 2017; Pradies, 2023; Wigger & Shepherd, 2020), we performed a post hoc analysis to increase the trustworthiness of our data structure (Gioia et al., 2013). That is, we installed an independent

coder who coded a subsample of eight interviews (33%). This subsample encompassed a random selection of the following interviews from our overall sample (O'Connor & Joffe, 2020): two interviews with non-adopters from micro enterprises, two interviews with non-adopters from small enterprises, two interviews with adopters from micro enterprises, and two interviews with adopters from small enterprises. The results supported the previously identified first-order concepts and led to some refinements in the data structure.

The second part of the data analysis consisted of the development of the theoretical model, which all co-authors devised collaboratively (Corbin & Strauss, 2014; Gioia et al., 2013). That is, we inferred from the interview data *how* the extracted attitudes and perceptions relate to each other and influence MSE managers' adoption decision. In addition, we enriched our findings with theoretical considerations from the literature to guide our theorizing. Finally, we developed research propositions from our theoretical model.

3.3 Participant Information and Enterprise Characteristics

Table B.1 and Table B.2 provide information on the characteristics of the sampled MSE managers (Table B.1) and their enterprises (Table B.2). Both tables differentiate between micro and small enterprises as well as between adopters and non-adopters. Among the adopters, MSE managers have previously conducted psychosocial risk assessments using standardized questionnaires from their social accident insurance institution, offered occupational health and safety services implemented by health insurance providers (e.g., stress management training), or worked with private providers who implemented behavioral interventions (e.g., individual coaching or group training) in their MSEs. All MSEs were located in Germany.

Table B.1 Demographic Information on MSE Managers

		All		Micro-Sized		Small-Sized		Non-Adopters		Adopters	
		Total	(%)[1]	Total	(%)[1]	Total	(%)[1]	Total	(%)[1]	Total	(%)[1]
Gender	All	24	(100)	10	(42)	14	(58)	13	(54)	11	(46)
	Male	20	(83)	8	(33)	12	(50)	10	(42)	10	(42)
	Female	4	(17)	2	(8)	2	(8)	3	(13)	1	(4)
Highest Level of Education	High School Degree	2	(8)	2	(8)	0	(0)	2	(8)	0	(0)
	University Degree	12	(50)	5	(21)	7	(29)	9	(38)	3	(13)
	Vocational Training	10	(42)	3	(13)	7	(29)	2	(8)	8	(33)
Workload per Week	Below 40 Hours	2	(8)	1	(4)	1	(4)	1	(4)	1	(4)
	Approx. 40 Hours	2	(8)	1	(4)	1	(4)	1	(4)	1	(4)
	Above 40 Hours	18	(75)	6	(25)	12	(50)	11	(46)	7	(29)

	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max
MSE Managers' Age (in Years)	44.1	10.8	25	62	42.4	11.1	27	55	45.4	10.5	25	62	41.5	9.6	27	57	47.2	11.4	25	62
Years in Position	12	9.2	1	32	12.5	9.2	2	30	11.6	9.3	1	32	9.5	8.5	1	26	14.9	9.2	4	32.0

Note: Total n = 24. M = Mean, SD = Standard Deviation, Min = Minimum Value, Max = Maximum Value.

[1] Numbers in parentheses refer to the percentages in relation to the whole sample (n =24).

Table B.2 Enterprise Information

		All		Micro-Sized		Small-Sized		Non-Adopters		Adopters	
		Total	(%)[1]	Total	(%)[1]	Total	(%)[1]	Total	(%)[1]	Total	(%)[1]
	All	24	(100)	10	(42)	14	(58)	13	(54)	11	(46)
Industry	Craft Sector	13	(54)	5	(21)	8	(33)	4	(17)	9	(38)
	Service Sector	11	(46)	5	(21)	6	(25)	9	(38)	2	(8)
Markets	B2B only	13	(54)	5	(21)	8	(33)	10	(42)	3	(13)
	B2B and B2C	11	(46)	5	(21)	6	(25)	3	(13)	8	(33)
Number of Managers	one	10	(42)	5	(21)	5	(21)	4	(17)	6	(25)
	two	9	(38)	4	(17)	5	(21)	5	(21)	4	(17)
	three	3	(13)	1	(4)	2	(8)	2	(8)	1	(4)
	four	2	(8)	0	(0)	2	(8)	2	(8)	0	(0)

	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max
Enterprise Age	32.1	36.8	2	166	12.5	9.2	2	30	46.1	42.3	4	166	11.8	8.22	2	26	56.2	42.4	18	166
Number of Employees[2]	16.5	13.8	1	48	5.42	2.6	1	8	24.8	13.6	11	48	15.9	15	1	48	17.1	12.1	6	47
Proportion of Female Employees[2]	29.4	23.7	0	87.5	24	26.7	0	87.5	33.6	20.1	5	65	28.2	22	0	64	31	25.6	0.9	87.5

Note: Total n = 24. M = Mean, SD = Standard Deviation, Min = Minimum Value, Max = Maximum Value.

[1] Numbers in parentheses refer to the percentages in relation to the whole sample (n =24).

[2] The number of employees refers to full-time equivalents according to the MSE manager's own indication.

Table B.1 shows that 83 percent of the MSE managers are male. The MSE managers' ages range from 25 to 62 years (mean = 44 years). Almost all MSE managers continued their education after graduating from high school, either by following vocational training (42 percent) or pursuing a university degree (50 percent). The MSE managers have been in their management positions for 12 years on average. The majority works regularly more than 40 hours per week (75 percent). Table B.2 illustrates that the MSEs in our sample employ 17 employees on average. The enterprises' ages vary from recently founded enterprises (2 years) to well-established enterprises (166 years). Of the sampled MSEs, 54 percent are craft businesses, while 46 percent belong to the service sector. Most enterprises are led by one (42 percent) or two (38 percent) managers. All enterprises focus on B2B markets, while 46 percent are additionally active in B2C markets. In total, 22 MSE managers were also the owners of their enterprises (i.e., owner-managers). Of the remaining two MSE managers, one was the son of the owner-manager who had not yet taken over the business formally. In the other case, the interviewee was a hired manager. We ensured that all interviewees were directly responsible for the decision to adopt formal stress prevention practices in their MSEs and did not identify any differences between owner-managers and hired managers during the analysis.

4 Results

4.1 Determinants of MSE Managers' Adoption Decision

Consistent with the study's aim, we first explored *which* attitudes and perceptions determine MSE managers' decision to adopt formal stress prevention practices. Overall, our analysis revealed six attitudes and perceptions: MSE managers' (1) *perceived closeness with employees,* (2) *perceived expertise in stress prevention*, (3) *attitude toward formal practices*, (4) *attitude toward external support,* (5) *attitude toward work stress*, and (6) *perceived employee buy-in*.

Table B.3 summarizes each attitude and perception and Figure B-1 illustrates the underlying data structure of our results. Next, we describe our findings in more detail and provide exemplary quotes from the interviews to substantiate our analysis. The original German quotes can be obtained upon request.

Table B.3 Overview of MSE Managers' Attitudes and Perceptions

Perceived Closeness with Employees	*Perceptions of lower degrees of closeness with employees:* MSE managers perceive the degree of family-like and individual relationships with their employees as low. *Perceptions of greater degrees of closeness with employees:* MSE managers perceive the degree of family-like and individual relationships with their employees as high.
Perceived Expertise in Stress Prevention	*Perception of lower levels of expertise in stress prevention:* MSE managers perceive their level of personal experience and professional knowledge in the fields of work stress and prevention practices as low. *Perceptions of higher levels of expertise in stress prevention:* MSE managers perceive their level of personal experience and professional knowledge in the fields of work stress and prevention practices as high.
Attitude toward Formal Practices	*Negative attitude toward formal practices:* MSE managers think that formal practices are ineffective in preventing employee work stress as well unfeasible to attract and retain employees and fulfill legal obligations. *Positive attitude toward formal practices:* MSE managers think that formal practices are effective in preventing employee work stress as well feasible to attract and retain employees and fulfill legal obligations.
Attitude toward External Support	*Negative attitude toward external support:* MSE managers think of external providers as intrusive and unsupportive. *Positive attitude toward external support:* MSE managers think of external providers as neutral and supportive.
Attitude toward Work Stress	*Negative attitude toward work stress:* MSE managers feel uncomfortable addressing the topic of stress in the workplace, do not feel responsible for the mental health of their employees, do not think that work stress is manageable, and do not think that work stress entails health risks. *Positive attitude toward work stress:* MSE managers feel comfortable addressing the topic of stress in the workplace, feel responsible for the mental health of their employees, think that work stress is manageable, and think that work stress entails health risks.
Perceived Employee Buy-In	*Perception of lower levels employee buy-in:* MSE managers perceive their employees to be unwilling to engage with the topic of work stress and to participate in a stress prevention practice. *Perception of higher levels of employee buy-in:* MSE managers perceive their employees to be willing to engage with the topic of work stress and to participate in a stress prevention practice.

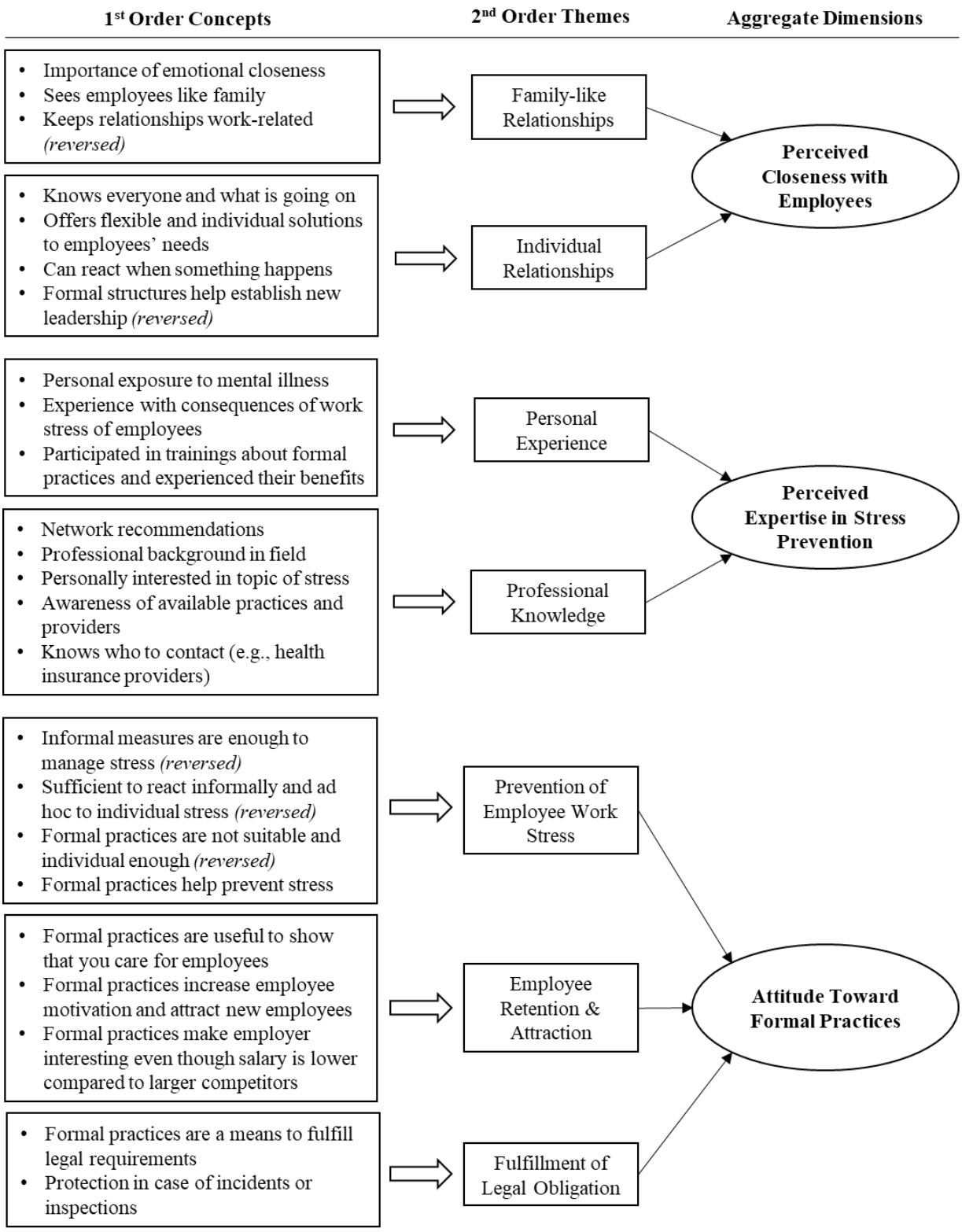

Figure B-1 Data Structure

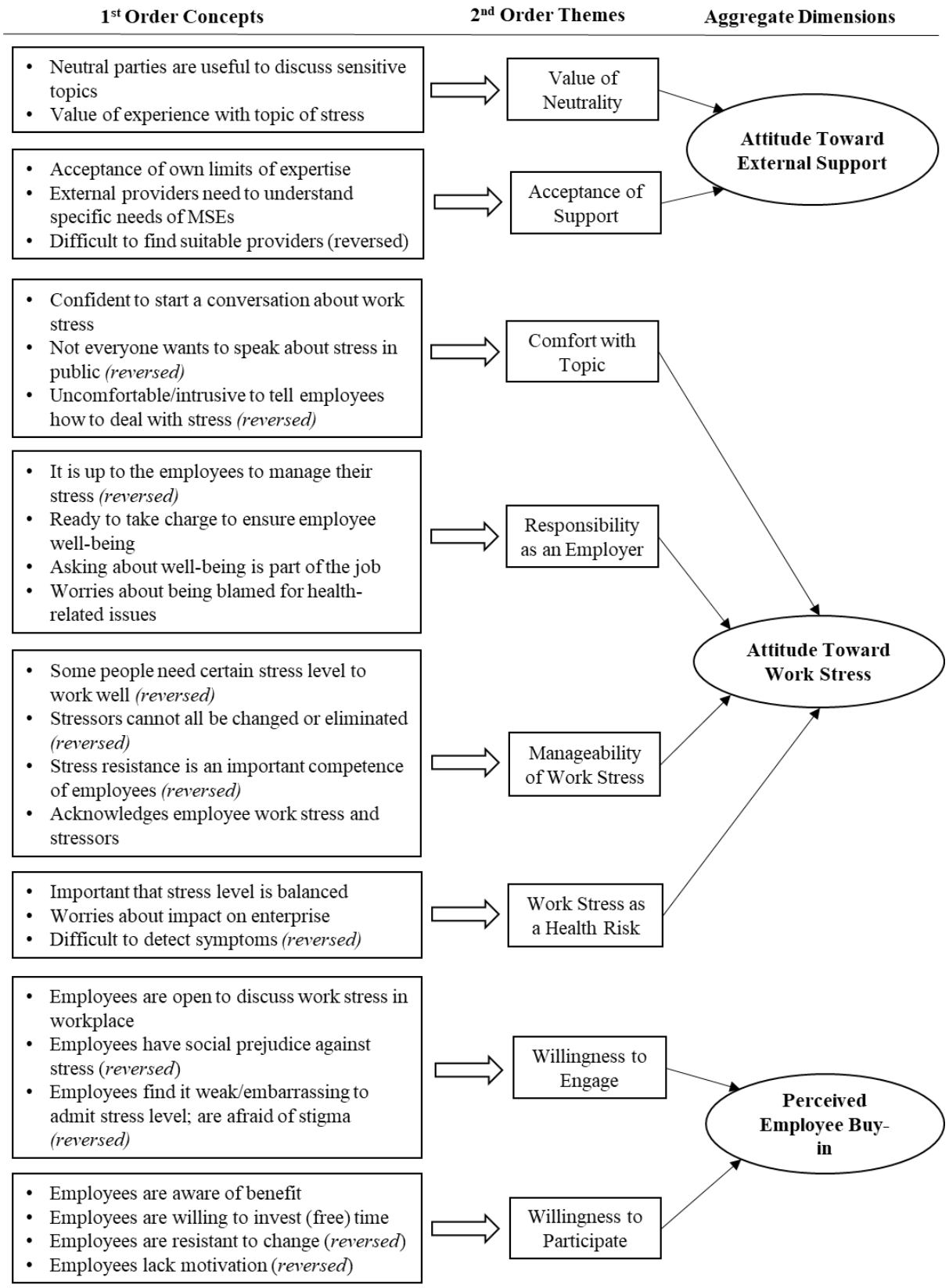

Figure B-1 Data Structure (continued)

Perceived Closeness with Employees

When asked to explain their decision to adopt formal stress prevention practices, MSE managers described the degree of closeness between themselves and their employees. Specifically, two aspects constitute MSE managers' *perceived closeness with employees*: (1) family-like relationships and (2) individual relationships.

First, several MSE managers noted that a small workforce size allows them to form family-like and emotional relationships with their employees: [1] *"I call it a family business […]. I actually mean that we see each other as family a little bit. Even though you call it a team nowadays. This has to do with emotions. And the emotional connection to my employees is extremely important to me. That means that they really have to feel that it is important to me that they are well. That my employees are well."* Similarly, MSE managers reported that frequent and personal contact with their employees and employees' family members facilitates these close relationships: [2] *"I know everyone's families. I know their background, because we always invite family members to the Christmas party. I make sure that I help them when they have any kind of problem […] and this way, they grew on me."* However, other MSE managers also described more distant relationships and discussed how they keep their interaction with employees to a minimum and work-related: [3] *"On a normal working day, I am usually only in contact with my factory manager. […] Otherwise, the interaction with my employees is limited to saying hello and goodbye. And to signing their pay check at the end of each month."*

Second, MSE managers emphasized their focus on forming individual relationships with their employees, meaning that they know everyone and know what is going on in their company. Thus, individual relationships allow them to become aware of their employees' problems and needs, including their work stress: [4] *"But regarding the work stress of most of my employees […], I know relatively well what kind of stress they have."* Similarly, MSE managers discussed how these individual relationships allow them to react flexibly and individually to their

employees' needs: [5] *"One thing I realized in the past years of my career, is that it is always good to signal that you are close and that you recognize when a situation emerges. For most employees, this is immediately helpful, because it does not leave them alone with a situation or the fear. Basically, you signal them: 'Look, I am seeing it. You can always come to me, open door, open ears, whenever you have any kind of issue.'"* In contrast, other MSE managers reported that they actively aim to establish more professional and formal relationships with their employees. For example, one MSE manager who had recently taken over their position from their parents purposefully engaged in a professional management style, which included the adoption of formal stress prevention practices: [6] *"Yes, in the end the trigger [to adopt a formal stress prevention practice] was that I took over the business from my parents. And I had a bunch of mechanics here, including some who have been with the business longer than I have. You have to find and establish your own profile first."*

Perceived Expertise in Stress Prevention

The decision to adopt formal stress prevention practices also depends on how MSE managers perceive their level of expertise in the field of stress prevention. Specifically, two aspects constitute MSE managers' *perceived expertise in stress prevention*: their (1) personal experience and (2) professional knowledge.

First, MSE managers emphasized the impact of personal experience with work stress and mental illness. That is, MSE managers with a personal history of mental illness or a case in their personal or professional environment reported how this experience made them prioritize the topic in their enterprise: [7] *"The offer [of a formal stress prevention practice] came just after I started working again after my [mental] illness. So, I directly said […]: 'We are doing this!'"* Cases of mental illness among employees may also bring attention to the topic, however they do not always facilitate the adoption of formal stress prevention practices. One MSE manager reported that an affected employee explicitly asked to treat the illness confidentially,

which made it difficult to implement enterprise-wide practices as a response to the incident: [8] *"Well, we did not really address it in person in the enterprise. He was on vacation and was not here. Also, because he had asked for it. So, we said, of course, this is not an issue, and so far, it is still like this."* In addition, MSE managers reported how taking part in management training courses allowed MSE managers to take the time to learn about potential practices, available providers, and their benefits.

Second, MSE managers mentioned the positive influence of professional knowledge, which they gained through networking and professional education. By discussing experiences with acquainted MSE managers and experts (e.g., during network meetings), MSE managers became aware of available formal stress prevention practices and providers: [9]: "*Let me put it this way, the [provider of the formal stress prevention practice] is already part of my network as a small business manager here in [location]. We often come together. And, of course, they make offers*." Overall, most MSE managers with a professional background in the field (e.g., psychology or human resource management) reported how this expertise sensitized them to the risks of work stress and the benefits of formal prevention practices. However, one MSE manager also reported that they think that their professional knowledge allows them to sufficiently identify the sources of their employees' work stress themselves: [10] *"To be honest, for me personally [conducting a psychosocial risk assessment] is also [...] an annoying compulsory exercise because, how can I explain it, it is a bit like asking an excellent cook, 'how do you heat up a packet soup?' I am [an expert]. I have studied it [...]. So, briefly, for me, it was not very eye-opening."*

Attitude Toward Formal Practices

The interviews suggest that how MSE managers think and feel about formal practices drives their decision to adopt formal stress prevention practices. Specifically, three aspects constitute

MSE managers' *attitude toward formal practices*: (1) prevention of employee work stress, (2) employee retention and attraction, and (3) fulfillment of legal obligations.

First, all interviewees mentioned stressful situations on a typical business day and specified how such experiences negatively affected their own and their employees' performance. However, they rarely translated this regular experience of work stress into the need to manage and reduce stress with formal stress prevention practices. Instead, MSE managers reported that they make use of organizational and informal measures, which they believe to be sufficiently effective in preventing employee work stress: [11] *"Well, I think, when we talk about mental health, the workload and the associated pressure is not too high in our enterprise. And I think we are just about to get it right that this system is self-regulating. That means, for example, if [an employee] tells me it is healthier to take two weeks of vacation, then go ahead. If it is healthier for [the employee to take a four-day week] because he says, 'yes, I do enjoy work, but I just work too much at the moment, I just notice that it is a bit much, [I want to] take a four-day week', then [I say], 'do it'."* Typical organizational measures include the use of digital software to improve communication, flexible working arrangements, and task specialization. Examples of informal practices include regular team activities (e.g., after work gatherings, team events) and informal meetings. In contrast, other MSE managers acknowledged the effectiveness of formal practices to prevent employee work stress and to create a more conducive working environment: [12] *"And with [this provider], we will start a mindfulness program, which we will actively offer to our employees. […] But that is the plan, to dig deeper and show what methods you can use and how you can somehow get to grips with it all yourself, so that we can create a working environment that is fundamentally mindful of people in the organization."*

Second, the interview data suggest that some MSE managers think formal stress prevention practices are a useful tool to retain current and attract new employees. These MSE managers

reported how difficult it is for MSEs to compete constantly with larger enterprises for skilled applicants, especially when facing the challenge of skilled labor shortages. Accordingly, they hope to compensate for comparably lower salaries by highlighting their attractiveness as employers and emphasizing their formal stress prevention efforts in job advertisements: [13] *"You will find the award for health management on my website as well as in my job advertisements […]. In addition to a description of the job, there are also two sentences about the organizational culture, the family business, the owner with his values [...]. If [applicants] come here […] because we pay the most, we are doing something wrong because that is not what we want."* Other MSE managers shared this view and regarded the outlook to adopt formal stress prevention practices to become an attractive employer as valuable: [14] *"But this [adopting formal stress prevention practices] has definitely always been in the planning and we were also aware that this could also be a unique selling point with regard to skilled labor shortage and recruiting efforts, which we have, so that we say we offer something like this per se as an organization, right?"* Furthermore, with regard to employee retention, MSE managers claimed that formal stress prevention practices are useful for strengthening their relationships with employees and show that they care: [15] *"But when I look at my business figures, then for me it is more important that the people are sensitive and somehow do something for their health, so that they have the feeling: 'my company strengthens me, the company I work for takes care. They want that, so they need me. I have to do something for myself.' Getting this message across is so valuable that you would say, 'hey, you have to invest in it'."*

Finally, some MSE managers mentioned that their main motive for adopting psychosocial risk assessments (i.e., the legally required formal stress prevention practice) is to fulfill these legal obligations. In these cases, MSE managers did not necessarily indicate that they believed that conducting psychosocial risk assessments improved their working environment. Instead, they emphasized the anticipated costs of an incident or inspection and saw the adoption as a means

to protect their limited resources: [16] *"And if something happens at some point and they say, 'Have you done everything?' And then, I can lift my three fingers without crossing my fingers behind my back with the other hand and say, 'Yes, of course, I did everything.' And then this will either lead to mitigating circumstances, or I get away with no more than a black eye."*

Attitude Toward External Support

The MSE managers further reported that their adoption decision depends on the way they think and feel about external providers of formal stress prevention practices. Specifically, two aspects constitute MSE managers' *attitude toward external support*: (1) the value of neutrality and (2) the acceptance of support.

First, some MSE managers reported that they value external providers as neutral parties, particularly in the context of stress prevention. Having an external consultant conduct stress management training is a welcome opportunity for them to distance themselves from its sensitive content and not feel intrusive: [17] *"We had a man here [...]. And he really showed relaxation exercises, Chi Gong exercises, where I thought, he has got the nerve. If I would do that, it would not be the right thing. For sure, [my employees] would all think that I am a bit weird."* Similarly, another MSE manager emphasized that the neutrality of an external provider enables employees to share aspects that they would not feel comfortable sharing with their employer: [18] *"In addition to this, despite the flat hierarchies, it is of course the case that I am the employer in the end and a different position is taken toward me than toward a third party. [A third party] is told more, perhaps even more unreflectively, than what would be communicated to me. I think that is understandable even despite the closeness. Employees have tried to build up a certain image and a certain profile toward me and want to maintain it. [...] So, if I had been the moderator of such workshops, that would have been hopeless."*

Second, MSE managers varied in the degree to which they accepted the support of external providers and the fact that an external party takes over parts of their responsibilities (i.e., communicating with and training employees, making changes to the workplace). Some MSE managers acknowledged their personal limits in terms of expertise and valued the external support: [19] *"So, and then I use such people [specialists,] as I say, as a team. I consider myself as a driver. I have to move my car, my business, my vehicle. So, but I would do the same thing with a real car. If it has a flat tire, I do not start playing around with it, but rather call a tire retailer or roadside assistance and let them do it. It costs money, but they are faster and more efficient."* Furthermore, external providers can help MSE managers handle their multiple responsibilities: [20] *"So, I think, these [specialists] are a very important point for micro enterprises. Those people who can take that complexity off your shoulders."* In contrast, other MSE managers reported a general skepticism toward external providers and thought of them as being a burden. This view was prominent among MSE managers who believed that external providers are unable to cater to the specific needs of smaller enterprises. In line with this notion, MSE managers also claimed that it is tedious for them to find suitable providers: [21] *"If you try to find providers that suit you, then you have to try one, it turns out not to be good, you try the next [offer], you try the next. And it also tires your willingness for these kinds of activities."*

Attitude Toward Work Stress

An additional determinant of MSE managers' decision to adopt formal stress prevention practices is how they think and feel about stress in the workplace. Specifically, four aspects constitute their *attitude toward work stress*: (1) comfort with the topic, (2) responsibility as an employer, (3) manageability of work stress, and (4) work stress as a health risk.

First, MSE managers emphasized the sensitivity of the topic of work stress and how comfortable they feel discussing it with their employees. In this regard, some MSE managers felt intrusive when they become involved in discussions about the personal well-being of their

employees: [22] "*[In theory], you need to have regular appraisal interviews with your employees and ask, 'how are you?' If my boss would come to me to ask how I was, I would think he is nuts. But that's my job."* While other MSE managers also acknowledged this issue, they believed that their organizational culture is open enough to overcome the taboo: [23] *"Well, of course, stress is a quite sensitive topic. […] The issue that could arise is that everyone would have to admit that, perhaps, they feel stressed currently. Something like that. But I do not think that would be problematic because we are all communicating on an eye-to-eye level."*

Second, while some MSE managers reported that they are aware of their responsibility and are ready to take an active approach to reduce employee work stress, others believed that it is up to the employees to manage their stress levels and find an adequate balance to compensate for stressful working days. As employers, they can only ensure providing enough flexibility, which employees should use at their discretion: [24] *"And, as I said, with regard to the personal, emotional health, because this job [...] is very stressful. There, everybody is the architect of their own fortune. Working for us, you have all the freedom you need, but you have to take it, right?"* Expanding on a similar thought, another MSE manager discussed the increasing importance of assuming responsibility for employee well-being as employers: [25] *"I think the focus on the human being has been removed, also in the last decades, because it was considered as professional when you do not show emotions and so on in the workplace. And therefore, I think it is very important that we make progress in this area […] that you also say that you take a much deeper look at the needs of the people who are actually sitting in front of you and that you don't just reduce them to the work they do or are supposed to do."*

Third, MSE managers differed in the extent to which they think that work stress can and should be managed. Specifically, some MSE managers thought of stress as an inherent part of their workplace. Accordingly, it appeared impossible for them to prevent work stress. Instead, they expected their employees to have a certain level of stress resistance to succeed in their jobs.

Similarly, others claimed that some individuals (including many of the MSE managers themselves) require a certain stress level to work efficiently while acknowledging it should not be limitless: [26] *"So, I think you need a certain level of stress in order to be highly concentrated. It is a bit like before you do a presentation or before you go on stage as a musician, for example, the adrenaline level should be on a certain level so that you are wide-awake. Of course, this should not turn into pathological stress; that is very important."* Finally, MSE managers only acknowledged the manageability of employee work stress if they were aware that their employees were exposed to work stressors and experienced work stress.

Fourth, MSE managers' attitude toward work stress varied depending on whether MSE managers were aware of or exposed to the potential health risks of work stress. Consistent with this notion, MSE managers also discussed the subsequent consequences for their enterprise, which increased their willingness to invest time and money in stress prevention: [27] *"And then the second thought was, well, it may be about money, but when you think about it or read the statistics on how many employees are absent due to illness, mental stress, and musculoskeletal disorders, what this sums ups to, then the [costs] no longer seem so bad."* In contrast, MSE managers emphasized their difficulty in detecting and responding to employee work stress and its consequences, particularly with regard to issues that are unfamiliar to them personally: [28] *"Of course, in a small company, I am responsible for everything. If I see that [an employee] has a private problem in his relationship, then I will notice it somehow. So that is likely because I also had this experience myself. But if I am relatively good at dealing with stressful situations, I may not even notice it because I do not know the signs."*

Perceived Employee Buy-in

Finally, MSE managers emphasized that they considered how their employees would think about and react to a formal stress prevention practice. Specifically, two aspects constitute MSE

managers' *perceived employee buy-in*: the perceived willingness of employees to (1) engage with the topic of work stress and (2) participate in a practice.

First, while some MSE managers perceived their employees to be open-minded to discussing their work stress, others emphasized concerns regarding their employees' willingness to engage with this topic: [29] *„Some of the people still hold a lot of clichés, I would say, especially the older ones, who of course behave strong and omniscient at the construction site and [say]: 'I have been here for many years, what do you want to tell me?"* Moreover, MSE managers claimed that employees' reluctance to engage with the topic would depend on the industry sector. For example, an MSE manager from the service sector reported that the topic of work stress is particularly stigmatized in the consulting sector, where employees are reluctant to admit that they feel stressed: [30] *"First of all, the business [in consulting] is terribly dirty [...] when it comes to stress, it is also being tabooed because too much stress sometimes feels like weakness."* Similarly, an MSE manager from the craft sector pointed out a general reservation toward the topic of work stress, claiming that his employees will not take formal stress prevention practices seriously: [31] "*Because this is still a relatively open field for [the employees]. […]. Well, we are craftsmen, and that is a bit more tangible, and there is a limit to such a thing. It is easy to get caught up in a prejudice that such things are going in the direction of Chaka Chaka."*

Second, MSE managers reported how important it is to them to discuss their decision to adopt a formal stress prevention practice with their employees and to ensure that their employees are willing to participate: [32] *„I talked to my employees in advance about what they think of it. So, when the idea came up that I would like to do that, I asked them, and they also thought it was a good idea."* Some managers based their perception of low willingness to participate among their employees on past experience with other formal practices: [33] *"I was shocked myself how wrong it all went. It took two weeks, and everyone [the employees] went back to*

their old habits." The importance of employees' perceived willingness to participate was especially important for MSE managers who expected that adopting stress prevention practices would require employees to invest their free time: [34] *"And [stress prevention] is just something you cannot do in such small companies; you cannot accomplish it at all. I would not even know where to take [the time] from. And if it must happen on a voluntary basis in [the employees'] free time, then they are not willing to do it. That is, I think, one point, the most important point."* Finally, MSE managers reported that employee disinterest would be a no-go criterion for adoption: [35] *"But if the employees already say: 'Listen, boss, that is nonsense, a waste of time!', [.... then there is no point doing it]."*

4.2 Theoretical Model

After exploring which attitudes and perceptions underlie MSE managers' decision to adopt formal stress prevention practices in their enterprises, we now develop a theoretical model to determine *how* these attitudes and perceptions influence MSE managers' adoption decision (Gioia et al., 2013). We base the theoretical model and propositions on observations in the data at the *second-order theme level* (Gioia et al., 2013). In addition, we consult prior theory to provide additional support for the proposed mechanisms underlying the theoretical model. Figure B-2 depicts our theoretical model and the underlying research propositions at the *aggregate dimension level*.

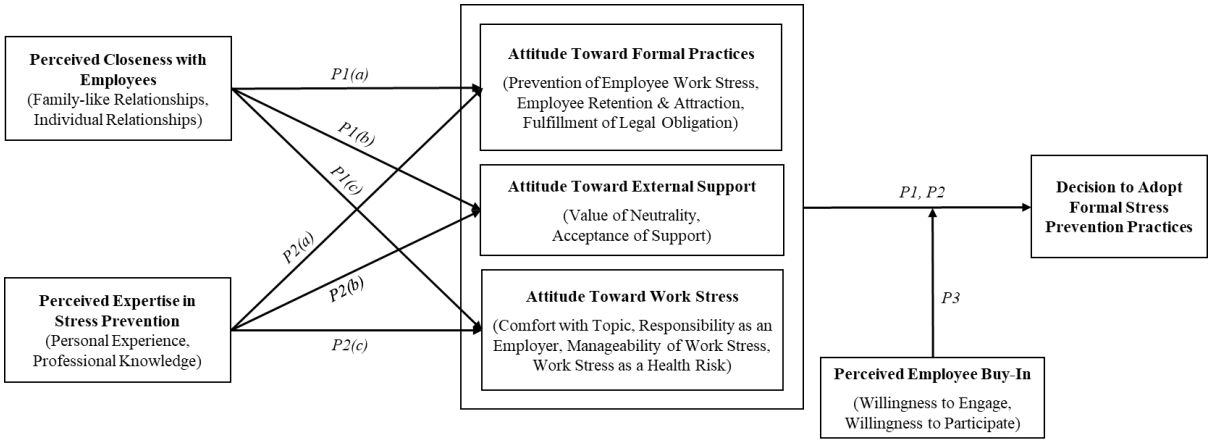

Figure B-2 Theoretical Model of MSE Managers' Decision to Adopt Formal Stress Prevention Practices

First, our data suggest that MSE managers' *perceived closeness with employees* influences their decision to adopt formal stress prevention practices by shaping MSE managers' attitudes. Concerning their *attitude toward formal practices* (proposition 1a), we observe that MSE managers who perceive higher degrees of individual relationships do not view formal practices as effective in preventing employee work stress, as they prefer individual and informal approaches. As such, their *attitude toward formal practices* becomes more negative, which ultimately discourages their decision to adopt formal stress prevention practices. Regarding MSE managers' *attitude toward external support* (proposition 1b), our data suggest that perceiving greater degrees of individual relationships makes MSE managers reluctant to accept external support, as they believe that they know best what their employees need. In contrast, MSE managers who perceive greater degrees of family-like relationships appreciate the neutrality of an external provider, as they are hesitant to take on the formal role of dictating to their employees how to behave. As such, these perceptions shape MSE managers' *attitude toward external support* both positively and negatively, which, in turn, influences their adoption decision. Finally, with regard to their *attitude toward work stress* (proposition 1c), we observe that MSE managers who perceive higher degrees of family-like relationships feel comfortable discussing the personal topic of work stress with their employees, as they are

already familiar with talking about private and sensitive topics with each other. Similarly, perceiving greater degrees of family-like relationships makes MSE managers aware of their responsibility as an employer due to a greater duty to care for their employees' well-being. Thus, MSE managers' *attitude toward work stress* becomes more positive, which fosters their decision to adopt formal stress prevention practices.

Second, we observe that MSE managers' *perceived expertise in stress prevention* influences their decision to adopt formal stress prevention practices by shaping MSE managers' attitudes. Concerning their *attitude toward formal practices* (proposition 2a), our data suggest that MSE managers who perceive their level of professional knowledge as high regard formal stress prevention practices as useful for retaining and attracting employees and fulfilling legal obligations, as they know of and value these additional benefits. As such, their *attitude toward formal practices* becomes more positive, which, in turn, fosters their adoption decision. Regarding their *attitude toward external support* (proposition 2b), we observe that MSE managers who perceive their level of professional knowledge as high are also more prone to accepting external support, as they acknowledge the limits of their expertise. Thus, their *attitude toward external support* becomes more positive, which promotes their adoption decision. Finally, regarding their *attitude toward work stress* (proposition 2c), we observe that MSE managers who perceive their level of personal experience as high are aware of the health risks associated with work stress, as they have observed the consequences of work stress among themselves or others. Similarly, perceptions of high levels of personal experience make MSE managers more comfortable discussing the topic of work stress with their employees, as their prior contact with mental health conditions helps them overcome potential sensitivity concerns. Moreover, perceiving their level of personal experience as high makes MSE managers acknowledge the manageability of work stress, as they have previously experienced effective

strategies. As such, MSE managers' *attitude toward work stress* becomes more positive, which fosters their decision to adopt formal stress prevention practices.

In our theoretical model, we position MSE managers' attitudes as mediators, as our data suggest that MSE managers' perceived closeness with employees and perceived expertise in stress prevention shape their attitudes toward formal practices, external support, and work stress. In turn, positive attitudes foster MSE managers' decision to adopt formal stress prevention practices, while negative attitudes discourage their adoption decision. The positioning of attitudes as mediators between more distal perceptions related to the attitude's target and the decision to conduct a certain behavior is consistent with prior theory (Howe & Krosnick, 2017; Shepherd et al., 2015). Representing summary evaluations of objects of thought (Ajzen, 2001; Bohner & Dickel, 2011), attitudes are dispositions to respond favorably (or unfavorably) in a decision situation (Ajzen, 1988). Consequently, attitude changes are associated with behavior changes (Kim & Hunter, 1993). That is, individuals whose attitude toward an object becomes more positive are more likely to decide to engage in behaviors toward the focal object (Ng & Feldmann, 2010). Empirical evidence supports and explains such mediation by theorizing that individuals' perceptions of themselves and their environment shape their attitudes by increasing awareness of the benefits, feasibility, or importance of a decision and its expected outcomes, which ultimately influences their decision-making (Ertz et al., 2016; Hock et al., 2020; Kautonen et al., 2011). Combining our data-based observations with these theoretical considerations, we propose the following:

> ***Proposition 1:*** *MSE managers' attitudes toward (a) formal practices, (b) external support, and (c) work stress mediate the relationship between their perceived closeness with employees and their decision to adopt formal stress prevention practices.*
>
> ***Proposition 2:*** *MSE managers' attitudes toward (a) formal practices, (b) external support, and (c) work stress mediate the relationship between their perceived expertise in stress prevention and their decision to adopt formal stress prevention practices.*

In addition, our data suggest that MSE managers' *perceived employee buy-in* is a boundary condition of the relationship between the three attitudes and the decision to adopt formal stress prevention practices (proposition 3)[1]. That is, we observe that some MSE managers ultimately decided against the adoption of formal stress prevention practices even though they held positive attitudes toward formal practices, external support, and work stress. They explained their decision against adoption based on the perception that their employees would be reluctant to engage with the topic of work stress and unwilling to participate in formal practices. In other words, their originally favorable disposition toward adopting formal stress prevention practices in their MSEs was mitigated by the perception of low buy-in from their employees. In contrast, we observe that MSE managers who hold positive attitudes are even more prone to decide to adopt formal stress prevention practices when they perceive their employee buy-in as high.

In our theoretical model, we position MSE managers' perceived employee buy-in as a moderator, as our data indicate that the positive influence of MSE managers' attitudes on their adoption decision is mitigated (strengthened) when MSE managers perceive low (high) levels of employee buy-in. The positioning of perceptions as moderators is consistent with the theoretical notion that the relation between attitudes and behavior can be inconsistent, as it may depend on factors external to an individual (Glasman & Albarracín, 2006). Generally, attitudes predict behavior and decision-making better in *weak* situations, which are characterized by limited social pressure and difficulty (Wallace et al., 2005). In contrast, perceptions of low employee buy-in represent a *strong* situation, which constrains MSE managers' decision-

[1] One could argue that MSE managers' perception of employee buy-in reflects their own attitudes, in that they perceive employee buy-in as low if they hold negative attitudes themselves and vice versa. Given that our observations and theorizing suggest that MSE managers can perceive low employee buy-in despite their own positive attitudes, the above argument does not apply to MSE managers with positive attitudes. As we do not observe MSE managers perceiving high employee buy-in despite their own negative attitudes, we cannot rule out that the argument may hold for MSE managers with negative attitudes. However, as none of the MSE managers overtly admitted that their own negative attitudes may impact their perception of employee buy-in, we cannot explore this assumption based on our data. Thus, we call for future research to explore the relationship between managers' attitudes and their perceptions of employee buy-in further.

making through external pressure to follow an appropriate response pattern (i.e., not to adopt formal stress prevention practices). Prior research also emphasizes the importance of boundary conditions when examining the influence of attitudes on adoption decisions (Blut et al., 2021; Kroenung & Eckhardt, 2015). In particular, empirical evidence shows that individuals' perceptions of how easy or difficult it is for them to execute a certain behavior moderate the relationship between attitudes and decision-making (Conner et al., 2007; Ho et al., 2022). That is, the positive influence of evaluating the outcome of a decision as favorable (i.e., having a positive attitude) on decision-making decreases if individuals perceive the outcome of a decision as difficult to control. Following extant theory and our data, we therefore propose the following:

> ***Proposition 3:*** *MSE managers' perceived employee buy-in moderates the relationship between their attitudes toward (a) formal practices, (b) external support, and (c) work stress and their decision to adopt formal stress prevention practices.*

5 Discussion

The present paper explores the attitudes and perceptions driving and the process underlying MSE managers' decision to adopt formal stress prevention practices for their employees. Our newly developed theoretical model shows that MSE managers' perceived closeness with employees and perceived expertise in stress prevention are distal determinants of their adoption decision. In addition, we differentiate between MSE managers' attitudes toward formal practices, external support, and work stress and identify these attitudes as mediators of the relationships between MSE managers' perceptions and adoption decision. Finally, our model depicts MSE managers' perceived employee buy-in as a boundary condition of the relationships between their attitudes and decision to adopt formal stress prevention practices. Next, we discuss the theoretical contributions and practical implications of our paper in more detail.

5.1 Theoretical Implications

Our study advances prior research on MSE managers' experience with managing work stress and its consequences (e.g., Dawkins et al., 2018; Suter et al., 2023). That is, we contribute to prior findings that managers' personal mental health issues or recent experience of stressful work incidents drive their decision to adopt practices aimed at preventing *their own work stress* in smaller enterprises (Dawkins et al., 2018; Martin et al., 2020). Specifically, our differentiation of attitudes sheds light on what MSE managers contemplate when deciding to adopt formal practices to prevent *their employees' work stress*. That is, while the findings of Dawkins et al. (2018) already indicate that the evaluation of the content of the practice matters (i.e., their attitude toward work stress), our study advances this conversation by showing that MSE managers' attitudes toward formal practices and external support are also relevant. In addition, we advance research on MSE managers' experience with managing employees with mental health conditions (Irvine & Suter, 2023; Suter et al., 2023). That is, we illustrate how the experience of *dealing* with these potential worst-case consequences of employee work stress (i.e., their personal experience) is inevitably linked to the decision to adopt formal practices to *prevent* employee work stress. To explore this link further, we call for future research to also investigate whether the actual adoption of formal stress prevention practices influences MSE managers' approach to managing employees' mental health conditions.

Our study also contributes to the ongoing debate on how closeness between MSE managers and employees influences MSE managers' role as employers (e.g., Harney et al., 2022; Kroon & Paauwe, 2021) by proposing an ambivalent relationship through MSE managers' underlying attitudes. On the one hand, our theoretical model explains prior findings that closeness fosters a preference for informal approaches to managing employees among managers in smaller enterprises (Kroon & Paauwe, 2021; Suter et al., 2023), as we illuminate that MSE managers' perceived closeness (i.e., individual relationships) negatively shapes their attitudes toward

formal practices and external support. On the other hand, we expand the current knowledge by proposing that, in the context of the sensitive topic of stress prevention, perceived closeness (i.e., family-like relationships) can also foster the adoption of formal practices by positively shaping MSE managers' attitudes toward external support and work stress. As such, future research needs to take into account and differentiate MSE managers' underlying attitudes and perceptions, as different attitudes may explain the different influences of closeness on MSE managers' decision to manage their employees' needs formally. Given this ambivalence, we also encourage future research to more deeply probe the potential contextual factors under which the respective positive or negative influences on MSE managers' adoption decision are more or less pronounced.

Finally, our study contributes to research on MSE managers' role as employers by advancing the notion that MSE managers are the central gatekeepers in their enterprises (Harney et al., 2022; Shepherd et al., 2015). By exploring MSE managers' decision to adopt formal stress prevention practices, we illustrate that MSE managers also consider their perceptions of how their employees may react to their decision. These insights add to extant research, which has mainly considered employees' perspectives directly or focused on managers' perceptions of formal practices or relationships with their employees in smaller enterprises in isolation (Harney & Alkhalaf, 2020; Harney et al., 2022; Wikhamn et al., 2022). However, if the respective formal practice concerns a sensitive, interpersonal topic such as work stress and well-being, future research needs to consider that MSE managers also think about what their employees think. In particular, it is important to take into account that perceptions of low employee buy-in may be a potential deal breaker for MSE managers' adoption decision, even if their personal attitudes are positive. Given that our data are limited to the perspective of MSE managers, it will be insightful to study whether MSE managers' perceived employee buy-in corresponds with employees' actual reception of their employers' decision.

5.2 Practical Implications

Our research has practical implications for the B2B relationship between external providers of formal stress prevention practices (e.g., private or health insurance providers and occupational health and safety agencies) and MSE managers as their customers. Our recommendations focus particularly on how to increase MSE managers' perceptions of expertise in stress prevention, as we expect that it is difficult for external providers to influence MSE managers' perceived closeness with employees. Following our theoretical model, we specifically consider how the recommended strategies shape MSE managers' attitudes to ultimately foster their adoption decision. First, we recommend specific courses for MSE managers to shape their attitude toward work stress. In these courses, we suggest discussing concrete cases of how work stress impacts MSEs and employees to increase awareness of the severity of the consequences of work stress and associated health risks. Given the limited time of MSE managers, we also recommend offering these courses at a low threshold, for example, as on-demand online courses or by integrating modules into more general programs on MSE management or industry-specific issues.

Second, we recommend that external providers emphasize the beneficial outcomes of formal stress prevention practices for MSE managers to foster their attitude toward formal practices. As such, we suggest that external providers not only emphasize the direct objectives of formal stress prevention practices (e.g., preventing work stress and complying with labor laws). Even more importantly, they should emphasize the additional benefits of formal practices for employers (e.g., increasing employer attractiveness and employee motivation and retention), which are particularly valuable for industries that face skilled labor shortages. As our data suggest that MSE managers are particularly prone to listen to their peers, we recommend working with testimonials of MSE managers who successfully adopted formal stress prevention practices and are willing to share their experiences.

Third, we recommend that external providers consider their own role as external parties in their B2B relationship with MSE managers to positively shape MSE managers' attitude toward external support. When approaching and interacting with MSE managers, external providers should anticipate initial skepticism toward them. Thus, it will be helpful to highlight their neutrality and expertise with regard to the complex and sensitive topic of work stress as well as their experience working with MSEs. As such, we expect external providers to improve their reputation, establish trust and acceptance, and spur recommendations among MSE managers.

Finally, our findings suggest that MSE managers rarely contemplate adopting formal stress prevention practices proactively or reach out to external providers for support. Hence, it is important that external providers take initiative and identify occasions when MSE managers have the resources to learn about the benefits of formal stress prevention. As MSE managers will be less receptive during their daily business, we recommend personal encounters or events (e.g., industry networking events, fairs) as a more promising approach to advertise the value of formal stress prevention practices. In addition, it is crucial to educate MSE managers about formal stress prevention practices at an early career stage. We therefore recommend that external providers cooperate with organizations that advise and support MSE managers in founding and managing an enterprise (e.g., start-up centers, chambers of industry and commerce) to include the topic of stress prevention in their portfolio.

5.3 Limitations and Implications for Future Research

Our study has several limitations that have implications for future research. Our research methodology limits the generalizability of our findings. Even though we proactively sampled adopters and non-adopters, we were unable to sample certain types of employers among MSE managers, such as those who are particularly negligent toward their employees (Kroon & Paauwe, 2021). We also acknowledge a potential bias toward MSE managers who are generally

open to discussing the topic of work stress in our interviews. Moreover, as our analysis focused on exploring the attitudes and perceptions underlying MSE managers' adoption decision, we did not consider additional differences between MSE managers in our theoretical model. Thus, we call for future research to take into account the heterogeneity of MSE managers and examine, for example, whether our theory differs for male and female MSE managers or for MSE managers who employ family members. Similarly, with regard to the heterogeneity of MSE managers, we acknowledge that our sample includes primarily owner-managers. We do not deem this to be a concern since we did not observe any notable differences between owner-managers and hired managers in our sample and it is typical for German MSEs that ownership and management go hand in hand (Pahnke et al., 2023). However, we encourage future research to delve deeper into the question of whether ownership plays a role in MSE managers' decision to adopt stress prevention practices for their employees.

Furthermore, it is important to note that we collected our data before the COVID-19 pandemic, which increased employee work stress as well as overall awareness of its detrimental consequences (N. Ahmed et al., 2023). Although we expect that our model sufficiently reflects the potential influences of the pandemic (i.e., contact restrictions will have influenced perceived closeness with employees; exposure to mental illness will have influenced perceived expertise in stress prevention), we nevertheless call for future research to confirm this assumption. In addition, our findings do not allow for any inferences regarding causality, which is why future research with alternative methodologies (e.g., longitudinal or experimental data) is necessary to refine and validate the proposed directions of the relationships in our theoretical model. Finally, our findings are limited to the attitudes and perceptions of MSE managers. While their perspective is most important when researching the decision to adopt formal stress prevention practices in MSEs, we encourage future research to consider additional stakeholders

that potentially influence MSE managers' adoption decision. These stakeholders include not only employees but also additional parties (e.g., investors, family, and friends).

6 Conclusion

Given the low adoption rate of formal stress prevention practices in MSEs despite evidence of their relevance and effectiveness, we explored the attitudes and perceptions driving and the process underlying MSE managers' decision to adopt formal stress prevention practices for their employees. Based on 24 interviews with MSE managers, we inductively extracted six attitudes and perceptions and developed a theoretical model to explain MSE managers' adoption decision. Our insights advance ongoing debates on MSE managers' experience with managing work stress and their role as employers. In addition, we offer concrete recommendations to external providers of formal stress prevention practices on how to address MSE managers as customers and promote the adoption of formal stress prevention practices.

7 Funding

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C Study 2: Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship

1 Introduction

As entrepreneurship has the potential to benefit individuals, the economy, and wider society, explaining its outcomes, such as performance, innovation, or job creation, is at the core of entrepreneurship research (Shepherd et al., 2019). Recently, *entrepreneurs' well-being*, defined as their mental state of feeling well and functioning effectively (Ryan & Deci, 2001), has emerged as an increasingly relevant outcome of entrepreneurship (U. Stephan et al., 2023; Wiklund et al., 2019). Reaching high levels of well-being through entrepreneurial work is not only a desirable outcome of the work itself, but also benefits entrepreneurs' health and their individual and business performance (e.g., U. Stephan, 2018; U. Stephan et al., 2023). Given these far-reaching consequences, entrepreneurship research needs to consider environments that allow entrepreneurs to learn skills that protect their well-being.

Hybrid entrepreneurship is a unique environment for individuals to learn before committing to entrepreneurship fully (Folta et al., 2010). That is, by starting a new business while keeping their wage-job, hybrid entrepreneurs can learn from experiencing entrepreneurial work and reduce entrepreneurship-related uncertainty before switching to full entrepreneurship (Benitez et al., 2023; Ferreira, 2020; Folta et al., 2010). Raffiee and Feng (2014) draw on this theorizing to suggest that businesses that were initially founded by hybrid entrepreneurs survive longer than businesses founded by individuals who directly gave up their wage-job to enter full entrepreneurship (i.e., direct entrants). Thus, following prior theorizing that hybrid entrepreneurship provides an environment to learn, one *could* argue that hybrid entrepreneurs can also learn skills during hybrid entrepreneurship that protect their well-being in subsequent full entrepreneurship.

However, insights from two relevant literature streams suggest that learning during hybrid entrepreneurship may be more complex than previously acknowledged. We know from entrepreneurial learning theory that learning from experiences does not happen automatically but requires entrepreneurs' ability to *transform experiences into skills* (Funken et al., 2020; Politis, 2005; Winkler et al., 2021). Moreover, we know from the role conflict literature that interfering *role demands* can constrain individuals' ability to fulfill their role as entrepreneurs (Anglin et al., 2022; Hsu et al., 2016; Nambisan & Baron, 2021), which is particularly relevant to hybrid entrepreneurs who fulfill multiple roles (Carr et al., 2023). However, current theorizing on learning during hybrid entrepreneurship rarely takes these complexities into account and therefore explains only partially the circumstances under which entrepreneurs' well-being in full entrepreneurship benefits from a preceding phase in hybrid entrepreneurship.

To fill this gap in the literature, we engage in theory elaboration (Fisher & Aguinis, 2017). That is, we use existing knowledge from entrepreneurial learning theory and role conflict theory to refine current theorizing on learning during hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014). In doing so, we examine whether demands from roles outside entrepreneurship moderate the relationship between a preceding phase in hybrid entrepreneurship (t-1) and entrepreneurs' well-being in subsequent full entrepreneurship (t). We argue that interfering role demands from hybrid entrepreneurs' wage-jobs and private lives constrain their ability to transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship. Regarding their wage-jobs, we focus on *rigid hours in the wage-job* as demands that constrain hybrid entrepreneurs' ability to transform experiences into skills by creating tension and limiting control over how many hours they work in their wage-jobs. Regarding the demands from hybrid entrepreneurs' private lives, we focus on the unpredictability and burden of *caring responsibilities* that constrain their ability to transform experiences into skills. Finally, research on work-family conflict in

entrepreneurship suggests that the interference of role demands depends on individuals' role salience, which is often related to traditional gender norms (Ahl, 2006; Bem, 1981; Hsu et al., 2016). Consistent with this literature, we argue that the moderating effect of rigid hours in the wage-job particularly applies to male hybrid entrepreneurs, while the moderating effect of caring responsibilities particularly applies to female hybrid entrepreneurs.

To assess our hypotheses empirically, we draw on data from the United Kingdom Household Longitudinal Survey *Understanding Society,* which provides information on households annually from 1991 until 2019. This panel data set contains data on individuals' well-being and employment spells, including individuals' employment in their main job and any second jobs. In addition to applying weights generated by Coarsened Exact Matching in our linear regression analyses, we apply a Heckman Selection Model in a robustness check to address potential selection effects. Moreover, we test the robustness of our results when using entrepreneurs' strain and life satisfaction as alternative measures of well-being. We also assess the wider implications of our argumentation by employing an individual-fixed effects panel estimator in a post hoc test.

By elaborating on current theorizing on learning during hybrid entrepreneurship, our study contributes to entrepreneurship research in three ways. First, we contribute to the conversation on outcomes of hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014). We refine the perspective of hybrid entrepreneurship as a mainly beneficial learning environment (Folta et al., 2010; Raffiee & Feng, 2014) by untangling the underlying learning mechanism and by accounting for the interference of role demands from hybrid entrepreneurs' wage-jobs and private lives (Campion et al., 2020; Greenhaus & Beutell, 1985; Hsu et al., 2016). In doing so, we highlight the need for hybrid entrepreneurship research to take into account the heterogeneity of hybrid entrepreneurs' role demands when examining the impact of a preceding phase in hybrid entrepreneurship on entrepreneurial outcomes. Moreover, by introducing

circumstances outside entrepreneurship as learning constraints, our study may help to explain why prior research does not find that individuals' cognitive ability strengthens the relationship between hybrid entrepreneurship and subsequent business survival (Raffiee & Feng, 2014).

Second, we contribute to the growing literature on entrepreneurs' well-being (e.g., U. Stephan, 2018; U. Stephan et al., 2023) by considering the relationship between a *preceding* phase in hybrid entrepreneurship and entrepreneurs' well-being in *subsequent* full entrepreneurship. Thus, we expand Shir and Ryff (2021) dynamic perspective on the interdependencies between entrepreneurs' actions and their well-being across time. While Shir and Ryff (2021) argue in their conceptual study that entrepreneurs' well-being affects their current and subsequent actions, our study shows that the opposite is also true, as under certain circumstances entrepreneurs' actions and experiences before entering full entrepreneurship can affect their subsequent well-being. Therefore, to account for entrepreneurs' well-being more fully, studies should consider whether individuals entered full entrepreneurship via hybrid entrepreneurship or directly, *along with* their role demands outside entrepreneurship.

Third, we contribute to entrepreneurship research on gender differences and role conflict (e.g., Hsu et al., 2016; Jennings & McDougald, 2007; Powell & Eddleston, 2013). Prior studies suggest that demands from the private life interfere more strongly with female entrepreneurs' work than with male entrepreneurs' work (Hsu et al., 2016; Jennings & McDougald, 2007). In addition to using these insights to refine current theorizing on learning during hybrid entrepreneurship, we introduce the role conflict between entrepreneurial work and the wage-job as interfering for *male* hybrid entrepreneurs. Based on our insights, we echo Folta et al. (2010) in calling for more research on gender differences in hybrid entrepreneurship.

2 Theory and Hypotheses

2.1 Entrepreneurship and Well-being

Well-being is an important outcome variable in entrepreneurship research (U. Stephan et al., 2023; Wiklund et al., 2019). Entrepreneurs with high levels of well-being tend to be happy, satisfied, and well-functioning, which increases their performance and persistence (Patel & Wolfe, 2019; U. Stephan, 2018). In contrast, low levels of well-being often impair entrepreneurs' mental and physical health and increase absenteeism and presentism (Cardon & Patel, 2015; Cocker et al., 2013; Lerman et al., 2020), all of which negatively affect business performance (U. Stephan, 2018). Central threats to entrepreneurs' well-being are challenges that are associated with running a business, including working in an uncertain and ambiguous environment, working alone or for long hours, and financial insecurity (Fernet et al., 2016; Lerman et al., 2020; Schonfeld & Mazzola, 2015). Entrepreneurs are likely to feel stressed in response to these challenges, which can manifest in a variety of physical and emotional reactions, such as feeling worthless, worrying, or having difficulty sleeping (Lerman et al., 2020; U. Stephan, 2018). Thus, being able to run their own business and to cope with feeling stressed are essential skills that entrepreneurs need to learn to protect their well-being in full entrepreneurship (A. E. Ahmed et al., 2022; U. Stephan et al., 2022; Williamson et al., 2021).

2.2 Current Theorizing on Learning during Hybrid Entrepreneurship

Hybrid entrepreneurship attracts increasing attention in entrepreneurship research (e.g., Benitez et al., 2023; Carr et al., 2023; Schulz et al., 2021). Next to examining the drivers and characteristics of hybrid entrepreneurs (e.g., Folta et al., 2010; Pollack et al., 2019), studies suggest that individuals choose hybrid entrepreneurship as a learning environment to test entrepreneurial work before committing to it fully (Ferreira, 2020; Gänser-Stickler et al., 2022; Raffiee & Feng, 2014). Prior research argues that keeping their wage-jobs provides hybrid

entrepreneurs with the security of a back-up income and a lower downside potential if their businesses fail (Gänser-Stickler et al., 2022). As such, individuals can use their phase in hybrid entrepreneurship to experience entrepreneurial work and learn relevant information about the value of their business idea, the necessary skills to work as an entrepreneur, and about their personal fit (Folta et al., 2010; Raffiee & Feng, 2014). In line with this theorizing on learning during hybrid entrepreneurship, Raffiee and Feng (2014) find that entering full entrepreneurship via hybrid entrepreneurship (compared to direct entry) decreases the risk of business failure. They also suggest that hybrid entrepreneurs' individual characteristics, such as cognitive ability and prior entrepreneurial experience, can strengthen the beneficial learning effect of hybrid entrepreneurship.

Thus, current theorizing on learning during hybrid entrepreneurship would suggest that hybrid entrepreneurs can also learn skills that will help them to protect their well-being in full entrepreneurship. Consistently, one *could argue* that a preceding phase in hybrid entrepreneurship has a positive effect on entrepreneurs' subsequent well-being. However, first empirical evidence indicates that the relationship between hybrid entrepreneurship and entrepreneurs' well-being in full entrepreneurship is not as straightforward as current theorizing on learning during hybrid entrepreneurship would suggest. That is, Ardianti et al. (2022) find that switching from hybrid entrepreneurship to full entrepreneurship increases individuals' well-being, but they do not observe a change in well-being among direct entrants. In contrast, M. Stephan et al. (2023) find no significant changes in either hybrid entrants' or direct entrants' well-being when they switch to full entrepreneurship. Moreover, as both studies are mainly empirically driven, their focus is not on developing detailed theory.[2]

[2] Both studies compare individuals who switch to full entrepreneurship with those who either remain in hybrid entrepreneurship or remain employed (Ardianti et al., 2022; M. Stephan et al., 2023). As such, these studies are limited in showing whether entrepreneurs' well-being in full entrepreneurship differs depending on whether they entered through hybrid entrepreneurship or directly, which is the focus of the present study.

Based on the above discussion, we conclude that current theorizing on learning during hybrid entrepreneurship explains only partially hybrid entrepreneurship's impact on entrepreneurs' well-being in full entrepreneurship. To address this shortcoming, we engage in theory elaboration. That is, we "use existing theory [on learning during hybrid entrepreneurship] as a basis for moving from a direct and linear relationship to moderation […] and unpack the mechanisms driving known relations" (Fisher & Aguinis, 2017, p. 448). Theory elaboration differs from theory generation (i.e., inductively exploring *new theory*) and theory testing (i.e., testing hypotheses derived from *extant theory*) in that theory elaboration structures specific relations to *refine existing theory* so that it "more accurately accounts for contextual factors, constructs, and/or relationships" (Fisher & Aguinis, 2017, p. 442). Referring to the present study, this means that we structure the specific relationship between a preceding phase in hybrid entrepreneurship and well-being in subsequent full entrepreneurship in three ways. First, we use insights from entrepreneurial learning theory (Kolb, 1984; Politis, 2005) to explain more accurately that learning skills (during hybrid entrepreneurship) that protect individuals' well-being in full entrepreneurship requires hybrid entrepreneurs to be able to transform their experiences of running their own business and coping with feeling stressed into such skills. Second, we use insights from role conflict research to argue that demands from roles outside entrepreneurship can interfere with hybrid entrepreneurs' ability to transform experiences into skills (Anglin et al., 2022; Carr et al., 2023; Hsu et al., 2016). Third, we follow prior research on role salience to elaborate on how the interference of role demands differs for male and female hybrid entrepreneurs (Ahl, 2006; Anglin et al., 2022; Hsu et al., 2016).

2.3 Learning Skills during Hybrid Entrepreneurship that Protect Well-being in Full Entrepreneurship

Entrepreneurial learning theory highlights that the sole experience of entrepreneurship is not enough for entrepreneurs to learn new skills (Kolb, 1984; Politis, 2005). Instead, learning from experiences requires the ability to transform experiences into skills, that is, the ability to engage in the process of observing and reflecting on one's behavior to assess whether one has achieved a desired outcome and potential alternative actions (Funken et al., 2020; Winkler et al., 2021). Following these insights, hybrid entrepreneurs can learn skills that protect their well-being in full entrepreneurship as long as they are able to transform their experiences of running their own business and coping with feeling stressed into such skills during hybrid entrepreneurship. That is, by engaging in entrepreneurial work, hybrid entrepreneurs experience what does and does not work well in running their business to improve daily business operations and reduce potential sources of stress (Schonfeld & Mazzola, 2015). Similarly, they can experience feeling stressed and how detaching and recovering from a stressful situation prevents performance- and health-related consequences of entrepreneurial stress (A. E. Ahmed et al., 2022; N. Ahmed et al., 2023; Eager et al., 2019; Wach et al., 2020). However, only if hybrid entrepreneurs are able to observe and reflect on their behavior and its outcomes, they are able to transform these experiences into skills (i.e., how to run their own business and cope with feeling stressed), which they can rely on to protect their well-being when they enter full entrepreneurship.

The following example illustrates how hybrid entrepreneurs can transform their experiences of running their own business and coping with feeling stressed into skills during hybrid entrepreneurship and how these skills benefit their well-being in full entrepreneurship. When starting a business in hybrid entrepreneurship, hybrid entrepreneurs may receive negative client feedback. As an initial response, they may engage with the client to understand their feedback better. When reflecting on this behavior, they may acknowledge that their exchange with the

client generated valuable ideas for improving their product. Thus, hybrid entrepreneurs transform their experience of running their own business into skills that help them to reduce critical sources of stress (e.g., malfunctioning products or unhappy clients). Similarly, hybrid entrepreneurs may feel stressed because of the client's complaint. When considering taking a day off to unwind, they may realize that doing so would take too much time away from the business. Alternatively, they may engage in a meditation exercise or go for a run to cope with feeling stressed. When reflecting on the outcomes of their behavior, they may acknowledge that these alternative strategies helped them to refocus and ensured that the negative feedback did not overshadow their following workdays. Thus, they transform their experience of coping with feeling stressed into skills that help them to reduce the negative consequences of stress. If they eventually switch to full entrepreneurship and encounter similar situations, they can rely on these skills to protect their well-being.

In sum, insights from entrepreneurial learning theory help to refine prior theorizing on learning during hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014) by highlighting that a preceding phase in hybrid entrepreneurship does not automatically benefit well-being in subsequent full entrepreneurship. Instead, a positive relationship between hybrid entrepreneurship and subsequent well-being in full entrepreneurship requires hybrid entrepreneurs' ability to transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship. Given that such a transformation is demanding and likely to be context-dependent, it is important to consider boundary conditions that may constrain hybrid entrepreneurs' ability to transform experiences into skills to examine the relationship between hybrid entrepreneurship and subsequent well-being in more depth. Thus, we refrain from hypothesizing a direct effect and focus on examining the circumstances under which entrepreneurs' well-being benefits from a preceding phase in hybrid entrepreneurship.

2.4 Interfering Role Demands Outside Entrepreneurship

Extant theory on role conflict highlights that demands from other roles can interfere with entrepreneurs' ability to execute their role as entrepreneurs (Carr et al., 2023; Jennings & McDougald, 2007; Nambisan & Baron, 2021), particularly when the role demands constrain the resources required to fulfill the entrepreneurial role, such as cognitive resources, energy, or time (Greenhaus & Beutell, 1985; Hetrick et al., 2023). Similarly, the emotions and strain that individuals feel in one role can spill over to other roles (Greenhaus & Beutell, 1985). In turn, increased strain due to interfering demands from one role can make it difficult for entrepreneurs to engage in activities in their entrepreneurial role, which, ultimately, impairs their role performance and engagement (Hsu et al., 2016; Jennings & McDougald, 2007; Shelton, 2006).

Given these insights into the consequences of interference from other roles, demands from hybrid entrepreneurs' roles outside entrepreneurship are likely to interfere with them learning the skills that will help them to protect their well-being in full entrepreneurship. That is, interfering role demands may constrain the resources and energy hybrid entrepreneurs need to observe and reflect on how they run their own business and cope with feeling stressed, thus, interfering with their transformation of experiences into skills. Therefore, it is important to take into account the role demands hybrid entrepreneurs face outside entrepreneurship and their potential to interfere with learning during hybrid entrepreneurship. To this end, we consider demands from two central roles of a hybrid entrepreneur outside entrepreneurship: the role as a wage-employee and the role as a private person (Campion et al., 2020; Carr et al., 2023; Powell & Greenhaus, 2010).

Recently, Carr et al. (2023) introduced the notion of role conflict to the literature on hybrid entrepreneurship. By highlighting that the interference of wage-job demands with the role as entrepreneurs is unique to hybrid entrepreneurs, the authors advance research that

predominantly views hybrid entrepreneurs' wage-job as a source of security and income (Folta et al., 2010; Raffiee & Feng, 2014). In this regard, studies suggest that demands from hybrid entrepreneurs' wage-jobs and entrepreneurial work can also conflict with each other (Carr et al., 2023; Mmbaga et al., 2023). The present study focuses on the interfering demands due to rigid hours in the wage-job, that is, the degree to which individuals are limited in determining how many hours they work in their wage-job.

We argue that higher degrees of rigid hours in the wage-job constrain hybrid entrepreneurs' ability to transform experiences into skills that protect their well-being in full entrepreneurship for two reasons. First, we argue that greater degrees of rigid hours in the wage-job create tension among hybrid entrepreneurs, as prior research shows that more intense wage-job demands increase tension between their entrepreneurial work and wage-job (Mmbaga et al., 2023). Similarly, research suggests that hybrid entrepreneurs report more strain compared to individuals who engage in either full entrepreneurship or hold only one wage-job (Ardianti et al., 2022). In support of this argument, studies show that increased strain can be detrimental to learning (Kubicek et al., 2023; LePine et al., 2004). Second, we argue that greater degrees of rigid hours in the wage-job limit hybrid entrepreneurs' control over how they schedule their work and work hours, which are important resources to reduce role conflict (Allen et al., 2013; Jennings & McDougald, 2007; Noe et al., 2014). Thus, by increasing tension and limiting control, greater degrees of rigid hours in the wage-job constrain hybrid entrepreneurs' ability to transform their experiences of running their own business and coping with feeling stressed into skills. As a result, hybrid entrepreneurs are less able to learn skills that protect their well-being in full entrepreneurship despite their experiences during hybrid entrepreneurship. In comparison, hybrid entrepreneurs who have more freedom to determine their working hours in their wage-jobs face less interference from their role as wage-employees and are more able to

transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship. Therefore, we hypothesize:

> *Hypothesis 1: Greater degrees of rigid hours in hybrid entrepreneurs' wage-job negatively moderate the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being.*

Regarding interfering role demands from hybrid entrepreneurs' private lives, we use extant research on the conflict between work and family demands (Anglin et al., 2022; Casper et al., 2018). While research that focuses on entrepreneurs' interference from family-related demands is limited (Kelliher et al., 2019), some studies suggest that such interference can, for example, limit business growth or increase entrepreneurs' intention to quit (Hsu et al., 2016; Jennings & McDougald, 2007; Shelton, 2006). The present study focuses on caring responsibilities as an interfering role demand from hybrid entrepreneurs' private lives, referring to the responsibility to provide informal, unpaid care for children, elderly individuals, or individuals with chronic illnesses or disabilities (Kelliher et al., 2019).

We argue that caring responsibilities constrain hybrid entrepreneurs' ability to transform their experiences into skills for two reasons. First, we argue that caring responsibilities require caregivers to react flexibly to dependents' needs. That is, caring responsibilities involve unexpected and short-term demands, such as picking up a sick child from school or accompanying an elderly parent to medical appointments (Clancy et al., 2020; Lam et al., 2022; U. Schneider et al., 2013). Second, while caring for children and others can be fulfilling (Gatrell et al., 2013), it can also be emotionally overwhelming (Spann et al., 2020). Worrying and feeling responsible for others' welfare is likely to be stressful itself, leading to feeling overburdened and exhausted (Gérain & Zech, 2021; Lam et al., 2022; Zacher & Winter, 2011). Therefore, both the unpredictability and burden of caring responsibilities are likely to constrain hybrid entrepreneurs' ability to transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship. As

a result, hybrid entrepreneurs with caring responsibilities are less likely to learn such skills compared to hybrid entrepreneurs without caring responsibilities. Therefore, we hypothesize:

> *Hypothesis 2: Hybrid entrepreneurs' caring responsibilities negatively moderate the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being.*

2.5 Gender Differences

Finally, we use existing research that suggests that the interference of role demands outside entrepreneurship differs for male and female entrepreneurs (Hsu et al., 2016; Jennings & McDougald, 2007; Shelton, 2006) to argue that interfering demands from the wage-job or private life constrain male and female hybrid entrepreneurs' ability to transform experiences into skills differently. We base our argumentation on research that shows that traditional gender norms – that is, shared beliefs about what behavior is appropriate for a man or a woman (Eagly & Wood, 2016) – determine the roles that men and women find to be particularly salient to themselves (Anglin et al., 2022).

Given that traditional gender roles portray women as loyal, sensitive caregivers (Ahl, 2006; Eddleston & Powell, 2012), we argue that female hybrid entrepreneurs are likely to see their family-related roles as particularly salient. Such family-related role salience, in turn, determines the extent to which family demands from the private life affect female hybrid entrepreneurs (Anglin et al., 2022; Jennings & McDougald, 2007). Supporting this argumentation, research finds that female entrepreneurs are more likely to exit entrepreneurship due to interfering demands from their family-related roles than male entrepreneurs (Hsu et al., 2016). In addition, Jennings and McDougald (2007) argue that female entrepreneurs are more likely than male entrepreneurs to manage role conflict with strategies that prioritize their family demands at the cost of their entrepreneurial work. Consistent with this literature, we argue that caring responsibilities particularly constrain *female* hybrid

entrepreneurs' ability to transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship.

Due to the unique role conflict between the two work-related roles as entrepreneur and wage-employee for hybrid entrepreneurs (Carr et al., 2023), the wider entrepreneurship literature, to date, hardly provides any insights into gender differences regarding the interference of wage-job demands with entrepreneurial work. Moreover, research outside entrepreneurship also rarely considers gender differences in role conflicts beyond the traditional work-family conflict (Campion et al., 2020; Kelliher et al., 2019). Yet, the traditional portrayal of men as independent, ambitious providers (Ahl, 2006; Hsu et al., 2016), as well as studies showing that men tend to place more value on their work-related role than women (Anglin et al., 2022; Reichl et al., 2014; Shockley et al., 2017), suggest that male hybrid entrepreneurs have a particularly high wage-job-related role salience. In turn, interfering role demands from their wage-job are likely to particularly constrain male hybrid entrepreneurs' ability to fulfill their role as entrepreneurs. The argument that work-related role salience shapes men's behavior at work is supported by prior evidence showing that men with high work-related role salience put in longer working hours when they face a high workload (Greenhaus et al., 2012). Following these insights, we argue that rigid hours in the wage-job particularly constrain *male* hybrid entrepreneurs' ability to transform their experiences of running their own business and coping with feeling stressed into skills that protect their well-being in full entrepreneurship. Therefore, we hypothesize:

> *Hypothesis 3a: The negative moderating effect of caring responsibilities on the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being particularly affects female hybrid entrepreneurs.*
>
> *Hypothesis 3b: The negative moderating effect of greater degrees of rigid hours in the wage-job on the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being particularly affects male hybrid entrepreneurs.*

3 Methodology

3.1 Data

To test our hypotheses empirically, we drew on data from the individual-level panel data set *Understanding Society*, which provides longitudinal data on households from the United Kingdom from 1991 until 2019 (through harmonization with data from the *British Household Panel Survey* (University of Essex, 2021)). The data is based on annual interviews with approximately 40,000 households covering a variety of topics, including individuals' employment status, family situation, education, well-being, and living situation. As study participants provide information regarding their employment in a second job, the data set is particularly well-suited to identify hybrid entrepreneurs (Ardianti et al., 2022; Schulz et al., 2017). The data has also been used previously to investigate entrepreneurs' well-being (e.g., Abreu et al., 2019; Ardianti et al., 2022; Patel et al., 2019).

To test our hypotheses, we drew a sample of entrepreneurs who were in full entrepreneurship in a given year t, that is, they were self-employed in their main job and did not have a second job (n = 7,322).[3] We further restricted this sample to individuals who have either engaged in a phase in hybrid entrepreneurship in the previous year t-1 (i.e., wage-employed in their main job and self-employed in their second job) or were only wage-employed in t-1. This restriction reduced our sample to 2,638 observations. Among those who went through a phase in hybrid entrepreneurship in t-1, we took advantage of the longitudinal design of our data set to ensure that we considered only those individuals who had entered hybrid entrepreneurship out of a wage-job. Thus, we dropped entrepreneurs who were self-employed before entering hybrid

[3] We acknowledge the discussion around entrepreneurship and self-employment by Henrekson and Sanandaji (2014, 2020). While we use the terminology "entrepreneur(ship)" to be consistent with the majority of research on entrepreneurial well-being and hybrid entrepreneurship (e.g., Raffiee and Feng 2014; U. Stephan et al. 2023), we envisage our argumentation to apply to all types of self-employment, including entrepreneurship.

entrepreneurship, as these may have entered hybrid entrepreneurship for entirely different reasons (Schulz, 2018). This restriction reduced our sample to 2,457 observations. As it is an important assumption in our study that individuals entered full entrepreneurship deliberately, we also dropped entrepreneurs who indicated having been laid off as the reason for their job change or who changed their job status more than once between t-1 and t. This step reduced our sample to 2,091 observations. Finally, we dropped 302 observations because of missing data and 52 additional observations when applying Coarsened Exact Matching, as described in more detail below. This process yielded a final sample of 1,737 observations of entrepreneurs in t, of which 101 had gone through a phase in hybrid entrepreneurship in t-1.

3.2 Measures

Dependent Variable: Well-being. We used the 12-item version of the general health questionnaire (GHQ) to measure entrepreneurs' *well-being* (Goldberg, 1972). The GHQ is a well-established measurement for assessing individuals' well-being (Gnambs & Staufenbiel, 2018), both generally in the workplace (Sonnentag et al., 2023) as well as specifically in the field of entrepreneurship (e.g., Abreu et al., 2019; Uy et al., 2013). The GHQ includes six positively phrased items (e.g., "Have you recently felt capable of making decisions about things?") with the response categories "more so than usual" (value of 0 in scoring), "same as usual" (1), "less so than usual" (2), "much less than usual" (3). The GHQ also contains six negatively phrased items (e.g., "Have you recently been feeling unhappy or depressed?") with the response categories "not at all" (0), "no more than usual" (1), "rather more than usual" (2), "much more than usual" (3). Table F.1 in the Appendix gives a full overview of the measurement. We summed the responses to create a total well-being score ranging from 0 to 36 and recoded all items so that low scores indicate low levels of well-being and high scores indicate high levels of well-being (Rey et al., 2014).

Independent Variable: Hybrid Entrepreneurship. The dummy variable *hybrid entrepreneurship* equals 1 if entrepreneurs engaged in hybrid entrepreneurship in t-1 and 0 if individuals held a wage-job in t-1 without simultaneously engaging in self-employment (Folta et al., 2010; Gänser-Stickler et al., 2022).

Moderator Variable: Rigid Hours in the Wage-job. We measured the degree to which individuals are limited in determining how many hours they work by the extent to which the number of working hours in their wage-job is contractually set rather than adjustable. We base the construction of the variable on the assumption that individuals can adjust their number of overtime hours according to their needs, which would mean that individuals with higher proportions of overtime have more discretion over their overall number of working hours. To this end, we assessed individuals' share of contractually set hours from their overall number of working hours in their wage-job (i.e., contractually fixed hours + overtime hours). The variable ranges from 0 to 1, with higher values indicating greater degrees of *rigid hours in the wage-job*. We tested the validity of this approach by assessing the correlation between this measure and individuals' perceived autonomy over their work hours in the wage-job, which was assessed on a 4-point Likert scale and is only available for a subsample of our data (n = 449). Finding a statistically significant negative correlation (r = -0.16, p = 0.001) confirms the validity of applying our measure of rigid hours in the wage-job, which is available for the entire data set.

Moderator Variable: Caring Responsibilities. Our data set provides detailed information on individuals' *caring responsibilities* in terms of minors living in the household and the number of hours individuals care for a dependent, that is, someone sick, disabled, or elderly inside or outside the household. Based on this information, we constructed the variable caring responsibilities, which equals 1 if an individual affirmed either having at least one child under the age of 16 living in the household or having spent at least five hours each week looking after

or helping a dependent in t-1. We applied the threshold of five hours because the panel data considers weekly caring responsibilities in categories. As the lowest category "0-4 hours" entails cases of 0 hours where the caring responsibilities are not meaningful, we applied our threshold at the next higher category ("5-10 hours").

Control Variables. When prior research provides a clear rationale for additional influences on entrepreneurs' well-being in full entrepreneurship, we controlled for these variables (Bernerth & Aguinis, 2016). We controlled for *age*, as prior research highlights that age influences entrepreneurs' well-being (Amorós et al., 2021; Bluedorn & Martin, 2008). Moreover, female entrepreneurs report, on average, lower well-being than male entrepreneurs (Love et al., 2024), which is why we controlled for being *female.* As studies show that married individuals' well-being differs from non-married individuals (Shapiro & Keyes, 2008), we controlled for being *married.* We measured age in years and gender and marital status as dummy variables, which equal 1 if entrepreneurs were female or married, respectively. We also controlled for *education* as higher levels of education are related to higher levels of well-being among entrepreneurs (U. Stephan, 2018) by differentiating five categories: secondary education (i.e., general certificate of secondary education) or lower, qualification for university entrance (i.e., advanced-level degree or similar), university degree, vocational training (or other higher qualification), and other qualification.

In addition, we controlled for the effect of entrepreneurs' economic situation as financial resources positively affect entrepreneurs' well-being, while financial problems impair well-being (U. Stephan, 2018). That is, we assessed entrepreneurs' *living situation* with a categorical variable indicating if entrepreneurs rented their home, owned their home (including those in the process of buying their home on a mortgage), or had other living situations. To control for *financial resources in the household* provided by others, we included the monthly household income in Pound Sterling minus the income of the entrepreneur. We also controlled for

entrepreneurs' *well-being in t-1* (Wach et al., 2020) to account for the fact that some individuals may generally assess their well-being as higher than others. As prior research shows that having employees affects entrepreneurs' well-being (Nikolova et al., 2023), we included a dummy variable that equals 1 if entrepreneurs *had employees* in t. Further, as *prior entrepreneurial experience* can affect entrepreneurs' well-being (U. Stephan, 2018), we leveraged the panel nature of our data and included a dummy variable that equals 1 if entrepreneurs had been previously engaged in self-employment.

Finally, we controlled for occupation types and year by means of fixed-effects. First, we included *occupation type* fixed-effects to account for occupation-specific effects on well-being, such as differences in work resources, skill utilization, or task variety (U. Stephan, 2018). As such, we differentiated entrepreneurs' occupations in self-employment according to the nine major groups of the UK Standard Classification of Occupations (Office for National Statistics, 2020), including, for example, professional occupations, skilled trades occupations, or elementary occupations. By controlling for *year* fixed-effects, we accounted for macroeconomic events that may have affected entrepreneurs' well-being in a given year, such as the Brexit referendum and its consequences in 2016.

3.3 Analysis

We apply linear regression models to test the hypotheses. To account for the possibility that entrepreneurs who have gone through a preceding phase in hybrid entrepreneurship differ systematically from entrepreneurs who have not, we apply weights generated by Coarsened Exact Matching (CEM). The key objective of CEM is to establish a balance between groups by matching observations (Blackwell et al., 2009). The method is computationally efficient and reduces sample dependence and estimation error (Aggarwal & Hsu, 2014; Awate & Makhija, 2021), which makes it superior to other matching estimators, such as propensity score matching

(King & Nielsen, 2019). Moreover, CEM is widely applied in entrepreneurship and management research on, for example, entrepreneurs' well-being (Abreu et al., 2019), entrepreneurial exit (Aggarwal & Hsu, 2014), and knowledge spillover (Awate & Makhija, 2021). The method applies three steps. First, CEM coarsens each observation into bins according to pre-defined observable characteristics. Then, the method identifies observations in the control group that exactly match the treatment group and excludes observations in the control group without exact matches. Finally, CEM calculates weights to normalize the observations across the treatment and control groups.

In our context, applying CEM is useful to mitigate concerns that other factors may influence individuals to choose hybrid entrepreneurship in t-1 while also affecting their well-being in full entrepreneurship in t, thus driving our results beyond our learning rationale. These alternative explanations may relate to, for example, unobserved events in t-1, as prior research suggests that events can influence the decision to enter hybrid entrepreneurship over full entrepreneurship (Schulz et al., 2016) and also have long-term effects on well-being (Luhmann et al., 2012). That is, a personal crisis due to a blow of fate in individuals' families may make individuals more prone to choose the safer option of hybrid entrepreneurship when starting a new business and still impair their well-being in subsequent full entrepreneurship.

Given the variety of such alternative explanations, it is difficult to account for each directly with archival data sets, such as the one we used in this study. Therefore, we accounted for this issue indirectly through matching individuals on their *well-being in t-1*. The intuition is that events that make individuals both engage in hybrid entrepreneurship in t-1 *and* shape their well-being in subsequent full entrepreneurship will also already shape their well-being in t-1. Hence, matching entrepreneurs who went through a preceding phase in hybrid entrepreneurship with direct entrants based on their well-being in t-1 partials out the confounding impact of such unobserved variables in our empirical analyses. We coarsened well-being in t-1 into 37 bins,

which reflects the most differentiated matching possible as well-being is measured on a scale from 0 to 36. This matching reduced our sample by 52 observations that had no matches. We applied the resulting weights in a linear regression with robust standard errors and used standardized values for all independent variables.

4 Results

4.1 Descriptive Statistics and Main Results

Table C.1 shows the descriptive statistics and pairwise correlations of the variables. The average well-being of entrepreneurs was 26. In t-1, 6 percent went through a phase of hybrid entrepreneurship. Their average degree of rigid hours in the wage-job in t-1 was 0.93 and 50 percent faced caring responsibilities in t-1. The entrepreneurs in our sample were, on average, 41 years old, 37 percent were women, and 59 percent were married. Regarding entrepreneurs' highest level of education, 30 percent had finished secondary education or lower, 23 percent had qualified to enter university, 29 percent had a university degree, 11 percent had finished vocational training or other higher qualification, and 7 percent had other qualifications. Regarding their living situation, 13 percent were renting, 77 percent owned a house or were paying off a mortgage, and 10 percent had another living situation. The average financial resources beyond the entrepreneur's income were 1,968 Pound Sterling per month. Overall, 19 percent had employees in their own business and 31 percent had prior entrepreneurial experience. The pairwise correlations in Table C.1 indicate no serious risk for multicollinearity, as none of the correlations exceeds $p = 0.38$ and none of the variance inflation factors exceeds 5.26 (mean = 2.14).

Table C.1 Descriptive Statistics and Correlations

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Well-being$_t$	26.34	4.60	1.00																
2	Hybrid Entrepreneurship$_{t-1}$ [a]	0.06	0.23	-0.01	1.00															
3	Rigid Hours in Wage-job$_{t-1}$	0.93	0.11	-0.01	0.07	1.00														
4	Caring Responsibilities$_{t-1}$ [a]	0.50	0.50	-0.06	0.02	0.01	1.00													
5	Age$_t$	41.07	12.03	0.04	0.03	0.03	-0.16	1.00												
6	Female$_t$ [a]	0.37	0.48	-0.11	0.05	0.13	0.02	0.07	1.00											
7	Married$_t$ [a]	0.59	0.49	0.00	0.04	0.01	0.23	0.32	-0.02	1.00										
8	Qualification for University Entrance$_t$ [b]	0.23	0.42	-0.03	-0.02	0.02	-0.03	-0.09	-0.06	-0.06	1.00									
9	University Degree$_t$ [b]	0.29	0.45	0.00	0.00	-0.12	-0.09	0.08	0.06	0.05	-0.35	1.00								
10	Vocational Training$_t$ [b]	0.11	0.31	0.02	0.05	0.04	0.00	0.05	0.03	0.00	-0.19	-0.22	1.00							
11	Other Qualification$_t$ [b]	0.07	0.26	0.03	-0.01	0.03	0.03	0.03	-0.01	0.02	-0.15	-0.18	-0.10	1.00						
12	Owns a House / Mortgage$_t$ [c]	0.77	0.42	0.06	-0.01	0.01	0.00	0.18	0.01	0.22	0.01	0.03	0.04	-0.03	1.00					
13	Other Living Situation$_t$ [c]	0.10	0.30	-0.02	0.01	-0.01	0.00	-0.12	-0.02	-0.12	-0.02	-0.06	-0.04	0.04	-0.61	1.00				
14	Financial Resources in Household$_t$ [d]	1,968	2190	0.02	0.04	0.01	-0.07	-0.01	0.19	0.13	-0.04	0.16	0.00	-0.05	0.16	-0.13	1.00			
15	Well-being$_{t-1}$	26.01	4.43	0.38	0.01	0.03	-0.03	-0.03	-0.08	0.00	-0.02	0.00	0.01	0.04	0.00	-0.02	-0.04	1.00		
16	Has Employees$_t$ [a]	0.19	0.39	0.00	-0.06	-0.05	0.06	-0.05	-0.03	0.08	0.01	0.03	0.01	-0.02	0.04	-0.01	0.02	0.01	1.00	
17	Prior Entrepreneurial Experience$_t$ [a]	0.31	0.46	0.00	0.12	0.03	0.00	0.17	-0.02	0.07	0.01	-0.02	0.01	-0.04	0.01	0.07	-0.01	0.00	-0.01	1.00

Notes: n = 1,737. Correlations greater than |.03| are significant at $p \leq 0.01$. SD = standard deviation.

[a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower" (Mean = 0.30, SD = 0.46).

[c]Compared against omitted category "renting" (Mean = 0.13, SD = 0.34). [d]Measured in Pound Sterling (£).

Table C.2 presents the results to test Hypotheses 1 and 2. Model 1 includes only the control variables. Model 2 adds the direct effect of a phase in hybrid entrepreneurship in t-1 on entrepreneurs' well-being in t. Model 3 includes the direct effects of the moderators and the interaction terms between rigid hours in the wage-job and a phase in hybrid entrepreneurship as well as caring responsibilities and a phase in hybrid entrepreneurship. As expected, the results in Model 1 indicate that age affects well-being positively ($\beta = 0.30$, $p = 0.013$) and that being female (as opposed to being male) affects well-being negatively ($\beta = -0.32$, $p = 0.019$). Moreover, we find that owning or buying a home (as opposed to renting it) affects entrepreneurs' well-being positively ($\beta = 0.37$, $p = 0.027$) as do additional financial resources in the household ($\beta = 0.31$, $p = 0.005$). Individuals' well-being in t-1 also has a positive effect on their well-being in t ($\beta = 1.72$, $p < 0.001$). In line with previous studies (e.g., Kibler et al., 2019; Uy et al., 2013), we find no significant direct effect of prior entrepreneurial experience on entrepreneurs' well-being ($\beta = 0.00$, $p = 0.975$). Further, the results in Model 2 indicate no significant direct effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being ($\beta = -0.05$, $p = 0.673$), which is consistent with the notion that learning during hybrid entrepreneurship may be more complex than previously acknowledged.

The results displayed in Model 3 show a negative significant effect of the interaction between a preceding phase in hybrid entrepreneurship and rigid hours in the wage-job on entrepreneurs' well-being ($\beta = -0.30$, $p = 0.021$), lending support to Hypothesis 1. We also find a negative significant interaction effect between a preceding phase in hybrid entrepreneurship and individuals' caring responsibilities on entrepreneurs' well-being ($\beta = -0.34$, $p = 0.002$), lending support to Hypothesis 2.

Table C.2 Regression Results (Full Sample)

	Model 1			Model 2			Model 3		
Variable	B	SE	p	B	SE	p	B	SE	p
Constant	26.41	0.11	0.000	26.41	0.11	0.000	26.44	0.11	0.000
Age_t	0.30	0.12	0.013	0.30	0.12	0.013	0.26	0.13	0.039
$Female_t$[a]	-0.32	0.13	0.019	-0.31	0.13	0.019	-0.28	0.13	0.038
$Married_t$[a]	-0.17	0.12	0.150	-0.17	0.12	0.152	-0.13	0.13	0.308
$Education_t$[b]									
Qualification for University Entrance	-0.22	0.14	0.102	-0.22	0.14	0.101	-0.22	0.14	0.102
University Degree	-0.10	0.16	0.547	-0.10	0.16	0.548	-0.13	0.16	0.436
Vocational Training	-0.06	0.13	0.653	-0.05	0.13	0.665	-0.08	0.13	0.540
Other Qualification	0.08	0.11	0.479	0.08	0.11	0.479	0.08	0.11	0.482
$Living\ Situation_t$[c]									
Owns a House / Mortgage	0.37	0.17	0.027	0.36	0.16	0.028	0.39	0.16	0.017
Other Living Situation	0.21	0.17	0.228	0.21	0.17	0.230	0.22	0.17	0.197
$Financial\ Resources\ in\ Household_t$	0.31	0.11	0.005	0.31	0.11	0.005	0.27	0.11	0.015
$Well\text{-}being_{t-1}$	1.72	0.14	0.000	1.72	0.14	0.000	1.72	0.14	0.000
$Has\ Employees_t$[a]	0.14	0.12	0.230	0.13	0.12	0.245	0.13	0.12	0.244
$Prior\ Entrepreneurial\ Experience_t$[a]	0.00	0.12	0.975	0.01	0.12	0.937	0.02	0.12	0.871
$Hybrid\ Entrepreneurship_{t-1}$[a]				-0.05	0.13	0.673	0.06	0.11	0.596
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							-0.08	0.11	0.472
$Caring\ Responsibilities_{t-1}$[a]							-0.10	0.12	0.401
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.30	0.13	0.021
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.34	0.11	0.002
Fixed Effects									
Occupational Type Dummies (9)	Yes			Yes			Yes		
Year Dummies (28)	Yes			Yes			Yes		
R-squared	0.216			0.216			0.224		
No. of Observations	1,737			1,737			1,737		

Notes: Linear regression with robust standard errors. Observations matched on well-being in t-1. Dependent variable: well-being in t. All independent variables are standardized. [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

To inspect these results further, we plotted the interaction effects. Figure C-1 indicates the marginal effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being at different degrees of rigid hours in the wage-job. In support of Hypothesis 1, we observe that the positive effect of a phase in hybrid entrepreneurship decreases with increasing degrees of rigid hours in individuals' wage-job in t-1. Figure C-2 shows the marginal effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being for individuals with and without caring responsibilities in t-1. The graph indicates that the positive effect of a phase in hybrid entrepreneurship on entrepreneurs' well-being in t decreases for entrepreneurs with caring responsibilities in t-1, which supports Hypothesis 2 further.

We took additional steps to assess the meaningfulness of these results. To this end, we calculated the average change in entrepreneurs' well-being from t-1 to t in our sample (marginal effect = 3.51 units) and the marginal effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being for individuals with the least degrees of rigid hours in their wage-job (marginal effect = 0.74 units). Comparing these numbers suggests that a preceding phase in hybrid entrepreneurship explains 21 percent of the change in entrepreneurs' well-being for individuals with low degrees of rigid hours in wage-job. Similarly, the marginal effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being corresponds to 0.40 units if individuals did not face caring responsibilities in t-1. Thus, a preceding phase in hybrid entrepreneurship explains 11 percent of the change in entrepreneurs' well-being among individuals without caring responsibilities. Considering both effects simultaneously suggests that a phase in hybrid entrepreneurship of individuals with low degrees of rigid hours in their wage-job and no caring responsibilities (marginal effect = 1.08) explains 31 percent of the absolute change in entrepreneurs' well-being from t-1 to t.

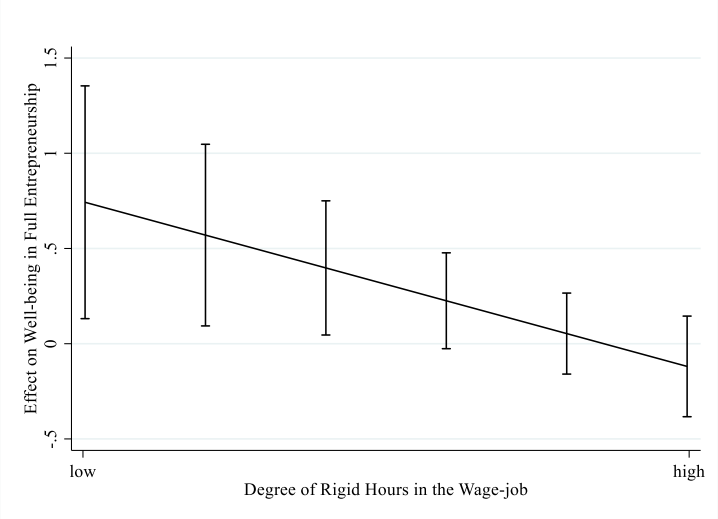

Figure C-1 Average Marginal Effect of a Preceding Phase in Hybrid Entrepreneurship on Entrepreneurs' Well-being in Subsequent Full Entrepreneurship with 95% CIs at different Degrees of Rigid Hours in the Wage-job

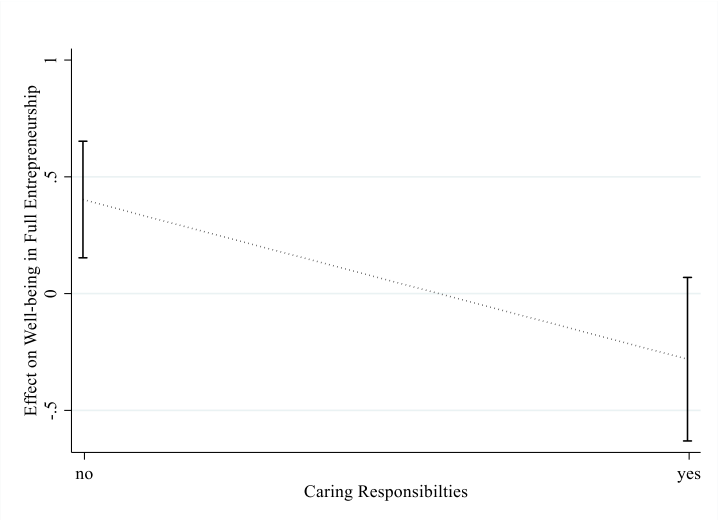

Figure C-2 Average Marginal Effect of a Preceding Phase in Hybrid Entrepreneurship on Entrepreneurs' Well-being in Subsequent Full Entrepreneurship with 95% CIs for Individuals with and without Caring Responsibilities

To test Hypotheses 3a and 3b, we performed separate gender subsample analyses[4] (Table C.3). In support of Hypothesis 3a, we find that the interaction effect of caring responsibilities on entrepreneurs' well-being in t is statistically significant for the female subsample (Model 3a: $\beta = -0.68$, $p = 0.006$), but insignificant for the male subsample (Model 3b: $\beta = -0.16$, $p = 0.172$). Visual inspection of the interaction supports Hypothesis 3a further, indicating that the effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being decreases for women with caring responsibilities at t-1 (Figure C-3). In line with Hypothesis 3b, we find that the interaction effect of rigid hours in the wage-job is statistically significant for the male subsample (Model 3b: $\beta = -0.25$, $p = 0.040$) and insignificant for the female subsample (Model 3a: $\beta = -0.36$, $p = 0.189$). Plotting the interaction effect suggests that the effect of a preceding phase in hybrid entrepreneurship on entrepreneurs' well-being decreases with increasing degrees of rigid hours in the wage-job in the male subsample (Figure C-4), which also supports Hypothesis 3b.

[4] We chose subsample analyses rather than three-way interactions to test Hypotheses 3a and 3b as other covariates included in our model may also influence female and male entrepreneurs' well-being differently (e.g., age, education, financial resources, or occupation type). In such cases, "subsample analysis is […] a more general specification than interaction effects models, as it does not put restrictions on the coefficients of the other covariates and allows the influence of all variables to differ across the [subsamples]" (Boone et al. (2019, p. 289)).

Table C.3 Regression Results (Gender Subsamples)

	Female Subsample									Male Subsample								
	Model 1a			Model 2a			Model 3a			Model 1b			Model 2b			Model 3b		
Variable	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Constant	25.84	0.23	0.000	25.85	0.23	0.000	25.90	0.23	0.000	26.91	0.14	0.000	26.90	0.14	0.000	26.93	0.14	0.000
Age_t	0.21	0.23	0.369	0.22	0.24	0.358	0.18	0.24	0.446	0.30	0.17	0.083	0.30	0.17	0.082	0.24	0.19	0.208
$Married_t$[a]	-0.18	0.27	0.510	-0.16	0.26	0.534	-0.11	0.28	0.684	-0.15	0.15	0.335	-0.15	0.15	0.334	-0.07	0.18	0.691
$Education_t$[b]																		
Qualification for University Entrance	-0.29	0.32	0.354	-0.28	0.31	0.371	-0.24	0.31	0.447	-0.07	0.18	0.693	-0.06	0.17	0.716	-0.08	0.18	0.643
University Degree	-0.44	0.34	0.197	-0.44	0.34	0.194	-0.42	0.34	0.221	-0.10	0.21	0.653	-0.10	0.21	0.645	-0.15	0.22	0.477
Vocational Training	-0.20	0.31	0.516	-0.18	0.31	0.568	-0.22	0.30	0.476	0.17	0.14	0.225	0.17	0.14	0.228	0.16	0.14	0.275
Other Qualification	-0.03	0.26	0.903	-0.03	0.26	0.924	0.01	0.26	0.966	0.03	0.17	0.879	0.03	0.17	0.872	0.02	0.17	0.913
$Living\ Situation_t$[c]																		
Owns a House / Mortgage	0.46	0.39	0.232	0.45	0.38	0.243	0.40	0.38	0.290	0.20	0.18	0.265	0.21	0.18	0.248	0.23	0.18	0.197
Other Living Situation	0.08	0.33	0.802	0.10	0.33	0.766	0.09	0.34	0.793	0.27	0.22	0.222	0.28	0.22	0.206	0.29	0.22	0.186
Financial Resources in $Household_t$	0.59	0.23	0.011	0.60	0.24	0.011	0.49	0.23	0.037	0.11	0.14	0.460	0.10	0.14	0.477	0.08	0.14	0.572
$Well\text{-}being_{t-1}$	1.74	0.28	0.000	1.74	0.28	0.000	1.74	0.27	0.000	1.50	0.18	0.000	1.50	0.18	0.000	1.51	0.18	0.000
$Has\ Employees_t$[a]	0.04	0.23	0.851	0.03	0.23	0.909	0.02	0.24	0.950	0.04	0.15	0.807	0.05	0.15	0.751	0.06	0.15	0.705
$Prior\ Entrepreneurial\ Experience_t$[a]	-0.40	0.24	0.092	-0.38	0.24	0.113	-0.37	0.24	0.121	0.09	0.16	0.558	0.08	0.16	0.629	0.08	0.16	0.605
$Hybrid\ Entrepreneurship_{t-1}$[a]				-0.27	0.29	0.351	-0.13	0.26	0.623				0.12	0.13	0.322	0.21	0.10	0.043
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							0.18	0.25	0.459							-0.14	0.12	0.261
$Caring\ Responsibilities_{t-1}$[a]							0.02	0.25	0.937							-0.22	0.18	0.210
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.36	0.28	0.189							-0.25	0.12	0.040
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.68	0.25	0.006							-0.16	0.12	0.172
Fixed Effects																		
Year Dummies (27)	Yes			Yes			Yes			Yes			Yes			Yes		
Occupational Type Dummies (9)	Yes			Yes			Yes			Yes			Yes			Yes		
R-squared	0.308			0.310			0.330			0.226			0.227			0.232		
No. of Observations	545			545			545			1,033			1,033			1,033		

Notes : Linear regression with robust standard errors. Observations matched on well-being in t-1. Dependent variable: well-being in t. All independent variables are standardized.

[a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

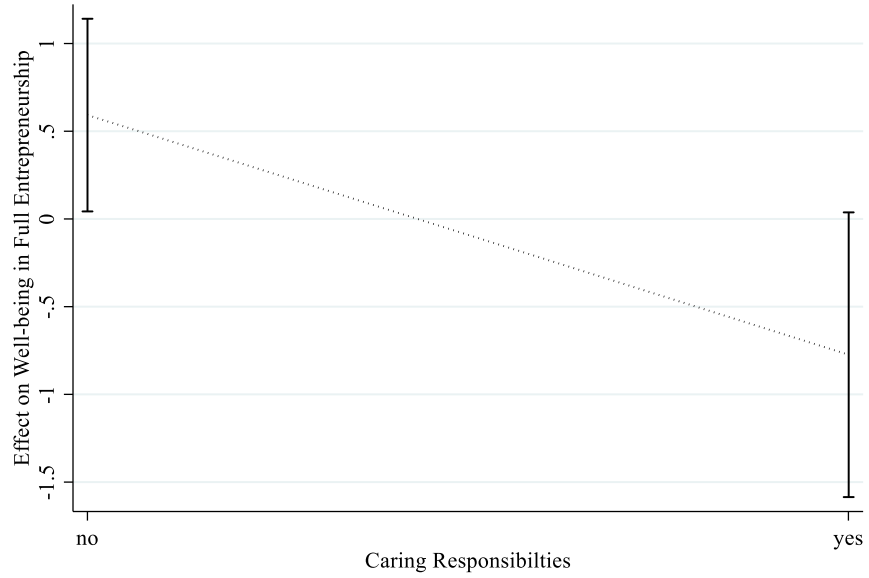

Figure C-3 Average Marginal Effect of a Preceding Phase in Hybrid Entrepreneurship on Entrepreneurs' Well-being in Subsequent Full Entrepreneurship with 95% CIs for Individuals with and without Caring Responsibilities (Female Subsample)

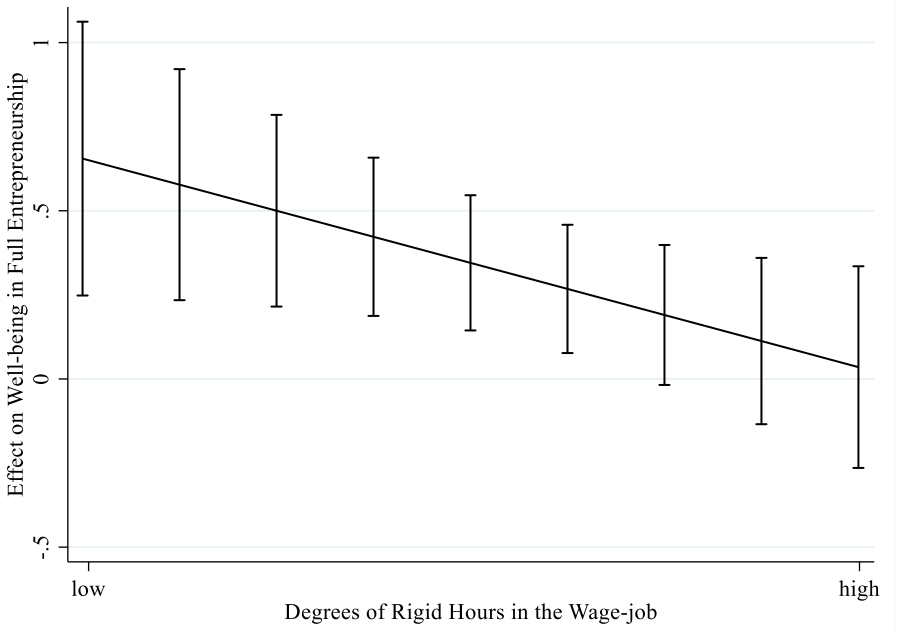

Figure C-4 Average Marginal Effect of a Preceding Phase in Hybrid Entrepreneurship on Entrepreneurs' Well-being in Subsequent Full Entrepreneurship with 95% CIs at different Degrees of Rigid Hours in the Wage-job (Male Subsample)

4.2 Robustness Checks

We conducted three robustness checks to validate our findings further. First, we included only individuals aged between 18 and 65 years to restrict our sample to the typical working population in the UK, who are of full age and below the common UK pension age (Hobson, 2023). The results of this robustness check confirmed our main findings. Table F.2 in the Appendix depicts significant moderation effects of rigid hours in the wage-job (Model 3: $\beta = -0.30$, $p = 0.021$) as well as caring responsibilities (Model 3: $\beta = -0.34$, $p = 0.002$). Further, the subsample analyses (Table F.3 in the Appendix) show that the interaction effect of caring responsibilities is only significant in the female subsample (Model 3a: $\beta = -0.70$, $p = 0.006$), while the interaction effect of rigid hours in the wage-job is only significant in the male subsample (Model 3b: $\beta = -0.25$, $p = 0.039$).

In a second robustness check, we applied a Heckman Selection Model to address that our data may be subject to selection bias (Certo et al., 2016; Heckman, 1976), as we only observe the well-being of individuals who transitioned into full entrepreneurship. That is, we cannot rule out that unobserved differences between individuals who do and those who do not enter full entrepreneurship drive our obtained estimates. Heckman Selection Models "help address sample selection effects" (Anderson et al., 2019, p. 7) and are commonly used in entrepreneurship research (e.g., Chan et al., 2020; Gänser-Stickler et al., 2022). The approach follows two stages. In the first stage, it estimates the selection probability term, that is, the probability that an individual enters the final sample based on an exclusion criterion. In our case, we use *workplace size in the wage-job* in t-1 as an exclusion criterion, as it predicts entry into full entrepreneurship (Kacperczyk, 2012; Sørensen et al., 2007), yet, it is unlikely to affect entrepreneurs' well-being in full entrepreneurship. The panel data provides information on workplace size according to the number of employees and differentiates between five categories: 1-24 employees, 25-49 employees, 50-199 employees, 200-499 employees, and 500

and more employees. We conducted the first stage regression with a sample including all individuals who held a wage-job in t-1 (n = 18,299). In the second stage, we included the selection probability term in the final regression to control for selection bias.

Table F.4 in the Appendix shows the results of the Heckman Selection Model testing Hypotheses 1 and 2. The results of the first stage confirm the negative effect of workplace size on entry into full entrepreneurship. Further, lambda indicates the selection probability term (λ = -0.53, p = 0.631). While previous research has interpreted a non-significant lambda as an indication of no selection bias (which would confirm the empirical approach of our main analyses), recent research flags this conclusion as too arbitrary (Certo et al., 2016). Thus, we still interpret the results of the second stage, which show the results of our regression while controlling for potential selection bias. In line with the results of our main analysis, the results support Hypothesis 1, as we find a negative interaction effect of a phase in hybrid entrepreneurship and rigid hours in the wage-job on entrepreneurs' well-being in t (β = -0.33, p = 0.013). Our results also lend support to Hypothesis 2, as we find a negative interaction effect of a phase in hybrid entrepreneurship and caring responsibilities on entrepreneurs' well-being in t (β = -0.28, p = 0.001). Further, applying the Heckman Selection Model to the gender subsample analyses (Table F.5 in the Appendix) yields support for Hypothesis 3a. In the second stage, the interaction effect of caring responsibilities is significant in the female subsample (β = -0.50, p = 0.001) and not significant in the male subsample (β = -0.14, p = 0.176). The results provide partial support for Hypothesis 3b (Table F.5 in the Appendix), as the interaction effects of rigid hours in the wage-job are marginally significant at a 10%-level in both the male subsample (Model 3b: β = -0.28, p = 0.084) as well as the female subsample (Model 3a: β = -0.40, p = 0.081).

In a third robustness check, we re-analyzed our data with alternative measures of well-being. In our main analysis, we assessed entrepreneurs' well-being comparably broadly by measuring

the absence of individuals' psychological distress and ill-functioning with the GHQ (Gnambs & Staufenbiel, 2018; Goldberg, 1972). To test the argument that hybrid entrepreneurs learn to protect their well-being by learning skills that help them to prevent entrepreneurial stress in full entrepreneurship more explicitly (i.e., learning how to run their own business helps to reduce sources of stress and learning how to cope with feeling stressed helps to prevent consequences of stress), we re-analyzed our data by considering entrepreneurs' *strain* as an alternative dependent variable. We measure strain with the question "Have you recently felt constantly under strain?" on a 4-point Likert scale, ranging from 0 = "not at all" to 3 = "much more than usual" (Ardianti et al., 2022).

The results in Table F.6 in the Appendix indicate that the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' strain becomes stronger for individuals with greater degrees of rigid hours in their wage-job (Model 3: $\beta = 0.04$, $p = 0.029$) or caring responsibilities in t-1 (Model 3: $\beta = 0.05$, $p = 0.001$), supporting Hypotheses 1 and 2. In addition, the results of the subsample analyses (Table F.7 in the Appendix) show that the moderating effect of caring responsibilities is significant in the female subsample (Model 3a: $\beta = 0.09$, $p = 0.003$) and only marginally significant in the male subsample (Model 3b: $\beta = 0.03$, $p = 0.066$), which is consistent with Hypothesis 3a. Moreover, the moderating effect of rigid hours in the wage-job is significant in the male subsample (Model 3b: $\beta = 0.06$, $p = 0.006$) and insignificant in the female subsample (Model 3a: $\beta = 0.01$, $p = 0.817$), lending support for Hypothesis 3b.

Moreover, we follow recent research that emphasizes the importance of considering both negative and positive components when researching entrepreneurs' well-being (U. Stephan, 2018). By measuring the absence of ill-being as an indicator of well-being, the GHQ measures a negative component of well-being (Gnambs & Staufenbiel, 2018; Goldberg, 1972), which is consistent with our argumentation. To examine whether our theory elaboration also applies

when considering a positive component of well-being, we re-analyzed our data with *life satisfaction* as an alternative dependent variable (Ardianti et al., 2022). In line with prior entrepreneurship research (e.g., Fritsch et al., 2019; U. Stephan et al., 2022), we measure entrepreneurs' overall life satisfaction with a single item on a 7-point Likert scale ranging from 1 = "not satisfied at all" to 7 = "completely satisfied".

The results in Table F.8 in the Appendix provide partial support for Hypotheses 1 and 2, as we find marginally significant interaction effects of rigid hours in the wage-job (Model 3: $\beta = -0.12$, $p = 0.052$) and caring responsibilities (Model 3: $\beta = -0.07$, $p = 0.052$), which may be due to the reduced sample size (n = 1,495), as life satisfaction is not measured in all waves of the panel. The subsample analyses support Hypothesis 3a Table F.9 in the Appendix), as we find that the interaction effect of caring responsibilities is significant in the female subsample (Model 3a: $\beta = -0.16$, $p = 0.019$), but not in the male subsample (Model 3b: $\beta = -0.01$, $p = 0.856$). However, we find that the interaction effect of rigid hours is not significant in the male subsample (Model 3b: $\beta = -0.02$, $p = 0.834$), but significant in the female subsample (Model 3a: $\beta = -0.19$, $p = 0.046$), which is opposite to Hypothesis 3b. One possible explanation for these findings could be that male entrepreneurs' responses to the GHQ deviate from their assessment of life satisfaction to a greater extent than female entrepreneurs' responses. Supporting this notion, our data suggests that the correlation between the GHQ and life satisfaction is $r = 0.44$ for men and $r = 0.54$ for women. Overall, the results of this robustness check suggest that our refined theory with regards to gender differences holds only partially for positive measures of well-being and therefore echo U. Stephan et al. (2023) to choose the measurement of well-being carefully and in line with theory.

4.3 Post Hoc Tests

We also considered in how far our argumentation can explain the development of hybrid entrepreneurs' well-being over time. We argue that rigid hours in the wage-job and caring responsibilities in t-1 constrain hybrid entrepreneurs' learning of skills that protect well-being and therefore shape their well-being in subsequent full entrepreneurship. Thus, we would also expect that rigid hours in the wage-job and caring responsibilities in t-1 moderate the relationship between entry into full entrepreneurship in t and hybrid entrepreneurs' *change* in well-being. To test this possibility, we took advantage of the panel nature of our data set and generated a longitudinal panel of all observations of hybrid entrepreneurs in the sample of our main regression analyses. The resulting panel sample contained 694 observations of all 101 hybrid entrepreneurs. Then, we applied an *individual-fixed effects estimator*, which accounts for every individual-specific heterogeneity that is constant over time (Bettis et al., 2014) to investigate hybrid entrepreneurs' development of well-being when transitioning to the full-time stage. Hence, this approach also controls for the impact of unobserved characteristics at the individual-level that are constant in the period of observation and relevant for hybrid entrepreneurship and well-being, such as individuals' ability and personality (Folta et al., 2010; U. Stephan, 2018). In line with our argumentation, the empirical results depicted in Table F.10 (in the Appendix) show statistically significant interaction effects for both rigid hours in the wage-job (β = -0.36, p = 0.011) and caring responsibilities (β = -0.39, p = 0.006) on the relationship between entry into full entrepreneurship and hybrid entrepreneurs' change in well-being. These results further corroborate that demands from hybrid entrepreneurs' wage-jobs and private lives shape the relationship between hybrid entrepreneurship and well-being.

Overall, our empirical results lend full support for Hypotheses 1, 2, and 3a. With regard to Hypothesis 3b, the results of the Heckman Selection Model and when using life satisfaction as

an alternative dependent variable lead us to conclude that we receive only partial support for Hypothesis 3b.

5 Discussion

Using insights from entrepreneurial learning theory and role conflict theory, we elaborated on current theorizing on learning during hybrid entrepreneurship and its influence on entrepreneurs' well-being in full entrepreneurship. We argued that demands from hybrid entrepreneurs' wage-jobs and private lives constrain their ability to transform experiences into skills that protect well-being in full entrepreneurship. Moreover, we argued that role demands from hybrid entrepreneurs' wage-jobs particularly affect male hybrid entrepreneurs, while demands from their private lives particularly affect female hybrid entrepreneurs. Our analyses, including various robustness checks and a post hoc test, widely support our refined theory (with a few notable exceptions). In the following, we discuss the findings and their implications for research on hybrid entrepreneurship, entrepreneurs' well-being, and role conflict and gender differences in entrepreneurship.

5.1 Contributions to Theory

Our study advances prior research on hybrid entrepreneurship and well-being by refining current theorizing on learning during hybrid entrepreneurship, which tends to assume that learning simply 'happens' when hybrid entrepreneurs experience entrepreneurial work (Folta et al., 2010; Gänser-Stickler et al., 2022; Raffiee & Feng, 2014). We refine this theorizing by, first, explaining more accurately that learning requires hybrid entrepreneurs to be able to transform their experiences into skills that allow them to protect their well-being in full entrepreneurship. Second, we structure this relationship by considering the circumstances under which learning during hybrid entrepreneurship may or may not take place. In this regard, our refined theory suggests that role demands from outside entrepreneurship constrain hybrid

entrepreneurs' ability to transform their experiences into skills that can benefit them in full entrepreneurship. Finally, our refined theory explains how the interference of role demands differs for male and female hybrid entrepreneurs.

Our study contributes to research on outcomes of hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014) by elaborating on learning during hybrid entrepreneurship. For example, our refined theory may explain why Raffiee and Feng (2014) do not find support for a moderating effect of cognitive ability on the relationship between a preceding phase in hybrid entrepreneurship and business survival, as they do not account for possible constraining effects of role demands outside entrepreneurship. We caution future studies on outcomes of hybrid entrepreneurship to take the heterogeneity of hybrid entrepreneurs and their role demands into account, as this heterogeneity can determine whether a preceding phase in hybrid entrepreneurship feeds into full entrepreneurship and benefits entrepreneurial outcomes. In this regard, and despite the timeliness of studying well-being as an outcome variable (U. Stephan et al., 2023; Wiklund et al., 2019), we encourage future studies to validate our refined theory with regard to other entrepreneurial outcomes (Shepherd et al., 2019). For example, the transformation of hybrid entrepreneurs' experiences of running their own business into skills may also benefit their performance when they enter full entrepreneurship. Similarly, the transformation of their experiences of coping with feeling stressed into skills during hybrid entrepreneurship may positively affect their resilience in full entrepreneurship.

We also contribute to research on hybrid entrepreneurship and role conflict (Carr et al., 2023; Mmbaga et al., 2023). The study by Carr et al. (2023) is an important foundation for our study as it introduces the notion of role conflict between hybrid entrepreneurs' entrepreneurial work and their wage-jobs. We advance their study in two ways. First, we add hybrid entrepreneurs' role as private persons, which can be an additional source of constrain that affects entrepreneurial work. Second, by studying the effect of role demands outside entrepreneurship

on hybrid entrepreneurs' learning and subsequent well-being (rather than the effect of entrepreneurial work on hybrid entrepreneurs' attitudes and behavior in their wage-jobs), we consider role conflict with regard to outcomes in full entrepreneurship. We encourage future research to untangle the complexities that underlie role conflict in hybrid entrepreneurship further.

Our study also contributes to research on entrepreneurs' well-being (Lerman et al., 2020; U. Stephan et al., 2023; Wach et al., 2020) by introducing hybrid entrepreneurship into the debate on entrepreneurs' well-being across time. Specifically, our refined theory and findings expand Shir and Ryff (2021) dynamic perspective on interdependencies between entrepreneurs' actions and their well-being, which suggests that entrepreneurs' well-being affects their actions in subsequent phases of entrepreneurship. Our study indicates that the reverse is possible as well: If role demands outside entrepreneurship are not constraining, individuals' experiences and actions during hybrid entrepreneurship benefit their well-being in subsequent full entrepreneurship. As such, our study takes a step toward a longitudinal perspective on entrepreneurs' well-being, which prior research calls for (U. Stephan, 2018; U. Stephan et al., 2023; Wiklund et al., 2019). Moreover, we add to the emerging debate on hybrid entrepreneurs' well-being (Ardianti et al., 2022; Mmbaga et al., 2023; M. Stephan et al., 2023) by showing that the impact of hybrid entrepreneurship on well-being extends into full entrepreneurship and by differentiating direct entrants from entrepreneurs who transition from hybrid entrepreneurship. As such, we also advance research on the drivers of entrepreneurs' well-being in full entrepreneurship, which rarely considers the circumstances under which individuals engaged in a preceding phase in hybrid entrepreneurship (e.g., Nikolova, 2019; U. Stephan et al., 2022).

In addition, our study forges a link between research on entrepreneurs' role conflict and research on entrepreneurs' well-being (e.g., Jennings & McDougald, 2007; U. Stephan et al.,

2020). We extend prior studies that show that the interference of demands from private lives is stronger for female entrepreneurs (Hsu et al., 2016; Jennings & McDougald, 2007) by explaining that these gender differences transfer to hybrid entrepreneurs' learning of skills that protect their well-being in full entrepreneurship. These findings are particularly informative for prior research on gender differences in entrepreneurs' well-being (Caliendo et al., 2023; U. Stephan et al., 2020). So far, research explains lower levels of well-being and profit among female entrepreneurs by pointing out that caring responsibilities may limit women's ability to focus on their own business during full entrepreneurship (Arráiz, 2018; U. Stephan et al., 2020). By considering their role demands during hybrid entrepreneurship, our study shows that caring responsibilities may affect female entrepreneurs even *before* they enter full entrepreneurship.

Finally, the argumentation that greater degrees of rigid hours in the wage-job particularly interfere with male hybrid entrepreneurs' learning offers a novel perspective on gender differences in entrepreneurs' role conflict (Hsu et al., 2016; Jennings & McDougald, 2007), as the literature has focused primarily on role conflict's disadvantages for female entrepreneurs so far. Yet, the unique context of hybrid entrepreneurship, where demands from entrepreneurial work conflict with wage-job demands, appears to be a challenge for male entrepreneurs as well. Moreover, by suggesting that the traditionally more pronounced work-related role salience among men may influence how wage-job-related demands interfere with their entrepreneurial work, we contribute to the wider role conflict literature. As such, our study is an initial response to prior research calling to consider role conflicts beyond the traditional focus on the interference between work- and family-related roles (Kelliher et al., 2019). Nevertheless, we emphasize to interpret these insights with caution, as our findings regarding the moderating role of rigid hours in the wage-job in the male subsample are the least robust results in our study. Therefore, we extend the call by Folta et al. (2010) and encourage future research to delve more deeply into gender differences during hybrid entrepreneurship by focusing on

hybrid entrepreneurs' role conflict (especially the conflict between the wage-job and entrepreneurial work) and its impact on learning.

5.2 Limitations and Implications

Our study has several limitations. First, the correlational nature of our empirical analyses does not allow us to infer causality from our findings. While a randomized controlled experiment would allow causal claims, such an approach would require us to allocate individuals randomly into hybrid entrepreneurship or impose caring responsibilities on them, which we deem to be "neither feasible, nor ethical" (Anderson et al., 2019, p. 3). We undertook various efforts to ensure methodological rigor and to show the robustness of our results, such as using Coarsened Exact Matching, a Heckman Selection Model to address selection effects (as Anderson et al. (2019) suggest), and an individual-fixed effects estimator to control for the impact of unobserved stable characteristics at the individual-level. Still, we see a need for future research to explore alternative methodological approaches that allow for causal interpretations regarding the outcomes of hybrid entrepreneurship, such as by identifying opportunities for natural experiments. Overcoming these methodological shortcomings is particularly important as they also apply to the majority of research on hybrid entrepreneurship.

Second, since the panel data set we use in this study does not include data on the skills individuals learn with regard to running their own business and coping with feeling stressed, we cannot measure directly whether hybrid entrepreneurs learn skills that protect their well-being in full entrepreneurship. While our approach is consistent with prior research on learning during hybrid entrepreneurship (e.g., Folta et al., 2010; Gänser-Stickler et al., 2022; Raffiee & Feng, 2014), we call for future research to capture the skills individuals learn during hybrid entrepreneurship more directly and how role demands constrain such learning.

Third, even though the *Understanding Society* data set provides us with a large amount of information on entrepreneurs during and before full entrepreneurship, the information on employment status allows us only to measure entrepreneurship as self-employment. Differentiating between entrepreneurship (i.e., creating growth-driven ventures) and self-employment is particularly important when theorizing about entrepreneurship at an institutional level, such as when assessing innovation in a country (Henrekson & Sanandaji, 2014, 2020). However, as our study focuses on explaining the well-being of individuals who run their own business, which applies to all types of self-employment, we consider our measurement appropriate. In addition, our procedure is common in research in entrepreneurship (Folta et al., 2010; U. Stephan, 2018). Nevertheless, we encourage future research to validate our refined theory in a more nuanced sample of entrepreneurs, such as founders of start-ups.

Finally, we acknowledge that our refined theory is based on a binary and heteronormative perspective on gender and gender roles (Hyde, 2014; Joel et al., 2014), which does not necessarily reflect reality. While we envisage our research as providing first empirical evidence in this regard, we see the potential for future research to consider the diversity of gender and sexuality when examining gender differences in entrepreneurship.

6 Conclusion

This study elaborated on current theorizing on learning during hybrid entrepreneurship and examined the moderating effect of role demands outside entrepreneurship on the relationship between a preceding phase in hybrid entrepreneurship and entrepreneurs' well-being in subsequent full entrepreneurship. We assessed how interfering role demands from hybrid entrepreneurs' wage-jobs and private lives constrain their ability to transform the experiences of running their own business and coping with feeling stressed into skills that protect their well-

being in full entrepreneurship. Moreover, we argued that these role demands affect female and male hybrid entrepreneurs differently. Testing the hypotheses on a large panel data set, we obtained wide support for our refined theory. We discussed how our research contributes to the literature on hybrid entrepreneurship, entrepreneurs' well-being, and role conflict and gender differences in entrepreneurship. The limitations of our research revealed opportunities for future scholarly inquiry.

D Study 3: Well for what? A Systematic Literature Review on the Outcomes of Entrepreneurs' Well-being

1 Introduction

While reaching high levels of well-being (i.e., a mental state of wellness and functionality; Wiklund et al., 2019) as an entrepreneur is already desirable in itself, research is also increasingly interested in examining the *outcomes* of entrepreneurs' well-being. In particular, the review by Stephan (2018) represents a starting point for a growing body of research aiming to understand the various outcomes of entrepreneurs' well-being. So far, research highlights the influence of entrepreneurs' well-being on their business, behavior, health, and family. That is, high levels of well-being can broaden entrepreneurs' thought repertoire to improve opportunity recognition, signal success, foster persistence, and, ultimately, increase firm performance. Moreover, entrepreneurs with low levels of well-being are more likely to conserve their resources and withdraw from focusing on their entrepreneurial work or suffer health-related consequences.

Yet, current research on the outcomes of entrepreneurs' well-being rarely acknowledges that "well-being should be considered an umbrella term that reflects multiple dimensions instead of capturing something unidimensional" (Wiklund et al., 2019, p. 581). Broadly, these well-being components include cognitive well-being (e.g., life or job satisfaction), affective well-being (e.g., happiness) on the positive side as well as affective ill-being (e.g., strain, emotional exhaustion), and mental health problems (e.g., poor general mental health, depression, attention deficit hyperactivity disorder (ADHD)) on the negative side (Sonnentag et al., 2023; U. Stephan et al., 2023). These well-being components are generally independent of each other (Warr, 2013) and meta-analytical evidence shows that the effect of entrepreneurship on well-being differs depending on the well-being component (U. Stephan et al., 2023).

A recent debate further underlines the importance of accounting for this multidimensionality when studying the outcomes of entrepreneurs' well-being by discussing potential upsides on mental ill-being in entrepreneurship. That is, scholars propose that the flexibility and autonomy of entrepreneurial work may make entrepreneurship a particularly suitable working environment for individuals with mental health problems, such as attention deficit hyperactivity disorder (ADHD) (Wiklund et al., 2020; Wiklund et al., 2018). In contrast, other studies caution that the large responsibility of running a business and the central role of entrepreneurs make it particularly detrimental for entrepreneurs to suffer from low well-being (Torrès & Thurik, 2019). Thus, to deepen our understanding of the outcomes of entrepreneurs' well-being, we need an overview that consolidates extant research while taking into account the multidimensionality of well-being.

To fill this gap, this study systematically reviews 63 studies on the outcomes of entrepreneurs' well-being since the last review by U. Stephan in 2018. I use an expanded framework of entrepreneurs' well-being (U. Stephan et al., 2023) to differentiate between well-being components, considering their valence (i.e., positive and negative well-being) as well as focus (i.e., cognitive, affective, and general well-being, and mental health problems). Moreover, I inductively coded the outcome variables into four categories: performance and success, entrepreneurs' career decisions, entrepreneurial cognition and behavior, health and well-being, and social environment.

This study contributes to current research on entrepreneurship and well-being by consolidating current knowledge and inferring avenues for future research. First, this review advances current knowledge on outcomes of entrepreneurs' well-being (U. Stephan, 2018) by untangling differences in the outcomes of well-being components. For example, the study shows that while positive well-being components particularly shape entrepreneurs' subjective assessment of their success, negative well-being components tend to impair objective performance as well.

Moreover, the review expands prior knowledge on career-related outcomes (U. Stephan, 2018) by generating insights into the consequences of entrepreneurs' well-being throughout their careers, including entrepreneurial entry. Second, the study contributes to research, which previously proposed that entrepreneurship can be a functional environment for entrepreneurs with mental health problems (Wiklund et al., 2020; Wiklund et al., 2018). Specifically, the review indicates that while ADHD might push individuals into entrepreneurship, the related symptoms are not as functional for their work as an entrepreneur as prior research expected. Finally, the identified research gaps highlight avenues for future research.

2 Methodology

2.1 Literature Search and Study Inclusion

To consolidate current knowledge on the outcomes of entrepreneurs' well-being, I conduct a systematic literature review. A systematic literature review is a rigorous way of summarizing the current state of literature on a specific topic to identify research gaps and pathways for future research (Tranfield et al., 2003). By following systematic steps to search, select, and analyze the literature and by explicitly documenting the inclusion and exclusion criteria, the method is replicable and transparent (Rauch, 2020; Tranfield et al., 2003). Moreover, the narrative nature of systematic literature reviews allows the inclusion of qualitative and quantitative studies (Rauch, 2020). Given these advantages, entrepreneurship and management research frequently use systematic literature reviews to consolidate knowledge (e.g., Kimjeon & Davidsson, 2022; Ray, 2024).

To follow up on the last review with the same research focus, my steps are in line with U. Stephan (2018). That is, I applied an extensive keyword search in the database *Web of Science* using a variety of keywords describing well-being (i.e., *well-being OR "mental health" OR*

"happiness" OR "Psychological health" OR "mental ill-being" OR "mental disorder" OR "psychological disorder" OR wellbeing OR illbeing OR stress OR strain OR satisfaction) and entrepreneurship (i.e., *self-employ* OR entrepreneur*)*. The data include studies published between July 1st , 2017 and July 31st, 2024 and therefore directly transitions from U. Stephan (2018), who included articles published up to June 2017 (p. 293). By including eight years of research, the literature review covers sufficient time to qualify as a bold review (Bacq et al., 2021). Moreover, I only included studies published in peer-reviewed journals, as the double-blind review process validates the quality of the research (e.g., Jones et al., 2011; Zapkau et al., 2017). The initial keyword search resulted in 1,637 research articles. In addition, I manually searched five major entrepreneurship and management journals: *Entrepreneurship, Theory and Practice, Journal of Business Venturing, Strategic Entrepreneurship Journal, Journal of Small Business Management,* and *Academy of Management Journal*. This manual journal search resulted in 37 additional articles after removing duplicates. In sum, the initial search yielded a dataset of 1,674 journal articles. Using the web application Rayan (Ouzzani et al., 2016), I screened all abstracts to only include empirical studies that examine entrepreneurs' well-being, which led to a sample of 338 studies for further analysis.

In a second step, I conducted a full-text analysis of the remaining 338 studies and applied the following inclusion and exclusion criteria. First, I only included studies that focus on entrepreneurs. My operationalization of *entrepreneurs* follows an occupational definition and includes all individuals who work for themselves and/or run their own business, which includes entrepreneurs, self-employed, and small business owners (e.g., Gorgievski & Stephan, 2016; U. Stephan, 2018). As one exception (and also opposed to U. Stephan (2018)), I also included studies that examine the effect of working adults' well-being on entrepreneurial entry to account for the push- and pull effects of well-being into entrepreneurship (e.g., Gunia et al., 2021). Second, I only included studies that operationalize well-being similar to the well-being

components specified in the meta-analysis by U. Stephan et al. (2023) (see section 2.2 for a detailed explanation of the considered well-being components as well as how I expanded the framework). In turn, I excluded studies focusing on well-being-related constructs, such as entrepreneurs' emotions or affect (e.g., Williamson et al., 2022), non-psychological well-being, such as economic or societal well-being (e.g., Sarracino & Fumarco, 2020), or studies focusing on interventions aimed to protect entrepreneurs' well-being (e.g., Demou et al., 2018). Third, I only included studies that explicitly theorize about the relationship between entrepreneurs' well-being and its outcomes. As such, studies were excluded if their theoretical focus was, for example, on mental health disorders and only included individuals' employment status without explaining how individuals' well-being and employment status relate to each other (e.g., Kromydas et al., 2022). Fourth, I only included qualitative and quantitative studies that consider entrepreneurs' well-being as an independent variable. In the context of quantitative studies, this means that I included studies that consider the direct, mediating, or moderating effect of entrepreneurs' well-being. As such, I excluded all studies that examine the antecedents of well-being as well as conceptual, review, and editorial papers (e.g., Klofsten et al., 2021). Notably, 338 studies were excluded because they focused on antecedents of entrepreneurs' well-being, highlighting that the tendency to focus on antecedents as opposed to outcomes in entrepreneurial well-being research still persists (U. Stephan, 2018). In the end, the full-text analysis resulted in 63 studies examining the outcomes of entrepreneurs' well-being.

2.2 Categorization of the Included Studies

To code the included studies, I follow clear, theory-based guidelines to ensure the transparency and replicability of my literature review (Rauch, 2020). Hence, I base my categorization of well-being components on an existing research framework, which prior research used to structure their meta-analysis (cf. Figure 1 in U. Stephan et al. (2023), p. 557). The framework

is particularly suitable to guide my coding as it reflects two central debates on how to differentiate between well-being components (U. Stephan et al., 2023; Warr, 2013). First, the framework reflects the valence of well-being by differentiating between positive and negative well-being. Second, it reflects the different foci of well-being by differentiating between cognitive and affective well-being as well as mental health problems.

My coding expands the framework in two ways. First, I apply a broader categorization of mental health problems: While U. Stephan et al. (2023) only consider stress-related mental health problems, I include studies focusing on all types of mental health problems (including studies examining, for example, the outcomes of ADHD or hypomania). This broader focus allows me to account for the recent debate on the functionality of mental health problems for entrepreneurship (Wiklund et al., 2020; Wiklund et al., 2018). This debate has taken off after the review by U. Stephan (2018) and adds an important perspective for research on outcomes of entrepreneurs' well-being. Second, I re-label the category *eudaimonic well-being* as *other positive well*-being, as this allows me to include all studies that consider broader or combined concepts of well-being (i.e., eudaimonic well-being, subjective well-being, combinations of well-being components).

As a result, I differentiate between five well-being components (see Figure D-1). First, I include studies in the category of *positive cognitive well-being* if they examine the outcomes of entrepreneurs' cognitive evaluation of their life, job, or other specific aspects. Second, I include studies in the category of *positive affective well-being* if they examine the outcomes of entrepreneurs' assessment of how happy they feel. Third, I include studies in the category of *other positive well-being* if they examine broader concepts of entrepreneurs' well-being (i.e., subjective or eudaimonic well-being) or if they combine different well-being components. Fourth, I include studies in the category of *negative affective well-being* if they examine entrepreneurs' assessment of how stressed or emotionally exhausted they feel. Fifth, I include

studies in the category of *mental health problems* if they study outcomes of specific mental problems (e.g., depression, anxiety, ADHD, hypomania) or mental health in general. If articles assessed multiple well-being components, I assigned them in more than one category.

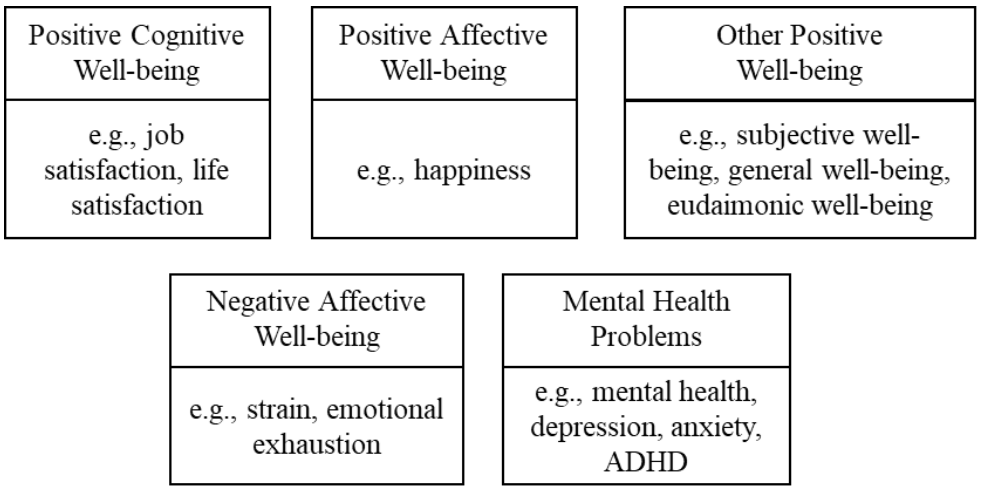

Figure D-1 Categories to Differentiate between Well-being Components (adapted from Stephan et al. (2023))

In addition, I inductively coded the included studies into five outcome categories. First, the category *performance and success* includes all studies examining the influence of entrepreneurs' well-being on objective and subjective assessments of firm performance and success. Second, the category *entrepreneurial career choices* includes all studies examining the effect of entrepreneurs' well-being on their decision or intention to enter, persist in, or exit entrepreneurship. Third, the category *entrepreneurial behavior and cognition* includes all studies examining the influence of entrepreneurs' well-being on the way they behave or think as entrepreneurs (e.g., their innovation, opportunity recognition, strategy, or cognitive style). Fourth, the category *health and well-being* includes all studies that examine the effect of entrepreneurs' well-being on other well-being components or physical health. Finally, the category *social environment* includes studies that consider the outcome beyond the entrepreneur, including their family or employees. In comparison to the categories suggested by U. Stephan (2018), this categorization system provides a more aggregate perspective on the

outcomes of entrepreneurs' well-being than the while still accounting for her original considerations.[5]

3 Results

Table D.1 provides an overview of the identified studies' central characteristics (e.g., method, sample, and underlying theory), indicates which well-being component and outcome cluster they were assigned to, and summarizes the key findings. The column *sample* describes how studies conceptualized entrepreneurs (e.g., startup founders, small business owners, industry, and enterprise size). The level of detail of the sample description is in line with the information provided by the studies. The column *Method, Data Source(s) & Theory* names, amongst others, the underlying theoretical framework that the study uses to explain the effect of well-being on the respective outcome.

[5] My categorization system reflects the categories by Stephan (2018) as follows: *Performance and success* includes the category "firm performance", *entrepreneurial career choices* includes the category "persistence", *entrepreneurial behavior and cognition* includes the category "opportunity recognition, work behavior", *health and well-being* includes the category "entrepreneurs' stress and health", and *social environment* includes the categories "entrepreneurs' family" and "collective outcomes".

Table D.1 Overview of Included Studies

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Arshi et al. (2021)* IJEBR (Ent.)	405 entrepreneurs (no further specification) United Arabic Emirates, India, Oman	Quantitative, survey data, longitudinal (2 time points, 1 year time lag) Challenge-Hindrance Framework (Cavanaugh et al., 2000) Conversation of Resources Theory (Hobfoll, 1989) Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: Strain measured with a subscale of Maslach Burnout Inventory (Maslach et al., 1997) (self-assessment)	Entrepreneurial behavior and cognition: Entrepreneurial behavior measured with three dimensions including the ability to identify and exploit opportunities, ability to be creative and innovative, and ability to adapt and deal with changes (self-assessment, items directly related to experience of strain)	Strain negatively affects entrepreneurs' opportunity-seeking, innovativeness, and change adaptability.
Bao and Dou (2021) Sust. (Other)	1,019 entrepreneurs and owners of private small and medium sized businesses China	Quantitative, survey data, cross-sectional Person-environment Fit Theory (cf. van Vianen, 2018)	Positive affective well-being: Happiness (self-assessment)	Entrepreneurial career choice: Subsequent entrepreneurial intention assessed with the intention to start a new business if entrepreneurs identified an opportunity (self-assessment)	Happiness is positively related to subsequent entrepreneurial intentions. Happiness mediates the relationship between firm performance and subsequent entrepreneurial intentions. The effect also holds for negative affect as an alternative measure for affective well-being.
Beutell et al. (2019)* IJEBR (Ent.)	464 entrepreneurs (self-employed, with and without employees) United States of America	Quantitative, panel data (National Study of the Changing Workforce), cross-sectional Job-demand-resource Model (Demerouti et al., 2001)	Negative affective well-being: Perceived stress measured with the Perceived Stress Scale (Cohen et al., 1983) (self-assessment)	Entrepreneurial career choice: (1) Exit intention: Preference to have a regular wage-job instead of self-employment (self-assessment), (2) Likelihood to exit: Likelihood to put effort into finding new employment in the next year (self-assessment) Entrepreneurial behavior and cognition: Personal growth measured with learning and being creative during the job (self-assessment)	Strain increases individuals' exit intentions and likelihood to exit. Strain also increases personal growth (contrary to expectation).

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Bogan et al. (2022) REH (Econ.)	48,007 individual year observations (including 13,004 individuals) United States of America	Quantitative, panel data (Panel Study of Income Dynamics), longitudinal (7 time points between 2003 and 2017) Pull and push factors into entrepreneurship	Negative affective well-being: Psychological distress measured with the K-6 non-specific psychological distress score (Kessler et al., 2002) (self-assessment) Mental health problems: Long-term mental health condition measured by asking whether individuals have ever been diagnosed with a mental disorder by a doctor (i.e., any emotional, nervous, or psychiatric problems)	Entrepreneurial career choice: Likelihood to become an incorporated business owners (entrepreneurs, who hold shares in legally independent businesses) or unincorporated business owners (privately owned businesses with unlimited liability)	Moderate psychological distress predicts men's choice of self-employment in unincorporated businesses (no effect found for women). Long-term mental health conditions (onset before age 19) increase the likelihood for men and women to become unincorporated business owners as a main job. Long-term mental health conditions (onset before age 26) increase the likelihood for women to become incorporated business owners as a main or second job. Results support the push effect, indicating that mental health issues make wage-employment more difficult and therefore *push* individuals into self-employment.
Bui et al. (2023) JEEE (Ent.)	307 small business owners Vietnam	Quantitative, survey data, cross-sectional Broaden and Build Theory (Fredrickson, 2001)	Other positive well-being: Overall assessment of well-being measured with Warwick–Edinburgh Well-being Scale (Stewart-Brown et al., 2009) (self-assessment)	Entrepreneurial behavior and cognition: Ability to recognize opportunities (self-assessment)	General well-being increases small business owners' ability to recognize opportunities. The effect is stronger for businesses in later stages (moderating effect of business stage).
J. Chen et al. (2021) FIP (Psy.)	173 entrepreneurs, owners, co-founders, and managers (max. 300 employees) China	Quantitative, survey data, cross-sectional Broaden and Build Theory (Fredrickson, 2001)	Positive cognitive well-being: Job satisfaction measured with a combined score of individuals' state of mind towards entrepreneurial work (i.e., engagement) and satisfaction with entrepreneurial work (self-assessment)	Entrepreneurial behavior and cognition: Corporate social responsibility focusing on firm-internal and external aspects (self-assessment) Performance and success: Subjective financial business performance (self-assessment)	Job satisfaction weakens the positive relationship between entrepreneurs' Darwinian social identity and corporate social responsibility, as entrepreneurs with higher well-being gain motivation to work from other resources in comparison with competitors. Job satisfaction strengthens the positive relationship between corporate social responsibility and business performance.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
M.-H. Chen et al. (2020) ERJ (Ent.)	234 entrepreneurs from creative industries Taiwan	Quantitative, survey data, cross-sectional Well-being as a form of psychological capital	Other positive well-being: Combined measure of individuals' psychological, physical, and social well-being (self-assessment)	Entrepreneurial behavior and cognition: (1) Capability to recognize opportunities (self-assessment), (2) Absorptive capacity (self-assessment)	General well-being (which is predicted by entrepreneurs' relatedness) positively affects their opportunity recognition capacity and absorptive capacity.
Clercq et al. (2022a)* IJEBR (Ent.)	200 female entrepreneurs (max. 250 employees, max.10 years, min. 50% ownership of shares) Denmark	Quantitative, computer-assisted telephone interview data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Positive affective well-being: Happiness with business performance (self-assessment)	Entrepreneurial behavior and cognition: Entrepreneurial orientation assessed as the degree to which entrepreneurs adopted a bold strategic orientation (self-assessment) Performance and success: Perceived firm performance compared to competitors regarding sales growth, market share, and employee growth (self-assessment)	No support for a direct effect of individuals' job satisfaction and their intention to enter entrepreneurship. Job satisfaction ing has an indirect influence on individuals' intention to enter entrepreneurship through their personal attitudes, perceived behavioral control, and subjective norm.
Clercq et al. (2022b) ERJ (Ent.)	200 female entrepreneurs (max. 250 employees, max.10 years, min. 50% ownership of shares) Ghana	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Emotional exhaustion from running a business (self-assessment)	Entrepreneurial behavior and cognition: Entrepreneurial orientation for the firm measured as the degree to which entrepreneurs adopted a bold strategic orientation (self-assessment)	Family-induced happiness positively affects female entrepreneurs' competitive performance through entrepreneurial orientation (which is strengthened if they perceive their competitive environment as hostile).
Clercq et al. (2022c)* ISBJ (Ent.)	200 female entrepreneurs (max. 250 employees, max.10 years, min. 50% ownership of shares) Ethiopia	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Emotional exhaustion from running a business (self-assessment)	Performance and success: Perceived firm performance compared to competitors regarding sales growth, market share, and employee growth (self-assessment)	Entrepreneurship-related emotional exhaustion has a negative impact on female entrepreneurs' entrepreneurial orientation for their firm. Entrepreneurship-related emotional exhaustion mediates the relationship between entrepreneurs' family-to-work conflict and entrepreneurial orientation for their firm (which is weakened if entrepreneurs experience high family-to-work enrichment).

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Clercq et al. (2024) IJEI (Ent.)	200 female entrepreneurs (max. 250 employees, max.10 years, min. 50% ownership of shares) Chile	Quantitative, computer-assisted telephone interview data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Emotional exhaustion from running a business (self-assessment)	Performance and success: Perceived firm performance compared to competitors regarding sales growth, market share, and employee growth (self-assessment)	Entrepreneurship-related emotional exhaustion has a negative impact on firm performance among female entrepreneurs. Entrepreneurship-related emotional exhaustion mediates the relationship between female entrepreneurs' work-to-family conflict and firm performance (which is further strengthened if they perceive their competitive environment as hostile).
Contreras-Barraza et al. (2022) Sust. (Other)	1043 individuals over the age of 18 Chile	Quantitative, survey data (interview), cross-sectional Theory of Planned Behavior (Ajzen, 1988)	Positive cognitive well-being: Life satisfaction (self-assessment)	Entrepreneurial career choice: Individuals' intention to start their own business (self-assessment)	Entrepreneurship-related emotional exhaustion has a negative impact on firm performance among female entrepreneurs. Entrepreneurship-related emotional exhaustion mediates the relationship between female entrepreneurs'work-to-family conflict and firm performance (which is stronger if entrepreneurs have a high entrepreneurial orientation for their firm).
Dijkhuizen et al. (2018) JHS (Psy.)	121 entrepreneurs (owners or founders of businesses with max. 250 employees) Netherlands	Quantitative, survey data, longitudinal (2 time points, 2-year time lag) Conversation of Resources Theory (Hobfoll, 1989) Happy-productive-worker Hypothesis (e.g, Staw, 1986)	Positive cognitive well-being: Combined score of life satisfaction (measured with Life Satisfaction Scale; Diener et al., 1985) and satisfaction with entrepreneurship (items adapted to entrepreneurship context) (self-assessment)	Performance and Success: (1) Subjective firm performance based on self-assessment of financial and personal success; (2) Objective firm performance based on self-reported number of employees, profit, and turnover during the past book year.	Satsifaction with life and entrepreneurship positively impacts entrepreneurs' subjective financial success and subjective personal success (two years later). No support for the effect of satsifaction with life and entrepreneurship on entrepreneurs' self-reported objective firm performance (two years later).

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Dong et al. (2022a) FIPH (Other)	196 social entrepreneurs (in the process of starting or currently running a business that has a specific social, environmental, or community objective) China	Quantitative, survey data, cross-sectional Turnover theory (Steel, 2002) Well-being as a work-related attitude	Positive cognitive well-being: Job satisfaction (self-assessment) Mental health problems: (1) Work anxiety (self-assessment) (2) Work burnout measured with Maslach Burnout Inventory (Maslach et al., 1997)	Entrepreneurial career choices: Exit intention assessed as intention to quit entrepreneurship (self-assessment)	Job satisfaction mediates the negative relationship between entrepreneurs' prosocial motivation and exit intention (which is stronger if entrepreneurs do not have political connections). Work anxiety mediates the negative relationship between entrepreneurs' prosocial motivation and exit intention (which is stronger if entrepreneurs do not have political connections). No support for the mediating effect of work burnout on the negative relationship between entrepreneurs' prosocial motivation and exit intention.
Dong et al. (2022b) IJERPH (Other)	301 social entrepreneurs (in the process of starting or currently running a business that has a specific social, environmental, or community objective) China	Quantitative, survey data, cross-sectional Well-being as a work-related attitude	Positive cognitive well-being: Job satisfaction (self-assessment) Mental health problems: (1) Work anxiety (self-assessment) (2) Work burnout measured with Maslach Burnout Inventory (Maslach et al., 1997)	Entrepreneurial career choices: Exit intention assessed as intention to quit entrepreneurship (self-assessment)	Job satisfaction mediates the negative relationship between prosocial motivation and exit intention. Work anxiety mediates the negative relationship between prosocial motivation and exit intention. No support for the mediating effect of entrepreneurs' work burnout on the negative relationship between prosocial motivation and exit intention.
Drnovšek and Slavec Gomezel (2022) FIP (Psy.)	Study 1: 152 small business owners (max. 49 employees) Study 2: 15 small business owners (max. 49 employees) Slovenia	Study 1: Quantitative, survey data, cross-sectional Study 2: Qualitative, interview data Broaden and Build Theory (Fredrickson, 2001)	Negative affective well-being (Study 1 and 2): Strain measured with the Perceived Stress Scale (Cohen et al., 1983) (self-assessment) Positive cognitive well-being (Study 1): Job satisfaction Study 2: Qualitative analysis of well-being	Health and Well-being: (1) Job satisfaction (self-assessment) (Study 1); (2) Qualitative analysis of well-being (Study 2) Performance and success: (1) Perceived firm success in the last three years compared to competitors regarding sales growth and market share growth divided by the geographic location of customers (self-assessment) (Study 1); (2) Qualitative analysis of firm success (Study 2)	Study 1: Perceived stress negatively affects their job satisfaction (which is weaker if entrepreneurs experience high positive affect). Job satisfaction positively influences entrepreneurs' entrepreneurial success. Job satisfaction partially mediated the relationship between perceived stress and entrepreneurial success. Study 2: Qualitative analysis corroborates the theory that entrepreneurs' stress impairs their well-being and success.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Drnovšek et al. (2023) RMS (Mgmt.)	115 entrepreneurs (business owners with 5 to 249 employees) Slovenia	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989) Well-being as a resource	Positive cognitive well-being: Satisfaction with work-life balance (self-assessment) Affective positive well-being: Happiness (labeled as subjective well-being) (self-assessment)	Performance and success: (1) Subjective firm growth: Subjective assessment of growth of revenue, number of employees, and market share compared to competitors in the past three years; (2) Objective firm growth: 4-year revenue growth divided by average revenue growth of industry Health and well-being: Subjective well-being measured with self-assessed happiness	Satisfaction with work-life balance positively affects entrepreners' subjective firm growth (no effect was found for objective firm growth). Satisfaction with work-life balance positively affects entrepreners' happiness (which is strengthened if entrepreneurs experience flow at work). Happiness positively affects entrepreners' subjective firm growth (no effect was found for objective firm growth). Happiness mediates the positive relationship between entrepreners' satisfaction with work-life balance and firm growth (both subjective and objective).
Eib and Bernhard-Oettel (2023)* EID (Econ.)	174 entrepreneurs (no further specification) Sweden	Quantitative, survey data, cross-sectional Well-being as a resource to deal with crisis-induced stressors	Other positive well-being: Eudaimonic well-being (self-assessment)	Performance and success: (1) Subjective assessment of achieved personal success regarding personal work flexibility, own decision-making, and personal development; (2) Subjective assessment of firm success regarding profit, sales development, and cash flow compared to competitors.	During the Covid-19 pandemic, eudaimonic well-being mediates the relationship between unpredictability and entrepreneurs' success (both personal and firm). Eudaimonic well-being mediates the relationship between entrepreneurs' loneliness and success (both personal and firm). The mediating effect of eudaimonic well-being on personal success is stronger if entrepreneurs are engaged in online business activities.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Eijdenberg and Thompson (2020) SER (Ent.)	170 entrepreneurs (individuals running 'Tuntemba' businesses, such as street stands, kiosks, or small restaurants) Zambia	Quantitative, survey data, cross-sectional Well-being as a resource	Positive affective well-being: Happiness measured with the subjective happiness scale (Lyubomirsky & Lepper, 1999) (self-assessment)	Health and well-being: Living standards assessed as individuals' ability to build a house, pay school fees, afford pay TV, afford food, and have other household income.	Happiness positively influences entrepreners' living conditions (which is stronger if entrepreneurs are older or better educated).
Elshaer et al. (2024) JTS (Other)	250 entrepreneurs (new owner/ managers of small fast food outlets or travel agencies) Egypt	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Perceived stress (self-assessment)	Performance and success: Firm resilience assessed as firm's resilience to deal with Covid-19 pandemic (self-assessment)	Perceived stress negatively influences entrepreneurs' assessment of firm resilience. Perceived stress mediates the positive relationship between entrepreneurs' psychological/social capital and firm resilience.
Gashi et al. (2024) JIK (Ent.)	2.043 self-employed individuals 34 Eurasian countries	Quantitative, panel data (Life in Transition Survey), cross-sectional	Positive cognitive well-being: Job satisfaction (self-assessment)	Health and well-being: Life satisfaction (self-assessment)	Job satisfaction positively affects entrepreneurs' life satisfaction.
Gong et al. (2022) FIS (Other)	924 entrepreneurs (including nascent entrepreneurs who are preparing to start their own business (n = 488) and established entrepreneurs who are running their own business no longer than 7 years (n = 346)) Singapore	Quantitative, survey data, cross-sectional	Mental health problems: ADHD symptoms measured with the ADHD self-report scale (Kessler et al., 2005) (self-assessment)	Health and well-being: Life satisfaction (self-assessment)	The life satisfaction of established entrepreneurs with ADHD symptoms is significantly lower than the life satisfaction of established entrepreneurs without ADHD symptoms. The life satisfaction of nascent entrepreneurs with ADHD symptoms is lower than the life satisfaction of nascent entrepreneurs without ADHD symptoms (not statistically significant).

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Gunia et al. (2021)* ETP (Ent.)	Study 2: 281 adults; Study 3: 100 adults; Study 4: 184 practicing entrepreneurs who run small and medium businesses (Study 1 not relevant for review) Study 2: United States of America; Study 3: not specified; Study 4: international	Quantitative, survey data, cross-sectional (study 2,3, and 4) Biopsychosocial model focusing on the interplay of biological, psychological, and social factors Pull- and Push factors	Mental health problems: (1) Study 2,3, and 4: ADHD-like tendencies measured with the World Health Organization Adult ADHD Self-Report Scale (Kessler et al., 2005) (short form in Study 3 and 4); (2) Study 2: Depressive symptoms over past six months (self-assessment)	Entrepreneurial career choices: Entrepreneurial intention assessed as individuals' interest in starting a business (Study 4 referred to the interest in starting a new business) (self-assessment)	ADHD-like tendencies are positively related to entrepreneurial intention (Study 2, 3 and 4). ADHD-like tendencies mediate the negative effect of sleep quality on entrepreneurial intentions (Study 2,3, and 4). No support found for the mediating effect of depressive symptoms on the relationship between sleep quality and entrepreneurial intentions (study 2).
Hatak and Zhou (2021)* ETP (Ent.)	5,608 married full-time entrepreneurs (with or without employees, plus their spouses) Germany	Quantitative, panel data (German Socio-economic Panel), longitudinal (waves 2002 to 2015; 1 year time lag) Human Capital Theory (Schultz, 1961)	Mental health problems: Mental health measured with a sub-dimension of the short form health questionnaire (Ware et al., 1996) (self-assessment)	Performance and success: Monetary entrepreneurial success assessed with annual income from entrepreneurial work and non-monetary success assessed with life satisfaction (self-assessment)	Mental health positively influences entrepreneurs' monetary and non-monetary success one year later.
Henao-García et al. (2022) JEEE (Ent.)	19.346 observations from adult population Emerging Economies (12 countries)	Quantitative, panel data (Global Entrepreneurship Monitor), cross-sectional	Positive cognitive well-being: (1) Life satisfaction measured with Satisfaction with Life Scale (Diener et al., 1985) (self-assessment) (2) Work satisfaction (self-assessment)	Entrepreneurial career choices: Willingness to take entrepreneurial action assessed as individuals' current involvement in attempting to start a business (self-assessment)	Life satisfaction positively affects individuals' willingness to take entrepreneurial action. Work satisfaction positively affects individuals' willingness to take entrepreneurial action.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Hessels et al. (2020) FIP (Psy.)	111,495 person-year observations (including employed and self-employed individuals) Australia	Quantitative, panel data (Household, Income and Labor Dynamics in Australia), longitudinal (waves 2001 to 2017, 1 year time lag) Human Capital Theory (Schultz, 1961)	Mental health problems: Mental health measured with a sub-dimension of the short form health questionnaire (Ware et al., 1996) (self-assessment)	Performance and success: Entrepreneurs' earnings assessed with their gross income per year (from their own business or employment) Entrepreneurial career choices: Entrepreneurial exit assessed with the probability of leaving the labor force or becoming unemployed one year later (observed data)	No support for a stronger positive effect of mental health (or mental health shocks) on earning among self-employed compared to employed individuals (effect is also not significant when differentiating between self-employed with and without employees). Additional analyses show that the negative effect of mental health on exit is stronger for self-employed than employed individuals (and particularly strong for self-employed without employees).
Karimi and Reisi (2022) FIP (Psy.)	102 entrepreneurs (businesses with max. 49 employees from rural areas) Iran	Quantitative, survey data, cross-sectional	Other positive well-being: Well-being score based on satisfaction with life, global happiness, and subjective vitality (self-assessment)	Entrepreneurial career choice: Entrepreneurial persistence assessed with individuals' willingness to persist working as an entrepreneur (self-assessment)	General well-being positively affects entrepreneurs' persistence. General well-being mediates the relationship between entrepreneurial passion (as a result of job fit) and their persistence.
Karimi and Reisi (2023) JAS (Other)	110 entrepreneurs (businesses with max. 49 employees from rural areas) Iran	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989) Happy-productive-worker Hypothesis (e.g., Staw, 1986)	Other positive well-being: Well-being score based on satisfaction with life, global happiness, and subjective vitality (self-assessment)	Performance and success: Combined score of financial success (subjective assessment of business performance in comparison to competitors regarding sales growth, growth in profits, and return on assets) and non-financial success (satisfaction with business)	General well-being positively affects entrepreneurs' success. General well-being mediates the relationship between entrepreneurs' psychological needs satisfaction and success.
Levasseur et al. (2019) JRFM (Other)	152 entrepreneurs (including 75% founders and 25% top executives with start up experience) Iran	Quantitative, survey data, cross-sectional Helplessness Theory (Baum et al., 1986)	Negative affective well-being: Perceived stress measured with Perceived Stress Scale (Cohen et al., 1983) (self-assessment)	Health and well-being: (1) Negative affect assessed with individuals' experience of negative emotions (self-assessment), (2) Health assessed with individuals subjective perception of own health (self-assessment)	Perceived stress positively influences entrepreneurs' negative affect. Perceived stress and negative affect serially mediate the relationship between entrepreneurs' insomnia and poor health.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Lindblom et al. (2020a)* JOBR (Mgmt.)	308 solo entrepreneurs and owners of small and medium sized businesses Finland	Quantitative, survey data, cross-sectional	Positive cognitive well-being: Life satisfaction measures with Life Satisfaction Scale (Diener et al., 1985) (self-assessment)	Performance and success: Entrepreneurial success assessed with entrepreneurs' subjective achievement of goals and comparison with competitors (self-assessment) Entrepreneurial career choices: Exit intentions assessed with individuals' intention to close their business.	Life satisfaction mediates the positive relationship between entrepreneurs' dispositional optimism and success. Life satisfaction mediates the negative relationship between entrepreneurs' dispositional optimism and exit intentions.
Lindblom et al. (2020b) JRCS (Other)	365 entrepreneurs (legally independent owners and managers in retail industry) Northern Europe	Quantitative, survey data, cross-sectional	Negative affective well-being: Job-related stress (self-assessment) Positive cognitive well-being: Job satisfaction (self-assessment)	Health and well-being: Work-related well-being assessed with job satisfaction (self-assessment) Entrepreneurial career choices: Exit intention assessed with individuals' consideration or active involvement in seeking another job (self-assessment)	Job-related stress partially mediates the relationship between entrepreneurs' dispositional optimism and job satisfaction. Job satisfaction partially mediates the relationship between entrepreneurs' job-related stress and exit intentions.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Liu et al. (2024)* IPMJ (Mgmt.)	Study 1: 206 entrepreneurs (from a list of 600 new ventures from various industries) Study 2: 114 entrepreneurs (who own and run their own business) China	Study 1: Quantitative, survey data, longitudinal (3 time points, 2 weeks time lag) Study 2: Quantitative, online experiment (manipulation of corruption), cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being (study 1 and 2): Perceived stress measured with the Perceived Stress Scale (Cohen et al., 1983) (self-assessment)	Entrepreneurial career choices: Exit intentions assessed with individuals' preference for another job / to leave entrepreneurship.	Perceived stress mediates the relationship between corruption and entrepreneurial exit intentions (which is weaker if entrepreneurs have high levels of political skills) (study 1 and 2).
Marshall et al. (2020)* JOBR (Mgmt.)	258 individuals (non-entrepreneurs) Country not specified (Data collected with Amazon Mturk)	Quantitative, online experiment (manipulation: access to resources), cross-sectional Social Cognitive Theory (Bandura, 2001)	Other positive well-being: General well-being measured with the general health questionnaire (Goldberg, 1972) (self-assessment) Positive cognitive well-being: Life satisfaction measured with Life Satisfaction Scale (Diener et al., 1985) Positive affective well-being: Subjective happiness (self-assessment)	Entrepreneurial career choices: Persistence assessed with individuals' willingness to continue investing effort and commitment to their business despite challenges (self-assessment)	General well-being positively influences entrepreneurs' persistence. General well-being mediates the positive relationship between entrepreneurs' self-efficacy (built through access to resources) and persistence. In a robustness check, the study finds support for the same effect for life satisaction and happiness.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
McDowell et al. (2019) IEMJ (Ent.)	232 owners of micro and small sized businesses (max. 50 employees) United States of America	Quantitative, survey data, cross-sectional	Negative affective well-being: Emotional exhaustion (self-assessment)	Health and well-being: Job satisfaction (self-assessment)	Emotional exhaustion (resulting from increased work-life conflict due to increased entrepreneurial commitment) negatively influences entrepreneurs' job satisfaction.
C. B. Moore et al. (2021)* ETP (Ent.)	581 entrepreneurs who have already founded or are in the process of founding a new business Country not specified	Quantitative, survey data, cross-sectional	Mental health problems: ADHD measured with prior diagnosis (dichotomous variable) and ADHD self-report scale (Kessler et al., 2005)	Entrepreneurial behavior and cognition: (1) Cognitive style assessed with individuals' tendency to approach decision-making, information processing, or evaluations analytically versus intuitively (self-assessment); (2) Entrepreneurial alertness assessed with entrepreneurs' tendency and ability to continuously scan and search for new information, connect information, and evaluate opportunities (self-assessment); (3) Metacognition assessed with entrepreneurs' tendency to set goals and knowledge and conscious experience of their cognition and choices (self-assessment) (4) Resource-induced coping assessed with individuals' ability to acquire, protect, and develop resources (self-assessment)	ADHD is positively related with an intuitive cognitive style among entrepreneurs (as opposed to an analytical cognitive style). ADHD is positively related to entrepreneurial alertness among entrepreneurs. ADHD is positively related to a resource-induced coping heuristic among entrepreneurs. No support was found for a positive relationship between ADHD and entrepreneurial metacognition.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Neneh (2021) ERJ (Ent.)	300 female entrepreneurs (actively involved in running a registered business, min. 50% ownership of shares) South Africa	Quantitative, survey data, cross-sectional Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: Emotional exhaustion measured with a subscale of the Maslach Burnout Inventory (Maslach et al., 1997) (self-assessment)	Entrepreneurial behavior and cognition: Growth intention assessed with whether entrepreneurs want their business to grow or aim for a business size that they can manage on their own (self-assessment)	Emotional exhaustion negatively affects female entrepreneurs' growth intentions (which is weaker if entrepreneurs perceive high levels of peer support).
Nikolaev et al. (2020)* ETP (Ent.)	45,664 individual-year observations who are employed at time point t (including 9,000 observations that switch to self-employment in t+1; 4,664 individuals) Australia	Quantitative, panel data (Household, Income and Labor Dynamics in Australia), longitudinal (2 time points, 15 waves, 1 year time lag)	Positive cognitive well-being: Job satisfaction (self-assessment)	Entrepreneurial career choice: Individuals' transition into self-employment versus wage-employment (observed data)	The mediating effect of individuals' job satisfaction on the positive relationship between negative affect and job transition is stronger for individuals who change into wage-employment (contrary to hypothesis, which expected the effect to be stronger for transition into self-employment). The mediating effect of individuals' job satisfaction on the negative relationship between positive affect and job transition is stronger for individuals who change into wage-employment (contrary to the hypothesis, which expected the effect to be stronger for transition into self-employment).
Palumbo (2022) JOE (Ent.)	2,235 entrepreneurs (self-employed individuals who own a business) Europe	Quantitative, panel data (European Working Condition Survey), cross-sectional Self-determination theory (Ryan & Deci, 2001)	Other positive well-being: Subjective well-being assessed with World Health Organization well-being index (cf. Topp et al., 2015) (self-assessment)	Health and well-being: Work-life balance assessed with individuals' ability to balance demands from work and life domain (self-assessment)	Subjective well-being strengthens the relationship between humane entrepreneurship and entrepreneurs' work-life-balance.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Patel, Rietveld, and Verheul (2021)* ETP (Ent.)	31,446 individual-year observations of working adults between 50 and 65 (7,905 individuals including 706 self-employed) United States of America	Quantitative, panel data (US Health and Retirement Survey), longitudinal (1992-2014, every two years) Person-environment Fit Theory (cf. van Vianen, 2018)	Mental health problems: Genetic predisposition for ADHD measured with the polygenetic risk score for ADHD	Entrepreneurial career choices: Entry into self-employment assessed with individuals' decision to become self-employed (observed data) Performance and success: Earnings assessed with the sum of individuals' income from several sources (e.g., wages, second job, military reserve earnings)	The genetic predisposition for ADHD positively influences the choice to become self-employed. The genetic predisposition for ADHD has a positive indirect effect on earnings through self-employment.
Patel, Rietveld, Wolfe, and Wiklund (2021)* ETP (Ent.)	14,937 individual-year observations (4,571 individuals over 50 years old including 1,209 self-employed) United States of America	Quantitative, panel data (US Health and Retirement Survey), longitudinal (1992-2016, every two years)	Other positive well-being: Genetic predisposition for well-being measured with a polygenic risk score (weighted score of approx. 700,000 genetic variants, which are relevant for individuals' well-being)	Entrepreneurial career choices: Entry into self-employment assessed with individuals' decision to become self-employed (observed data) Performance and success: Earnings assessed with the sum of individuals' income from several sources (e.g., wages, second job, military reserve earnings)	The genetic predisposition for well-being positively influences individuals' decision to become self-employed (as opposed to wage-employed). No support that the positive impact of individuals' genetic predisposition for well-being and earnings is stronger for self-employed individuals.
Peters et al. (2019) CIT (Other)	380 business owners of small and medium enterprises in the hospitality sector (max. 250 employees) Austria	Quantitative, survey data, cross-sectional	Other positive well-being: Mental well-being measured with a subscale to assess entrepreneurs' quality of life (including need for leisure time and stress of running a business) (self-assessment)	Performance and success: Business growth assessed with individuals' personal satisfaction with their business growth (compared to competitors) in the past three years	Quality of life positively influences their business growth.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Pincheira et al. (2023) IJEV (Ent.)	152 entrepreneurs (owners of micro, small and medium sized businesses) Chile	Quantitative, survey data, cross-sectional	Positive affective well-being: Happiness measured with the subjective Happiness Scale (Lyubomirsky & Lepper, 1999) (self-assessment)	Performance and success: (1) Perceived success measured with a combined score of subjective success (self-assessment as a successful entrepreneur) and objective success (business age and gross income of the business); (2) Years in entrepreneurship assessed with the sum of years individuals have been running their business	Happiness partially mediates the relationship between entrepreneurs' emotional intelligence and perception of success. No support for the mediating effect of entrepreneurs' happiness on the relationship between emotional intelligence and years in entrepreneurship.
Qu (2022) JEEE (Ent.)	13,438 individuals aged 45 or older (including 1,907 self-employed) United Kingdom	Quantitative, panel data (United Kingdom Household Longitudinal Survey), longitudinal (8 waves, 1 year time lag) Attraction-similarity-attrition Theory (B. Schneider, 1987) Person-environment Fit Theory (cf. van Vianen, 2018)	Positive cognitive well-being: Job satisfaction (self-assessment)	Entrepreneurial career choice: Expected retirement age assessed with the age at which individuals consider themselves to be retired	Job satisfaction partially mediates the positive relationship between self-employment and expected retirement age.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Rajah et al. (2021)* JBV (Ent.)	11,237 individuals (including 439 self-employed business owners) United Kingdom	Quantitative, panel data (British Cohort Survey), longitudinal (9 waves between 1996 and 2013) Person-environment Fit Theory (cf. van Vianen, 2018)	Mental health problems: ADHD symptoms (rated by teacher at age 10)	Entrepreneurial career choices: Selection into self-employment assessed with whether individuals own a business at a certain age (observed data) Performance and success: (1) Business survival assessed with whether individuals continue to own a business from age 30 to age 34 (observed data), (2) Business growth assessed with entrepreneurs' indication that their business has had an increase in their earnings (versus those who indicate to have had a loss in earnings) (self-assessment)	Individuals who exhibited inattention symptoms in childhood are more likely to self-select into self-employment than wage-employment (only supported for employment status at age 30). No support that individuals who exhibited hyperactivity/impulsivity symptoms in their childhood are more likely to self-select into self-employment than wage-employment. Exhibition of inattention symptoms in childhood negatively influences entrepreneurs' business survival (contrary to expectation). Exhibition of impulsivity/hyperactivity symptoms in childhood negatively influences entrepreneurs' business growth (only holds in male subsample).
Sardeshmukh et al. (2021)* JSBM (Ent.)	Study 1: 168 owners of small businesses United States of America Study 2: 215 owners of small businesses Australia	Quantitative, survey data, cross-sectional Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: Emotional exhaustion (self-assessment)	Entrepreneurial career choices: Exit intention assessed with entrepreneurs' intention to quit their business (self-assessment)	Emotional exhaustion increases entrepreneurs' exit intention (supported in both studies, no support for gender differences).
Schjoedt (2021)* SBE (Ent.)	429 male entrepreneurs (founders of privately held small businesses in the technology sector; including 194 novice entrepreneurs and 235 repeat entrepreneurs) United States of America	Quantitative, survey data, cross-sectional	Negative affective well-being: Job-related stress (self-assessment)	Health and well-being: Job satisfaction (self-assessment)	Job stress mediates the negative relationship between male entrepreneurs' work-family-conflict and job satisfaction.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Semerci and Volery (2018)* IJEBR (Ent.)	2,051 entrepreneurs (male and female self-employed individuals with parenting responsibilities) Australia	Quantitative, panel data (Household, Income and Labor Dynamics in Australia), cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Experienced stress due to parenting responsibilities (self-assessment)	Health and well-being: Work-family conflict assessed with the interference of family demands with work role (self-assessment)	Parenting stress increases entrepreneurs' family-to-work-interference. Parenting stress mediates the relationship between social support on entrepreneurs' family-to-work interference. No support that parenting stress mediates the relationship between gender stereotypes and entrepreneurs' family-to-work interference.
Shahid and Kundi (2022) JSED (Ent.)	997 self-employed individuals Germany	Quantitative, panel data (German Socio-Economic Panel), longitudinal (two time points, 1 year time lag) Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Emotional exhaustion measured with the Perceived Stress Scale (Cohen et al., 1983) (self-assessment) Positive affective well-being: Happiness in the past four weeks (self-assessment) Positive cognitive well-being: Life satisfaction (self-assessment)	Entrepreneurial career choices: Exit from self-employment one year later (observed data)	Emotional exhaustion increases entrepreneurs' likelihood of exiting self-employment one year later. Happiness weakens the positive relationship between entrepreneurs' emotional exhaustion and exit one year later. Life satisfaction weakens the positive relationship between entrepreneurs' emotional exhaustion and exit one year later.
Soenen et al. (2019)* SBE (Ent.)	236 entrepreneurs (owner of businesses with 1-250 employees) France	Quantitative, survey data, cross-sectional (for relevant hypothesis) Conversation of Resources Theory (Hobfoll, 1989)	Negative affective well-being: Emotional exhaustion measured with a subscale of the Maslach Burnout Inventory (Maslach et al., 1997) (self-assessment)	Performance and success: Business performances assessed with entrepreneurs' indication whether business made profits or losses in the past month	Emotional exhaustion negatively influences entrepreneurs' business performance.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Sousa et al. (2023) IJI (Ent.)	631 entrepreneurs (no further specification) Brazil	Quantitative, survey data, cross-sectional	Positive cognitive well-being: Life satisfaction measured with Life Satisfaction Scale (Diener et al., 1985) (self-assessment)	Health and well-being: Psychological distress assessed with symptoms of depression, anxiety, and stress (self-assessment)	Life satisfaction negatively affects entrepreneurs' psychological distress. Life satisfaction partially mediates the negative effect of extraversion and conscientiousness on entrepreneurs' psychological distress as well as the positive effect of neuroticism on entrepreneurs' psychological distress.
U. Stephan et al. (2020)* IJEBR (Ent.)	9,870 individuals (including 174 individuals who switched from employment to self-employment) United Kingdom	Quantitative, panel data (United Kingdom Household Longitudinal Study), longitudinal (3 time points, 2 year time lag) Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: Work-related strain measured with indicators of job anxiety and job depression (self-assessment)	Health and well-being: (1) Mental health assessed with vitality, social functioning, role limitations due to mental problems, general mental health (self-assessment); (2) Physical health assessed with physical functioning, body pain, role limitations due to physical problems, general physical health	Work-related strain fully mediates the positive relationship between the decision to enter self-employment (instead of staying employed) and entrepreneurs' mental health. No support for the mediating effect of work-related strain on the positive relationship between the decision to enter self-employment (instead of staying employed) and entrepreneurs' physical health.
St-Jean and Tremblay (2023) IEMJ (Ent.)	496 entrepreneurs Canada	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989) Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: Perceived stress (self-assessment)	Health and well-being: Subjective well-being in past two weeks (self-assessment)	Perceived stress (due to Covid-19-related career shocks) negatively influences entrepreneurs' well-being (which is stronger if entrepreneurs have access to organizational resources; no support for the moderating effect of access to relational resources).
St-Jean et al. (2023)* IJEBR (Ent.)	365 entrepreneurs Canada	Quantitative, survey data, longitudinal (2 time points, 4 months time lag) Stressor-Strain-Outcome (Koeske & Koeske, 1991)	Negative affective well-being: (1) Perceived stress (self-assessment), (2) Emotional exhaustion measured with a subscale of the Maslach Burnout Inventory (Maslach et al., 1997) (self-assessment)	Health and Well-being: Emotional exhaustion Entrepreneurial behavior and cognition: Entrepreneurial career commitment assessed with entrepreneurs' identification with and value of entrepreneurship as a career	Strain increases entrepreneurs' emotional exhaustion four months later. Emotional exhaustion decreases entrepreneurs' career commitment four months later.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Swail and Marlow (2024)* ISBJ (Ent.)	16 female entrepreneurs who have exited entrepreneurship United Kingdom	Qualitative, interview data, 1 time point	Negative affective well-being: Experienced stress when trying to accommodate different demands	Entrepreneurial career choices: Entrepreneurial exit	Entrepreneurs name stress experienced due to incompatible time and role demands (especially from their role as mothers or other household demands) as one reason for their entrepreneurial exit. Entrepreneurs also describe their exit itself as a stressful, emotional decision.
Tahar et al. (2022) SBE (Ent.)	273 entrepreneurs (owners and key decision-makers in small- and medium-sized enterprises (max. 250 employees and members of entrepreneurship communities) France	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Positive cognitive well-being: Job satisfaction (self-assessment)	Health and well-being: Entrepreneurial burnout assessed with emotional exhaustion (self-assessment)	Job satisfaction negatively influences entrepreneurs' burnout. No support for the moderating effect of job satisfaction on the positive relationship between entrepreneurs' emotional demands and burnout.
Tisu et al. (2023) FIP (Psy.)	217 entrepreneurs, who are actively involved in managing their business (simultaneously founders, owners, and managers) Romania	Quantitative, survey data, cross-sectional Conversation of Resources Theory (Hobfoll, 1989)	Positive cognitive well-being: Satisfaction with life as an entrepreneur (self-assessment) Mental health problems: Mental health assessed through presence and absence of mental health complaints (self-assessment)	Performance and success: Business performance assessed with self-reported business growth	Life satisfaction positively influences entrepreneurs' business performance. Mental health positively influences entrepreneurs' business performance.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Turnalar-Çetinkaya and İslamoğlu (2021) ERJ (Ent.)	20 male entrepreneurs from the technology sector (married, opportunity-driven, who own min. 10% of their business, are actively involved in managing their business, with min. one employee) Turkey	Qualitative, interview data, 1 time point Conversation of Resources Theory (Hobfoll, 1989) Broaden and Build Theory (Fredrickson, 2001)	Other positive well-being: Entrepreneurial well-being based on readout definition by Wiklund et al. (2019)	Social environment: Family-related consequences, employee-related consequences, and societal consequences Health and well-being: Individual-related consequences Performance and success: Business-related consequences	Entrepreneurs report that their well-being affected them as individual (psychological and emotional state, confidence, courage, health, sleeping, eating), their family (quality of time, quality of interactions, time spent together), the society (more interest in welfare of others "payback", willing to share knowledge), their employees (spill-over effect, sense of job-security, quality of relationship, tolerance towards employee needs), and their business (individual functioning (e.g., decision-making), resources).
Vörös and Lukovszki (2021) JBVI (Ent.)	190 entrepreneurs (who are involved in managing and fully or partially own a business) and 186 organizational employees Hungary	Quantitative, survey data (interviews), cross-sectional Person-environment Fit Theory (cf. van Vianen, 2018)	Mental health problems: ADHD symptoms as a trait (self-assessment)	Performance and Success: Financial success measured with entrepreneurs' satisfaction with income Health and well-being: Quality of life assessed with individuals' physical health, satisfaction with life, happiness, and anxiety.	No support that the effect of ADHD symptoms on physical health, anxiety, or happiness is stronger for employees than entrepreneurs. The negative effect of ADHD symptoms on subjective income is only found for entrepreneurs (not employees). The negative effect of ADHD symptoms on life satisfaction is only found for employees (not entrepreneurs).
Wang et al. (2023) Sust. (Other)	376 entrepreneurs China	Quantitative, survey data, cross-sectional	Negative affective well-being: Work-related stress (self-assessment)	Performance and success: Entrepreneurial successes assessed with entrepreneurs' comparison of their own financial and non-financial achievement with their competitors and satisfaction with such success	Work-related stress negatively influences entrepreneurs' success. Work-related stress negatively mediates the relationship between entrepreneurs' job demands (due to Covid-19) and entrepreneurial success.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Wei et al. (2020) FIP (Psy.)	249 entrepreneurs (founders and top managers who are key decision makers and responsible for business) China	Quantitative, survey data, cross-sectional Happy-productive-worker Hypothesis (e.g., Staw, 1986)	Positive cognitive well-being: Job satisfaction (self-assessment)	Entrepreneurial behavior and cognition: Innovation behavior assessed with entrepreneurs' tendency to implement innovative behavior.	Job satisfaction mediates the positive relationship between entrepreneurial self-efficacy and innovation behavior.
Wijewardena et al. (2020) PR (Psy.)	359 Female entrepreneurs from micro businesses with 1-4 employees in the informal sector (incl. 321 case officers supporting entrepreneurs) Sri Lanka	Quantitative, survey data, cross-sectional	Negative affective well-being: Perceived stress (self-assessment)	Entrepreneurial behavior and cognition: Creativity level assessed by case officer	Perceived stress negatively influences entrepreneurs' creativity. Perceived stress fully mediates the negative relationship between entrepreneurs' work demands and creativity (which is weaker when entrepreneurs receive higher levels of family-to-business support).
Wolfe et al. (2020)* ETP (Ent.)	3,591 Self-employed and employed individuals United States of America	Quantitative, panel data (National Epidemiologic Survey on Alcohol and Related Conditions), cross-sectional Person-environment Fit Theory (cf. van Vianen, 2018)	Mental health problems: Hypomania symptoms (self-assessment)	Performance and success: Income in the past 12 months.	The positive effect of hypomania symptoms on income is stronger for self-employed than for employed individuals. No support is found for an inverted U-shape relationship between hypomania symptoms and income for self-employed individuals. Education and age strengthen the between high levels of hypomania and income for self-employed.

Authors (Year), Journal (Disc.)	Sample	Method, Data Sources & Theory	Well-being Component	Outcome Cluster	Key Findings
Yu et al. (2021)* ETP (Ent.)	Study 1: 222 entrepreneurs (holding a top position in a business that is part of the entrepreneurship chapter in Young Presidents' organizations) Study 2: 122 entrepreneurs owning a winery Study 1: International (64% USA) Study 2: Spain	Quantitative, survey data, cross-sectional (study 1 and 2) Strategic leadership theory (Finkelstein et al., 2009)	Mental health problems: ADHD symptoms (self-assessment)	Performance and success: (1) Firm's entrepreneurial orientation assessed with entrepreneurs' assessment of firm's innovativeness, productiveness, and risk-taking. (Study 1 and 2); (2) Firm performance assessed with a combined score of entrepreneurs' subjective assessment of firm profits, sales development, cash flow, and market value (in comparison to its competitors) and objective firm performance (sales and number of employees, currently and three years ago) (study 1); Combined score of subjective firm performance (entrepreneurs' satisfaction with their return on investment, return on equity, sales growth, and net profit margin) and objective firm performance (latest sales growth rate, one year later) (study 2)	Entrepreneurs' hyperactivity/impulsivity symptoms positively influence firm entrepreneurial orientation (through which it indirectly influences their firm performance). The effect was not expected or found for inattentive symptoms.

Notes: Abbreviations: CIT = Current Issues in Tourism; Disc. = Disciplines; Econ. = Economics; Ent = Entrepreneurship; Mgmt. = Management; Psy = Psychology; EID = Economic and Industrial Democracy; ERJ = Entrepreneurship Research Journal; ETP = Entrepreneurship Theory and Practice; FiP = Frontiers in Psychology; FiPH = Frontiers in Public Health; FIS = Frontiers in Sociology; IEMJ = International Entrepreneurship and Management Journal; IJEBR = International Journal of Entrepreneurial Behavior & Research; IJEI = International Journal of Entrepreneurship and Innovation; IJERPH = International Journal of Environmental Research and Public Health; IJEV = International Journal of Entrepreneurial Venturing; IJI = International Journal of Innovation; IPMJ = International Public Management Journal; ISBJ = International Small Business Journal-Researching Entrepreneurship; JAS = Journal of Agricultural Science and Technology; JBV = Journal of Business Venturing; JBVI = Journal of Business Venturing Insights; JEEE = Journal of Entrepreneurship in Emerging Economies; JoBR = Journal of Business Research; JoE = Journal of Entrepreneurship; JHS = Journal of Happiness Studies; JIK = Journal of Innovation & Knowledge; JSED = Journal of Small Business and Enterprise Development; JRCS = Journal of Retailing and Consumer Services; JRFM = Journal of Risk and Financial Management; JSBM = Journal of Small Business Management; JTS = Journal of Tourism and Services; PR = Personnel Review; REH = Review of Economics of the Household; RMS = Review of Managerial Science; SBE = Small Business Economics; SER = Small Enterprise Research; Sust. = Sustainability.

Published in a 3- or 4*-ranked journal according to the Academic Journal Guide 2024 from the Chartered Association of Business Schools (2024).

Table F.11 in the Appendix provides an overview of the number of studies in each well-being and outcomes category. Overall, 19 studies examine on the outcomes of entrepreneurs' *positive cognitive well-being* and predominantly focuses on entrepreneurs' evaluation of their life or job (i.e., their life and job satisfaction or combinations). Moreover, one study focuses on the outcomes of entrepreneurs' cognitive evaluation of with work-life balance. All seven studies on the outcomes of entrepreneurs' *positive affective well-being* consider entrepreneurs' happiness. The twelve studies considering *other positive well-being* include a variety of general and combined scores of well-being as well as one study on the genetic predisposition for well-being. Among the 24 studies focusing on the outcomes of entrepreneurs' *negative affective well-being*, the majority considers entrepreneurs' experience of strain (including perceived stress, psychological strain, and distress) and emotional exhaustion. Finally, 14 studies assess the outcomes of entrepreneurs' mental health problems, which predominantly focus on general mental health or the specific disorder ADHD. Other specific mental health disorders include hypomania, anxiety, and burnout. Regarding the outcomes, the majority of studies considers the effect of well-being on entrepreneurs' performance and success (n = 25) or career choices (n = 22). Moreover, twelve studies consider the effect on entrepreneurial behavior and cognition and 18 studies focus on entrepreneurs' health and well-being as an outcome. Finally, only one study explores the outcomes of entrepreneurs' well-being on their social environment.

The identified studies use established psychological theories to explain the outcomes of entrepreneurs' well-being. Typically, these theories coin the notion that positive well-being is associated with beneficial outcomes, while negative well-being has adverse consequences for entrepreneurs, That is, the majority of studies is based on the Conservation of Resources Theory (Hobfoll, 1989; Hobfoll et al., 2018), which states that, entrepreneurs are more prone to conserve their resources and withdraw from any entrepreneurial efforts if they experience their working environment as stressful or not satisfactory (i.e., a threat to their resources),

resulting in lower performance or entrepreneurial exit (e.g., Liu et al., 2024). Conversely, high levels of life satisfaction or low strain can be a signal of a non-resource-threatening working environment, encouraging entrepreneurs to invest effort into their business, which may manifest in resource gains, increased entrepreneurial behavior, or improved performance (e.g., Tisu et al., 2023). Other studies use the Broaden and Build Theory (Fredrickson, 2001) or the Happy-Productive-Worker Hypothesis (Staw, 1986) to explain the beneficial effect of entrepreneurs' positive well-being (e.g., Bui et al., 2023; Wei et al., 2020). Both theories suggest that entrepreneurs can leverage high levels of positive well-being, as it broadens their thought repertoire or makes them more productive, which ultimately feeds forward into outcomes, such as innovative behavior or performance. Similarly, studies theorize about entrepreneurs' well-being as a form of resource or human capital (e.g., Schultz, 1961), which helps them cope with the challenges and demands of entrepreneurship and thereby explains the positive outcomes of well-being (e.g., Hatak & Zhou, 2021). In contrast, the stressor-strain-outcome model (Koeske & Koeske, 1991) is typically used to theorize about the impairing effects of negative affective well-being (e.g., U. Stephan et al., 2020). Specifically, the theory highlights that strain explains how stressful conditions in entrepreneurs' working or private environments lead to adverse outcomes. Finally, considering the beneficial effect of negative well-being, current research builds on the person-environment fit theory (van Vianen, 2018) to explain the potential functionality of mental health problems in the entrepreneurial environment (e.g., Patel, Rietveld, & Verheul, 2021). In line with this perspective, some studies also theorize about the entrepreneurial environment as a pull factor that particularly attracts entrepreneurs with mental health problems.

3.1 The Influence of Well-being on Entrepreneurs' Performance and Success

Regarding the influence of entrepreneurs' **positive cognitive well-being** on their *performance and success*, current research suggests that entrepreneurs' positive cognitive well-being particularly shapes entrepreneurs' subjective (as opposed to objective) assessment of their business performance. Entrepreneurs' life and job satisfaction improves their subjective business performance in terms of self-assessed business growth (Tisu et al., 2023) and subjective assessment of firm success and goal achievement compared to the competition (Drnovšek & Slavec Gomezel, 2022; Lindblom et al., 2020a). Moreover, J. Chen et al. (2021) find that entrepreneurs' job satisfaction strengthens the positive relationship between corporate social responsibility and subjective financial business performance. Studies differentiating between objective and subjective performance underline the different performance-related outcomes of entrepreneurs' cognitive well-being more specifically. That is, Drnovšek et al. (2023) only find that entrepreneurs' satisfaction with work-life balance has a positive effect on subjective firm growth, yet no support for the effect on objective firm growth (i.e., their actual growth in revenue within 4 years). Similarly, Dijkhuizen et al. (2018) find in their longitudinal study that a combination of entrepreneurs' life and job satisfaction positively affects their subjective financial and personal success after two years, but do not find support for the effect on objective business performance.

With regard to the influence of entrepreneurs' **positive affective well-being** on *performance and success*, current research also suggests that happiness particularly shapes entrepreneurs' subjective performance. That is, when combining subjective and objective success indicators, Pincheira et al. (2023) find that happiness positively shapes the success of entrepreneurs (specifically, by partially mediating the effect of emotional intelligence on business success). However, when considering individuals' years in entrepreneurship as an objective success indicator, the study does not find support for the mediating effect of happiness. Moreover,

Clercq et al. (2022a) find that family-induced work-related happiness indirectly (via entrepreneurial orientation) influences female entrepreneurs' perceived firm performance in comparison with their competition. Further supporting the different performance-outcomes of affective well-being, Drnovšek et al. (2023) only find a positive effect of entrepreneurs' happiness on their subjective assessment of firm growth, yet find no effect on objective firm growth. However, it is important to note that the study also shows that affective well-being indirectly influences both performance indicators, as entrepreneurs' happiness mediates the effect of work-life balance on subjective and objective firm growth.

Similarly, the review indicates that entrepreneurs' **other positive well-being** particularly shapes their subjective assessment of *performance and success*. That is, entrepreneurs' quality of life and eudaimonic well-being positively influences their subjective assessment of business growth, personal success, and firm success (Eib & Bernhard-Oettel, 2023; Peters et al., 2019). Moreover, Karimi and Reisi (2023) show that general well-being (based on entrepreneurs' life satisfaction, happiness, and vitality) positively affects a combined score of financial and non-financial-success indicators. Similarly, qualitative evidence suggest that entrepreneurial well-being has business-related consequences in terms of individual performance, success and the network (Turnalar-Çetinkaya & İslamoğlu, 2021). In contrast, research focusing on the outcomes of entrepreneurs' genetic predisposition for well-being (which is one of the few exceptions in this review that takes an objective approach to measure well-being) does not find support that well-being positively affects earnings of self-employed in comparison to employed individuals (Patel, Rietveld, Wolfe, & Wiklund, 2021).

Regarding entrepreneurs' **negative affective well-being**, current research suggests a generally impairing influence on subjective and objective *performance and success*. That is, two studies with female entrepreneurs show that emotional exhaustion from running a business negatively influences how female entrepreneurs perceive their business performance in comparison to

their competition (Clercq et al., 2022c, 2024). Moreover, entrepreneurs' work-related strain negatively impacts their assessment of their own financial and non-financial achievements in comparison with their competitors as well as their satisfaction with their own success (Wang et al., 2023). Similarly, increased stress negatively influences entrepreneurs' assessment of how resiliently their business deals with challenges, such as the Covid-19 pandemic (Elshaer et al., 2024). In contrast, evidence on the effect on objective performance is limited to one study, which suggests that negative affective well-being also has financial consequences, as businesses run by entrepreneurs with higher levels of emotional exhaustion are more likely to make losses (Soenen et al., 2019).

Regarding the influence of **mental health problems** on entrepreneurs' *performance and success,* the review indicates that mental health (i.e., the absence of mental health problems) impacts both objective and subjective performance indicators. That is, Tisu et al. (2023) show that the absence of mental health complaints is positively related to entrepreneurs' self-reported business growth. Moreover, longitudinal research shows that entrepreneurs' mental health has a positive impact on their monetary and non-monetary success one year later (Hatak & Zhou, 2021). Yet, these financial consequences may not necessarily be exclusive to entrepreneurs, as Hessels et al. (2020) do not find support for a stronger effect of mental health on the earnings of self-employed individuals in comparison to employed individuals. Current research also suggests that specific mental disorders can influence entrepreneurs' objective performance in terms of income and survival. That is, the genetic predisposition for ADHD has an indirect negative influence on earnings through self-employment (Patel, Rietveld, & Verheul, 2021). Similarly, Vörös and Lukovszki (2021) only find a negative influence of ADHD symptoms on entrepreneurs' satisfaction with their income (as opposed to employed individuals). This negative financial influence may particularly be attributable to the ADHD symptom of inattention, as Rajah et al. (2021) unexpectedly find that the exhibition of inattention symptoms

during childhood negatively influence male entrepreneurs' business growth in terms of decreases in earnings. Moreover, the study shows that exhibiting impulsivity and hyperactivity symptoms of ADHD during childhood negatively affect business survival, as entrepreneurs are less likely to continue being entrepreneurs between the ages of 30 to 34. In contrast to the negative impact on income and survival, Yu et al. (2021) find in two samples that entrepreneurs' self-reported hyperactivity and impulsivity symptoms positively shape their firm's entrepreneurial orientation, which ultimately influences their firm performance (including subjective and objective measures). In addition, the positive influence of hypomania symptoms (i.e., a disorder characterized by sustained unusually high mood, energy, and activity levels; American Psychiatric Association, 2013) on individuals' income in the past year is stronger for entrepreneurs than employed individuals (Wolfe et al., 2020).

3.2 The Influence of Well-being on Entrepreneurs' Career Choices

Current research provides preliminary support that entrepreneurs' **positive cognitive well-being** is a crucial resource for their *entrepreneurial career choices*. Initially, individuals' life satisfaction can determine that individuals take entrepreneurial action, as Henao-García et al. (2022) find that life satisfaction is positively related to whether individuals are involved in starting a new business. Yet, this effect might not always be direct, as Contreras-Barraza et al. (2022) only find that life satisfaction indirectly influences the entrepreneurial intention through individuals' attitude towards entrepreneurship, perceived behavioral control, and subjective norm (Ajzen, 1988). The impact of job satisfaction on entrepreneurial entry is less conclusive. That is, longitudinal research shows that the mediation effect of job satisfaction on the positive effect of dispositional optimism (or affect) on individuals' job transition is stronger for individuals who switch into a wage-job one year later, which is contrary to the expectation that low job satisfaction in the initial job may drive transition into entrepreneurship (Nikolaev et

al., 2020). In contrast, Henao-García et al. (2022) suggest that job satisfaction has a positive effect on whether individuals are currently trying to start a new business. However, the study does not provide information on whether the measurement of job satisfaction refers to the new entrepreneurial activity or the prior job.

When working as entrepreneurs, there is a large body of evidence that positive cognitive well-being decreased the likelihood of entrepreneurial exit. That is, entrepreneurs' job satisfaction positively influences their expected retirement age by mediating the effect that self-employed individuals are planning to retire later (Qu, 2022). Similarly, life satisfaction increases entrepreneurs' willingness to persist with their entrepreneurial endeavor despite the challenges they face in their daily business life (Marshall et al., 2020), which is further supported by the finding that life satisfaction weakens the impact of entrepreneurs' emotional exhaustion and exit one year later (Shahid & Kundi, 2022). In addition, entrepreneurs' positive cognitive well-being mediates the influence of other individual-level factors (i.e., job-related stress, dispositional optimism, prosocial motivation) on entrepreneurs' exit intentions (Dong et al., 2022a, 2022b; Lindblom et al., 2020a, 2020b).

Considering the influence of entrepreneurs' **positive affective well-being** on their *entrepreneurial career choices*, no studies investigate the effect of happiness on entrepreneurial entry. However, prior research shows that happiness motivates entrepreneur to continue investing time and effort into their business by mediates the positive effect of self-efficacy (Marshall et al., 2020). Moreover, being happy may be an indication of a good personal fit with the entrepreneurial career, as happiness positively influences entrepreneurs' willingness to re-enter entrepreneurship (both directly and by mediating the effect of firm performance on subsequent entrepreneurial intention) (Bao & Dou, 2021). Finally, regarding entrepreneurial exit, current research shows that happiness can act as a buffer to reduce the negative consequences of other well-being components on entrepreneurial careers, as

happiness reduces the effect of emotional exhaustion on entrepreneurial exit one year later (Shahid & Kundi, 2022).

Regarding the influence of **other positive well-being** on *entrepreneurial career choices*, current research suggests that individuals with a predisposition for well-being are more likely to become self-employed (Patel, Rietveld, Wolfe, & Wiklund, 2021). Moreover, prior research shows that overall well-being (based on entrepreneurs' life satisfaction, happiness, and vitality) can motivate entrepreneurs to continue with their careers and positively shapes their willingness to persist with entrepreneurship (Karimi & Reisi, 2022). Similarly, general well- directly increases entrepreneurs' persistence as well as explains the positive effect of entrepreneurs' self-efficacy on their persistence (Marshall et al., 2020).

Regarding the influence of entrepreneurs' **negative affective well-being** on their *entrepreneurial career choices*, prior research suggests that the experience of emotional exhaustion or strain drives individuals to switch jobs. That is, the experience of moderate strain influences men's (but not women's) entry into entrepreneurship (Bogan et al., 2022). In turn, when working as entrepreneurs, several studies show that experiencing strain or emotional exhaustion increases the intention to leave entrepreneurship as well as actual exit(Beutell et al., 2019; Swail & Marlow, 2024) (Beutell et al., 2019; Liu et al., 2024; Sardeshmukh et al., 2021; Shahid & Kundi, 2022; Swail & Marlow, 2024). While the majority of these studies are cross-sectional and focus on entrepreneurs' intention to leave entrepreneurship, Shahid and Kundi (2022) provide longitudinal evidence that entrepreneurs with higher levels of emotional exhaustion left entrepreneurship one year later.

Current research on the influence of entrepreneurs' **mental health problems** on their *entrepreneurial career choices* is in line with the push effect of mental health problems into entrepreneurship. That is, individuals who have been diagnosed with a mental disorder are

more likely to become an entrepreneur later in life (Bogan et al., 2022). Moreover, current research provides strong evidence for the role of ADHD in predicting entrepreneurial entry and re-entry (Gunia et al., 2021; Patel, Rietveld, & Verheul, 2021). Delving deeper into the influence of ADHD on entrepreneurial entry, Rajah et al. (2021) highlight the importance of differentiating between its specific symptoms. That is, while exhibiting inattention symptoms during childhood increases the likelihood for individuals to enter entrepreneurship (at age 30), no support was found for the influence of hyperactivity and impulsivity symptoms on entrepreneurial entry. Moreover, Gunia et al. (2021) also show that the mediating effect of ADHD-like tendencies on the relationship between sleep problems and entrepreneurial intentions seems to be specific to ADHD-like tendencies, as the study does not find support for the effect of depressive symptoms as an alternative mediator. Finally, evidence on the impact of mental health problems on entrepreneurial exit is limited to research that shows that stress-related mental health problems can partly explain how individual characteristics influence entrepreneurial exit. That is, while entrepreneurs' work anxiety mediates the negative effect of prosocial motivation on entrepreneurial exit intention, there is no support for the mediating effect of job burnout on the same relationship (Dong et al., 2022a, 2022b).

3.3 The Influence of Well-being on Entrepreneurs' Behavior and Cognition

Considering the influence of entrepreneurs' **positive cognitive well-being** and *entrepreneurial behavior and cognition*, current research is limited to two studies. Specifically, Wei et al. (2020) find that entrepreneurs' job satisfaction mediates the positive effect of self-efficacy on innovation behavior. In addition, by broadening entrepreneurs' thought repertoire, job satisfaction can be an important motivational driver for entrepreneurs to pursue an environmental-friendly business strategy, which is supported by the finding that job satisfaction weakens the positive effect of entrepreneurs' Darwinian social identity (i.e, a

strategic focus on business growth and performance) on their corporate social responsibilities (J. Chen et al., 2021).

Only one study provides insights into the influence of **positive affective well-being** on *entrepreneurial behavior and cognition*. That is, family-induced happiness influences the degree to which female entrepreneurs take up a bold strategic orientation for their enterprise (i.e., entrepreneurial orientation), which ultimately feeds forward into their perceived business performance as discussed above (Clercq et al., 2022a). Similarly, there is limited evidence on the influence of entrepreneurs' **other positive well-being** their *entrepreneurial cognition and behavior*, which generally supports the positive effect on entrepreneurs' cognition. That is, general or combined well-being has a positive effect on entrepreneurs' ability to recognize opportunities as well as their absorptive capacity (Bui et al., 2023; M.-H. Chen et al., 2020).

Regarding the effect of entrepreneurs' **negative affective well-being** on *entrepreneurial behavior and cognition*, current research generally supports an impairing effect of strain and emotional exhaustion. With regard to entrepreneurs' cognition, entrepreneurs' emotional exhaustion decreases entrepreneurs' growth intention, identification as an entrepreneur, the degree to which they value entrepreneurship as a career, and entrepreneurial orientation (Clercq et al., 2022b; Neneh, 2021; St-Jean et al., 2023). Moreover, strain impairs entrepreneurial behavior in terms of their ability to recognize opportunities, be creative and innovate, and adapt to and deal with change (Arshi et al., 2021; Wijewardena et al., 2020). As an exception to the impairing effect (and also contrary to their expectation), Beutell et al. (2019) find that entrepreneurs' strain positively influences their learning and tendency to be creative in their work.

With regard to the influence of entrepreneurs' **mental health problems** on *entrepreneurial behavior and cognition*, current research is also limited to one study, which shows that

entrepreneurs with ADHD think differently. That is, C. B. Moore et al. (2021) show that a prior diagnosis of ADHD among entrepreneurs is positively related to their cognitive style, including intuitive thinking (as opposed to analytical thinking), entrepreneurial alertness, and the ability to ability to acquire, protect, and develop resources (i.e., resource-induced coping heuristics). However, the study does not find support for the positive influence of entrepreneurs' ADHD diagnosis on their metacognition, which refers to entrepreneurs' tendency to set goals and knowledge and conscious experience of their cognition and choices.

3.4 The Influence of Well-being on Entrepreneurs' Health and Well-being

Entrepreneurs' **positive cognitive well-being** has consequences for their *health and well-being*, which also highlights that the well-being components are interrelated. In particular, high levels of satisfaction with life, job, and work-life balance positively shape entrepreneurs' well-being by improving happiness and life satisfaction and reducing psychological distress (Drnovšek et al., 2023; Gashi et al., 2024; Sousa et al., 2023). Similarly, low level of satisfaction with the entrepreneurial job can lead to mental health problems, such as burnout (Tahar et al., 2022). Yet, cognitive well-being does not seem to buffer the negative impact of a demanding working environment, as Tahar et al. (2022) do not find support that high job satisfaction decreases the positive relationship between emotional demands and entrepreneurs' burnout.

Research examining the influence of **positive affective well-being** and **other positive well-being** on entrepreneurs' *health and well-being* is to three studies, which provide support for a beneficial effect. Specifically, happiness has a positive effect on the living conditions of entrepreneurs who run 'Tuntemba' businesses (e.g., street stands, kiosks, or small restaurants in Zambia) (Eijdenberg & Thompson, 2020). Similarly, subjective well-being strengthens the positive effect of humane entrepreneurship (i.e., a strategic focus on human values) on

entrepreneurs' work-life balance (Palumbo, 2022). Finally, entrepreneurs report in a qualitative study that entrepreneurial well-being impacts their emotional state, health, and sleep and eating behavior (Turnalar-Çetinkaya & İslamoğlu, 2021).

Several studies suggest that **negative affective well-being** impairs entrepreneurs' *health and well-being*. Specifically, general strain, work-related strain, and emotional exhaustion negatively influence entrepreneurs' well-being in terms of job satisfaction and emotional exhaustion (Drnovšek & Slavec Gomezel, 2022; Lindblom et al., 2020b; McDowell et al., 2019; Schjoedt, 2021; St-Jean et al., 2023). Similarly, more specific strain, such as strain related to Covid-19-induced career shocks or parenting responsibilities, impairs entrepreneurs' subjective well-being or increases their experience of work-family conflict (Semerci & Volery, 2018; St-Jean & Tremblay, 2023). There is less consensus regarding the influence of negative affective well-being on entrepreneurs' health. That is, Levasseur et al. (2019) find that entrepreneurs' strain increases their experience of negative emotions, which ultimately feeds forward into a negative self-assessment of entrepreneurs' health (Levasseur et al., 2019). However, U. Stephan et al. (2020) only find that entrepreneurs' work-related strain (due to entrepreneurial entry) influences their mental health, but do not find support for a negative effect of strain on their physical health.

Finally, current research on the influence of entrepreneurs' **mental health problems** on their *health and well-being* focuses exclusively on the effect of ADHD and is inconclusive. That is, experienced entrepreneurs with ADHD symptoms report significantly lower life satisfaction than experienced entrepreneurs without ADHD symptoms (Gong et al., 2022). In contrast, Vörös and Lukovszki (2021) only find a negative relationship between ADHD symptoms and life satisfaction among employed individuals and no support for entrepreneurs. Moreover, the study does not find support that the influence of ADHD symptoms on other well-being

indicators (i.e., physical health, anxiety, and happiness) differs between entrepreneurs and self-employed individuals.

3.5 The Influence of Well-being on Entrepreneurs' Social Environment

Finally, the review identified one qualitative study with male entrepreneurs from the technology industry that explores the outcomes of entrepreneurs' **other positive well-being** on their *social environment*. Specifically, the study focuses on entrepreneurial well-being as defined by Wiklund et al. (2019), which includes cognitive, affective, and functioning components of well-being in relation to running a business (Turnalar-Çetinkaya & İslamoğlu, 2021). Having read the definition to them, entrepreneurs indicate that their well-being does not only play a central role for their personal health and behavior and their businesses, but also spills over to the people in their social environment, such as family members or employees.

4 Discussion

This study reviews current research on the outcomes of entrepreneurs' well-being. By differentiating between entrepreneurs' positive cognitive well-being, positive affective well-being, positive other well-being, negative affective well-being, and mental health problems, the review accounts for the multidimensionality of well-being regarding its valence and focus. Overall, the review highlights the relevance of entrepreneurs' well-being for their success and performance, entrepreneurial career choices, entrepreneurial behavior and cognition, and health and well-being. In particular, the review untangles differences in outcomes between well-being components. Figure D-2 summarizes the main findings of this review by outlining the different well-being components and themes that emerged with regard to each outcome category. In the following, I will discuss the theoretical contributions and infer an agenda for future research.

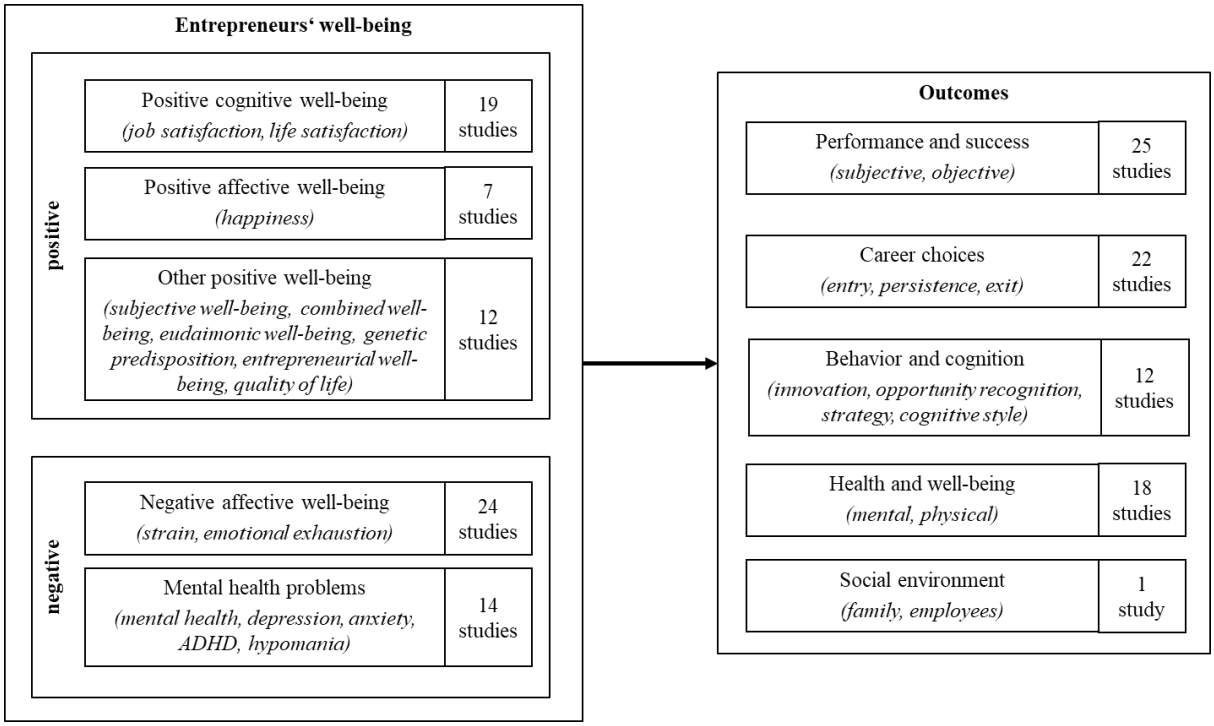

Figure D-2 Summary of Current Research on the Outcomes of Entrepreneurs' Well-being Components

4.1 Theoretical Implications and Future Research Agenda

This study advances prior research on the influence of entrepreneurs' well-being on their performance and success by identifying differences in the outcomes of positive and negative well-being components. While prior research concludes that "happier entrepreneurs led higher performing firms" (U. Stephan, 2018, p. 307), this review indicates that positive well-being components only benefit entrepreneurs' subjective performance and success and negative well-being (specifically, negative affective well-being and general mental health problems) impair both objective and subjective performance indicators. Specifically, the findings suggest that entrepreneurs' positive way of feeling and thinking about their life and work may shape their perception of how their business is going. However, this perception may not necessarily reflect the reality in terms of objective success indicators (e.g., Dijkhuizen et al., 2018). In turn, the beneficial effect of entrepreneurs' positive well-being may come with the risk that entrepreneurs delude themselves and overestimate their business performance. Given the

tendency of entrepreneurs to be overconfident (Kraft et al., 2022), I call for future research to examine this relationship in the long-term and to explore potential downsides of the effect of entrepreneurs' positive well-being on their performance. In contrast, the review indicates that not feeling well or being affected by mental health problems only impairs entrepreneurs' perception of their business, but also influences how well entrepreneurs run their business (e.g., Wang et al., 2023). These insights into the different effects of positive and negative well-being also add to the ongoing debate in management research on objective and subjective performance measures (e.g, Singh et al., 2016; Wall et al., 2004) and underline the importance of future research to differentiate between objective and subjective success measures when researching the outcomes of entrepreneurs' well-being.

The review also generates new insights into the influence of well-being on entrepreneurs' career decisions by considering the whole entrepreneurial career path. Specifically, I expand prior knowledge on entrepreneurial persistence and exit (U. Stephan, 2018) by including non-entrepreneurial samples, which allows me to draw conclusions on the effect of entrepreneurs' well-being on entrepreneurial entry. My insights suggest that entrepreneurship seems to attract both individuals with high levels of positive well-being as well as individuals with high levels of negative well-being. On the one hand, the findings that individuals who are more satisfied with their lives or have a genetic predisposition for well-being are more likely to become entrepreneurs (Henao-García et al., 2022; Patel, Rietveld, Wolfe, & Wiklund, 2021) point toward a selection effect. As such, future research on entrepreneurs' well-being needs to take into account that their entrepreneurial sample might generally be more prone to have higher levels of positive well-being. On the other hand, the finding that individuals who experience specific mental health problems are more likely to enter entrepreneurship (e.g., Bogan et al., 2022), supports prior suggestions that negative well-being pushes individuals into entrepreneurship (Wiklund et al., 2018). Yet, the idea that the autonomy and flexibility of

entrepreneurial work allow individuals to cope with their negative well-being may not necessarily hold long-term, as the review also suggests that strain and mental health problems increase entrepreneurial exit (e.g., Dong et al.; Shahid & Kundi, 2022). Thus, there is a need for longitudinal studies to examine whether entrepreneurs who switch due to their negative well-being also benefit from the entrepreneurial working environment in terms of performance and health.

In comparison with other outcomes categories, the review reveals that current evidence on the effect of entrepreneurs' well-being on their behavior and cognition is limited, which becomes particularly apparent when considering each component individually. Concerning the positive well-being components, the review's findings are generally in line with prior theory (U. Stephan, 2018), indicating that positive well-being positively shapes how entrepreneurs think and behave. Yet, the insights regarding negative affective well-being and mental health problems suggest a more complex picture. First, there is one exception to the trend that negative affective well-being impairs cognition and behavior, indicating that the experience of strain may make entrepreneurs more inclined to think about creative, out-of-the-box solutions (Beutell et al., 2019). While this finding is in line with prior discussion on the beneficial effects of moderate work stress (A. E. Ahmed et al., 2022; Byron et al., 2010), I call for further research to explore under which circumstances these beneficial effects manifest – specifically as this review generally suggests an impairing effect of strain on performance and health. Second, even though studies on the outcomes of mental health problems on entrepreneurs' cognition are limited, preliminary evidence in this review indicates that ADHD does not necessarily impair, but rather change how entrepreneurs think. Hence, I encourage future research to investigate whether other mental health problems, which are typically also related to a divergent cognition (e.g., depression; Kube et al., 2020), also impact entrepreneurs' cognition

and how these differences manifest in terms of entrepreneurs' daily behavior or firm performance in the long term.

Finally, the insight that one well-being component influences others components underlines the importance of accounting for the multidimensionality of well-being (e.g., U. Stephan et al., 2023). Nevertheless, the review also highlights that current research is still missing the awareness of the multidimensionality of well-being, as not all studies explicitly state which well-being component they focus on. Thus, there is a need for more research that theorizes about and measures different well-being components to deepen our understanding of their interdependencies. In addition, the review indicates that positive well-being has the potential to levitate the undesirable effect of negative well-being. However, as not all studies find support for the moderating effect of positive well-being (i.e., Tahar et al., 2022), it is important for future research to examine the buffering effect of well-being in more depth and particularly focus on potential boundary conditions. Moreover, the review identifies an important research gap regarding the influence of entrepreneurs' well-being on entrepreneurs' physical health, as no studies explored the effect of positive well-being and the limited studies on the effect of negative well-being are inconclusive.

The review also shows that research on the outcomes of entrepreneurs' well-being is still limited to its effect on the business and the individual entrepreneur, as I only identify one qualitative study indicating that entrepreneurs' well-being can also affect the social environment of entrepreneurs (Turnalar-Çetinkaya & İslamoğlu, 2021). Thus, given the close relationship between entrepreneurs and employees as well as the central role of entrepreneurs' work for their families and social network (Harney & Alkhalaf, 2020; Kuske et al., 2024; Mathias & Wang, 2023), understanding how entrepreneurs' well-being spills over to people beyond the entrepreneur or contexts beyond their business remains an important research gap (U. Stephan, 2018).

The differentiation between well-being components also contributes to the prior debate on the functionality of the specific mental health disorder ADHD in entrepreneurship (Wiklund et al., 2020; Wiklund et al., 2018). Overall, the review confirms that individuals with an ADHD diagnosis or tendencies are more likely to self-select into entrepreneurship and indicates that this effect is particularly driven by the inattention symptom (e.g., Rajah et al., 2021). That is, entrepreneurship seems to be an attractive career opportunity for individuals who are willing to take risks and strive for a dynamic and varied working environment. However, the review does not support the notion that ADHD also benefits individuals when working as entrepreneurs, but rather suggests negative consequences in terms of earnings and well-being (e.g., Gong et al., 2022; Patel, Rietveld, Wolfe, & Wiklund, 2021). Given these insights, future research should change its focus away from the debate on whether or not ADHD is functional for entrepreneurs, and rather examines what resources and interventions can help entrepreneurs deal with ADHD-related challenges in their work (Lauder et al., 2022). The review also highlights the importance of future research to differentiate between the two central symptoms (i.e., inattention and hyperactivity/impulsivity) to fully understand the role of ADHD in entrepreneurship.

In addition, by considering the multidimensionality of well-being, this review also reveals important research gaps regarding the outcomes of specific well-being components. That is, the review identifies only one study that examines the outcomes on eudaimonic well-being (i.e., Eib & Bernhard-Oettel, 2023). This limited research is surprising as eudaimonic well-being specifically focuses on individuals' functioning and vitality (Ryff, 2019) and is therefore particularly likely to influence how entrepreneurs run their business. Thus, I encourage future research to delve deeper into the behavioral consequences of entrepreneurs' eudaimonic well-being. Moreover, the review reveals that research on specific mental health problems mainly focuses on ADHD, with limited studies considering the outcomes of stress-related mental

health problems, such as depression, anxiety and burnout (i.e., Dong et al., 2022a, 2022b; Gunia et al., 2021). Yet, even though entrepreneurs do not experience more stress-related mental health problems than employed individuals (U. Stephan et al., 2023), it is likely that they suffer particularly detrimental consequences if they do develop mental health problems due to their large responsibility and central role in their business (Torrès & Thurik, 2019). Hence, understanding these consequences and finding effective means for entrepreneurs to cope with stress-related mental health problems are crucial avenues for future research.

Finally, this review allows me to infer implications regarding the methodology of future research on the outcomes of entrepreneurs' well-being. One major concern is the dominance of survey-based, cross-sectional studies. Next to doubts regarding endogeneity and common method bias (Mullen et al., 2009; Sande & Ghosh, 2018), these methods may be particularly problematic as well-being may take time to manifest in outcomes or fluctuates (Sonnentag et al., 2023). Hence, future research needs to conduct more longitudinal studies, including the use of panel data as well as diary studies to account for the possibility that well-being affects entrepreneurs differently at different stages of their entrepreneurial career. In addition, the review highlights that current research mainly uses self-assessment to measure entrepreneurs' well-being. Yet, as well-being is also likely to show in the form of physical and behavioral symptoms, I encourage future research to explore new measurement methods. Promising alternatives identified in this review include medical diagnoses of mental health issues, third-party ratings, or genetic information. Lastly, the large amount of studies focusing on the mediating effect of entrepreneurs' well-being suggests that entrepreneurs' well-being may serve as an important mechanism in entrepreneurial processes. As such, considering entrepreneurs' well-being as a mediator may be a promising perspective for broader entrepreneurship research to explain entrepreneurial outcomes (e.g., Shepherd et al., 2019).

4.2 Limitations

Despite its contributions to research on entrepreneurs' well-being, this study is not without limitations. First, even though I use an established framework, I acknowledge that my differentiation of well-being components is still very broad (Warr, 2013). While I deem this framework particularly useful as an initial step to highlight differences in the outcomes of well-being components, I encourage future research to take an even more nuanced perspective on entrepreneurs' well-being. For example, taking into account differences in theoretical conceptualizations and measures may elicit further insights regarding the outcomes of each well-being component. Second, this study only considers peer-reviewed journal articles to ensure the quality of the included research (e.g., Jones et al., 2011; Zapkau et al., 2017). Nevertheless, by excluding non-published studies, such as working papers, conference proceedings, or dissertations, the insights of this review may be subject to publication bias.

5 Conclusion

The systematic review shows that entrepreneurs' well-being has consequences for entrepreneurs' success and performance, career choices, behavior and cognition, health and well-being, and social environment. As such, the review underlines the relevance of researching entrepreneurs' well-being. Moreover, the differentiation between positive cognitive well-being, positive affective well-being, positive general well-being, negative affective well-being, and mental health problems allows for nuanced insights into the individual effects of each well-being component on entrepreneurial outcomes. The research agenda highlights important avenues for future research to deepen current knowledge on outcomes of entrepreneurs' well-being further.

E Concluding Remarks

1 Core Results and Contributions

Well-being in entrepreneurship is a continuously growing stream of research, which involves a variety of perspectives that need to be investigated. Overall, the present dissertation advances current research by providing theory on how entrepreneurs can protect their own and their employees' well-being and on the consequences of entrepreneurs' well-being in three different studies. Each study examines a different research gap and generates unique insights into research on well-being in entrepreneurship (see Figure E-1 for an overview).

First, this dissertation six central attitudes and perceptions that drive MSE managers' decision to adopt formal stress prevention practices and develops a theoretical model explaining how these factors influence their adoption decision. Specifically, the model proposes that MSE managers' attitudes toward (a) formal practices, (b) external support, and (c) work stress mediate the relationship between their perceived closeness with employees and their decision to adopt formal stress prevention practices. Similarly, the model proposes that the three attitudes mediate the relationship between MSE managers' perceived expertise in stress prevention and their adoption decision. Finally, the model suggests that MSE managers' perceived employee buy-in moderates the influence of their attitudes on the adoption decision. The study advances current knowledge on how MSE managers deal with work stress by shifting the focus from MSE managers' *own* stress to the attitudes and perceptions that drive their decision to manage their *employees'* work stress (e.g., Dawkins et al., 2018; Suter et al., 2023). Moreover, the study contributes to current research on MSE managers' role as employers by untangling the ambivalent influence of closeness in MSEs (Harney et al., 2022; Kroon & Paauwe, 2021) as well as by elaborating on the central role of MSE managers as gatekeepers (Harney et al., 2022; Shepherd et al., 2015).

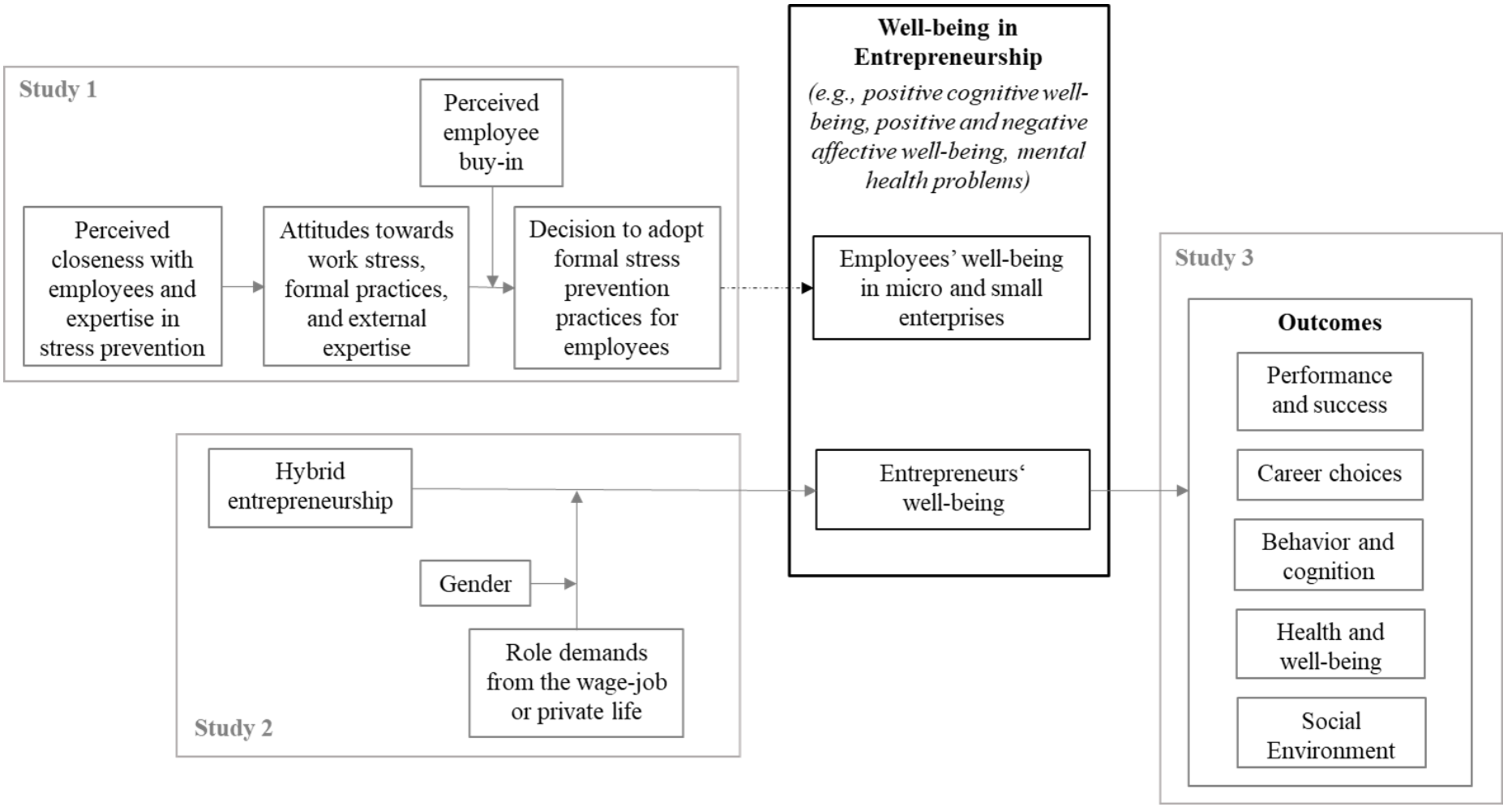

Figure E-1 Overview of Core Results

Second, this dissertation finds that the beneficial influence of a phase in hybrid entrepreneurship on entrepreneurs' well-being in full entrepreneurship depends on demands from roles outside entrepreneurship (i.e., their wage-job and private lives). Specifically, the findings indicate that rigid hours in the wage-job and caring responsibilities decrease the positive relationship between a preceding phase in hybrid entrepreneurship and subsequent well-being. Moreover, a subsample analysis reveals that the negative moderating effect of rigid hours in the wage-job particularly applies to male hybrid entrepreneurs, while the negative moderating effect of caring responsibilities particularly applies to female entrepreneurs. The study contributes to research in entrepreneurship by elaborating on current theorizing on learning during hybrid entrepreneurship (Carr et al., 2023; Folta et al., 2010; Raffiee & Feng, 2014), providing a novel perspective on the interdependencies between entrepreneurs' well-being and actions over time (Shir & Ryff, 2021; U. Stephan et al., 2023), and advancing the conversation on gender differences in entrepreneurs' role conflict and well-being (Jennings & McDougald, 2007; U. Stephan et al., 2020).

Third, this dissertation systematically reviews the outcomes of entrepreneurs' well-being by accounting for the multidimensionality of well-being. The study identifies differences with regard to the influence of each well-being component within five outcome categories (i.e., performance and success, entrepreneurial career choices, entrepreneurial behavior and cognition, health and well-being, and social environment). The study advances prior research on outcomes of well-being (U. Stephan, 2018) by identifying differences in the influence of well-being components on subjective and objective performance indicators or across the entrepreneurial careers. In addition, the study contributes to the debate on the functionality of mental health disorders (Wiklund et al., 2020; Wiklund et al., 2018) by showing that mental health disorders may drive entrepreneurial entry but do not necessarily benefit individuals

when working as an entrepreneur. Finally, the review provides recommendations for future research.

2 Practical Implications

The insights of this dissertation contribute to practice by highlighting how providers of stress prevention practices can address MSE managers, how aspiring entrepreneurs and supporting organizations can ensure that individuals learn skills to protect their well-being before entering full entrepreneurship, and how each well-being component impacts entrepreneurs' business and personal live.

First, this dissertation offers valuable insights for providers of stress prevention on how to interact with the specific target group of MSE managers to increase the adoption of formal stress prevention practices in MSEs. Specifically, the study recommends how to increase MSE managers' perceived expertise in stress prevention in four regards. First, the study recommends offering courses to MSE managers that inform about the sources and consequences of work stress and the means to prevent these. Second, the study recommends that providers of stress prevention practices particularly emphasize the direct benefits as well as the positive side effects of formal practices, such as increasing employer attractiveness, to convince MSE managers. Third, the study recommends that providers of stress prevention practices need to focus on reducing the reservations of MSE managers against external parties, for example, by highlighting their neutrality and expertise. Finally, the study highlights that providers need to take the initiative and proactively contact MSE managers to increase the adoption of formal stress prevention practices, ideally at early career stages or in settings outside their daily business (e.g., industry networking events).

Second, this dissertation has practical implications for aspiring entrepreneurs who are considering starting a new business in hybrid entrepreneurship as well as organizations and

networks that support individuals in successfully entering entrepreneurship (e.g., business incubators). That is, the study highlights the value of learning skills to protect well-being prior to entering full entrepreneurship. Next to encouraging individuals to observe and reflect on their experience of running their own business and coping with feeling stressed during hybrid entrepreneurship, the supporting organizations and networks could offer additional training sessions focusing on stress management skills. However, as the positive effect of hybrid entrepreneurship decreases with increasing degrees of rigid hours in the wage-job or caring responsibilities, aspiring entrepreneurs also need to consider whether they are able to transform their experiences into skills during hybrid entrepreneurship. Moreover, we advise supporting organizations and networks to be particularly sensitive to personal circumstances of hybrid entrepreneurs. As such, supporting organizations need to identify means through which hybrid entrepreneurs can learn skills to protect their well-being despite constraining role demands, for example, by offering assistance with their caring responsibilities.

Finally, this dissertation contributes to practice by highlighting that entrepreneurs' well-being has consequences for nearly all areas of entrepreneurs' work and private lives. Thus, not only entrepreneurs but also other organizations and policymakers aiming to increase entrepreneurship need to account for entrepreneurs' well-being from at least two perspectives. On the one hand, it is important to promote entrepreneurs' positive well-being, such as their life satisfaction and happiness, to exploit the associated benefits. On the other hand, they need to make efforts to prevent negative well-being to mitigate the negative consequences of entrepreneurs' strain, emotional exhaustion, or mental health problems. With regard to the latter, it is also important that entrepreneurs with mental health problems have access to support services that help them deal with challenges that they might face after entering entrepreneurship.

3 Limitations and Future Research Implications

Despite the theoretical and practical contributions, the studies in this dissertation are not without limitations. First, the methodologies limit the inferences that can be drawn from Study 1 and Study 2. The qualitative nature of Study 1 limits the generalizability of its findings, as the insights particularly apply to MSE managers who are open to discussing the topic of work stress. Thus, I call for future research to investigate in how far the proposed theoretical model expands to other types of MSE managers, such as those who are particularly skeptical toward the topic and their responsibility as an employer (Kroon & Paauwe, 2021). In addition, the correlational analysis underlying Study 2 does not allow for a causal interpretation of the relationship between hybrid entrepreneurship and well-being in full entrepreneurship. Despite various efforts to address selection effects (e.g., CEM and Heckman Selection Model) and controlling for the influence of unobserved stable individual characteristics using an individual-fixed effects estimator, future research should continue to explore opportunities that allow causal inferences, such as natural experiments.

Second, the studies in this dissertation face specific sample restrictions. Specifically, the panel data used in Study 2 only allows for the identification of self-employed individuals, without the possibility to differentiate different types of entrepreneurs (i.e., growth-driven entrepreneurs, freelancers, or managers of family businesses). Even though this broad conceptualization of entrepreneurship is in line with the study's purpose to explain the well-being of individuals who run their own business, future research using more specific samples is important to validate the theory further. In addition, the sample of studies reviewed in Study 3 only includes studies published in peer-reviewed journals. Even though this sample restriction controls for the articles' quality and is therefore commonly used in systematic literature reviews (e.g., Jones et al., 2011; Zapkau et al., 2017), it is important to acknowledge that it could lead to publication bias. Hence, future reviews on the outcomes of entrepreneurs'

well-being should also include non-published studies, including working papers, conference proceedings, or dissertations.

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F Appendix

Study 1: Too Small to Care? Developing a Model Explaining Managers' Decision to Adopt Employee Stress Prevention Practices in Micro and Small Enterprises

Co-Author	Contributions	Share of Contribution
Johanna Kuske	• writing the original draft • writing revised versions and editing • conceptualizing the paper • administering the project • collecting the data • conducting the formal analysis • curating the data • visualizing the results • validating the results	55 %
Florian B. Zapkau	• supporting the writing of the original draft and revised versions • supporting the visualization of results • acquiring funding	15 %
Gertraud M. Gänser-Stickler	• supporting the writing of revised versions • conducting the formal analysis • visualizing the results • validating the results	10 %
Christian Schwens	• supporting the writing of the original draft and revised versions • supporting the conceptualization of the paper • supporting the visualization of results • acquiring funding • providing supervision	20 %

03.04.25
Datum, Johanna Kuske

02.04.2025
Datum, Florian B. Zapkau

03.04.2025
Datum, Gertraud M. Gänser-Stickler

03.04.2025
Datum, Christian Schwens

Figure F-1 Acknowledgment of Shares of Contribution for Study 1

Study 2: Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship

Co-Author	Contributions	Share of Contribution
Johanna Kuske	• writing the original draft • writing revised versions and editing • conceptualizing the paper • administering the project • conducting the formal analysis • curating the data • visualizing the results • validating the results	50 %
Matthias Schulz	• writing of the original draft as well as the revised versions and editing • conducting formal analysis • conceptualizing the paper • providing supervision	25 %
Christian Schwens	• supporting the writing of the original draft as well as the revised versions • supporting the conceptualization of the paper • providing supervision	25 %

03.04.25
Datum, Johanna Kuske

02.04.2025
Datum, Matthias Schulz

03.04.25
Datum, Christian Schwens

Figure F-2 Acknowledgment of Shares of Contribution for Study 2

Table F.1 General Health Questionnaire (Goldberg, 1972)

The next questions are about how you have been feeling over the last few weeks.	
Item 1	Have you recently been able to concentrate on whatever you are doing?
Item 2	Have you recently lost much sleep over worry?
Item 3	Have you recently felt that you are playing a useful part in things?
Item 4	Have you recently felt capable of making decisions about things?
Item 5	Have you recently felt constantly under strain?
Item 6	Have you recently felt you could not overcome your difficulties?
Item 7	Have you recently been able to enjoy your normal day-to-day activities?
Item 8	Have you recently been able to face up to problems?
Item 9	Have you recently been feeling unhappy or depressed?
Item 10	Have you recently been losing confidence in yourself?
Item 11	Have you recently been thinking of yourself as a worthless person?
Item 12	Have you recently been feeling reasonably happy, all things considered?

Notes: Question wording as asked in the *Understanding Society* panel survey. Response options for the positive items: more so than usual (value of 0 in scoring), same as usual (1), less so than usual (2), much less than usual (3). Response options for the negative items: not at all (0), no more than usual (1), rather more than usual (2), much more than usual (3).

Table F.2 Regression Results Age Restriction (Full Sample)

	Model 1			Model 2			Model 3		
Variable	B	SE	p	B	SE	p	B	SE	p
Constant	26.41	0.11	0.000	26.41	0.11	0.000	26.44	0.11	0.000
Age_t	0.34	0.12	0.006	0.34	0.12	0.006	0.29	0.13	0.023
$Female_t$[a]	-0.32	0.14	0.018	-0.32	0.14	0.019	-0.28	0.14	0.037
$Married_t$[a]	-0.16	0.12	0.180	-0.16	0.12	0.183	-0.11	0.13	0.401
$Education_t$[b]									
Qualification for University Entrance	-0.20	0.14	0.134	-0.21	0.14	0.133	-0.21	0.14	0.132
University Degree	-0.16	0.16	0.320	-0.16	0.16	0.321	-0.19	0.16	0.238
Vocational Training	-0.08	0.13	0.555	-0.07	0.13	0.568	-0.10	0.13	0.448
Other Qualification	0.09	0.11	0.414	0.09	0.11	0.414	0.09	0.11	0.417
$Living\ Situation_t$[c]									
Owns a House / Mortgage	0.37	0.17	0.025	0.37	0.17	0.026	0.40	0.17	0.015
Other Living Situation	0.22	0.18	0.215	0.22	0.18	0.218	0.23	0.18	0.187
$Financial\ Resources\ in\ Household_t$	0.31	0.11	0.005	0.32	0.11	0.005	0.27	0.11	0.015
$Well\text{-}being_{t-1}$	1.75	0.14	0.000	1.75	0.14	0.000	1.75	0.14	0.000
$Has\ Employees_t$[a]	0.13	0.12	0.254	0.13	0.12	0.272	0.13	0.12	0.266
$Prior\ Entrepreneurial\ Experience_t$[a]	0.02	0.12	0.866	0.03	0.12	0.825	0.04	0.12	0.758
$Hybrid\ Entrepreneurship_{t-1}$[a]				-0.06	0.13	0.636	0.05	0.11	0.661
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							-0.07	0.11	0.508
$Caring\ Responsibilities_{t-1}$[a]							-0.13	0.12	0.278
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.30	0.13	0.021
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.34	0.11	0.002
Fixed Effects									
Occupational Type Dummies (9)	Yes			Yes			Yes		
Year Dummies (28)	Yes			Yes			Yes		
R-squared	0.221			0.221			0.229		
No. of Observations	1,696			1,696			1,696		

Notes: Linear regression with robust standard errors. Observations matched on well-being in t-1. Dependent variable: well-being in t. All independent variables are standardized. [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

Table F.3 Regression Results Age Restriction (Gender Subsamples)

	Female Subsample									Male Subsample								
	Model 1a			Model 2a			Model 3a			Model 1b			Model 2b			Model 3b		
Variable	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Constant	25.85	0.24	0.000	25.86	0.24	0.000	25.91	0.24	0.000	26.88	0.14	0.000	26.88	0.14	0.000	26.90	0.14	0.000
Age_t	0.28	0.23	0.226	0.29	0.23	0.214	0.25	0.24	0.299	0.25	0.17	0.143	0.25	0.17	0.143	0.19	0.19	0.310
$Married_t$ [a]	-0.11	0.28	0.691	-0.10	0.27	0.719	-0.03	0.29	0.913	-0.13	0.15	0.400	-0.13	0.15	0.401	-0.04	0.18	0.812
$Education_t$ [b]																		
Qualification for University Entrance	-0.29	0.32	0.357	-0.28	0.32	0.375	-0.24	0.31	0.450	-0.07	0.18	0.690	-0.07	0.18	0.712	-0.09	0.18	0.637
University Degree	-0.56	0.34	0.100	-0.57	0.34	0.098	-0.54	0.34	0.114	-0.12	0.22	0.583	-0.12	0.22	0.575	-0.18	0.22	0.402
Vocational Training	-0.27	0.32	0.386	-0.25	0.31	0.429	-0.29	0.31	0.348	0.20	0.14	0.169	0.20	0.15	0.172	0.18	0.15	0.211
Other Qualification	-0.09	0.27	0.749	-0.08	0.27	0.765	-0.04	0.27	0.870	0.05	0.17	0.741	0.06	0.17	0.734	0.05	0.17	0.782
$Living\ Situation_t$ [c]																		
Owns a House / Mortgage	0.50	0.39	0.200	0.48	0.38	0.210	0.43	0.38	0.259	0.19	0.18	0.291	0.20	0.18	0.271	0.22	0.18	0.219
Other Living Situation	0.09	0.33	0.789	0.11	0.33	0.752	0.09	0.33	0.793	0.26	0.23	0.249	0.27	0.23	0.232	0.29	0.23	0.210
$Financial\ Resources\ in\ Household_t$	0.56	0.23	0.017	0.57	0.24	0.016	0.46	0.24	0.053	0.11	0.14	0.433	0.11	0.14	0.451	0.09	0.14	0.545
$Well\text{-}being_{t-1}$	1.82	0.28	0.000	1.82	0.28	0.000	1.82	0.28	0.000	1.53	0.18	0.000	1.53	0.18	0.000	1.54	0.18	0.000
$Has\ Employees_t$ [a]	0.04	0.23	0.853	0.03	0.24	0.910	0.01	0.24	0.959	0.04	0.15	0.810	0.05	0.15	0.752	0.06	0.15	0.698
$Prior\ Entrepreneurial\ Experience_t$ [a]	-0.48	0.24	0.049	-0.45	0.24	0.061	-0.44	0.24	0.066	0.12	0.16	0.453	0.11	0.16	0.521	0.11	0.16	0.498
$Hybrid\ Entrepreneurship_{t-1}$ [a]				-0.27	0.30	0.368	-0.13	0.27	0.619				0.13	0.13	0.312	0.21	0.10	0.040
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							0.20	0.25	0.411							-0.15	0.12	0.220
$Caring\ Responsibilities_{t-1}$ [a]							-0.01	0.26	0.963							-0.23	0.18	0.184
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.37	0.28	0.186							-0.25	0.12	0.039
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.70	0.25	0.006							-0.16	0.12	0.176
Fixed Effects																		
Occupational Type Dummies (9)	Yes			Yes			Yes			Yes			Yes			Yes		
Year Dummies (28)	Yes			Yes			Yes			Yes			Yes			Yes		
R-squared	0.321			0.323			0.343			0.231			0.232			0.237		
No. of Observations	528			528			528			1,010			1,010			1,010		

Notes : Linear regression with robust standard errors. Observations matched on well-being in t-1. Dependent variable: well-being in t. All independent variables are standardized.

[a]Dummy variable: 1 = yes. [b]Compared against omitted category "renting". [c]Compared against omitted category "secondary education or lower".

Table F.4 Regression Results Heckman Selection Model (Full Sample)

	First Stage Heckman DV = Entry to Full Entrepreneuship			Second Stage Heckman DV = Well-being		
Variables	B	SE	*p*	B	SE	*p*
Constant	-1.50	0.02	0.000	26.96	2.11	0.000
Age_t	-0.09	0.02	0.000	0.25	0.13	0.062
$Female_t$ [a]	0.02	0.02	0.241	-0.22	0.12	0.061
$Married_t$ [a]	-0.02	0.02	0.254	-0.06	0.12	0.577
$Education_t$ [b]						
Qualification for University Entrance	-0.02	0.02	0.322	-0.15	0.12	0.226
University Degree	0.01	0.02	0.628	-0.26	0.14	0.060
Vocational Training	0.00	0.02	0.946	-0.06	0.11	0.569
Other Qualification	-0.01	0.02	0.448	0.06	0.11	0.568
$Living\ Situation_t$ [c]						
Owns a House / Mortgage	-0.05	0.02	0.008	0.41	0.14	0.003
Other Living Situation	-0.06	0.02	0.005	0.31	0.15	0.044
$Financial\ Resources\ in\ Household_t$	0.02	0.02	0.220	0.16	0.11	0.125
$Well\text{-}being_{t-1}$	0.06	0.02	0.000	1.78	0.12	0.000
$Prior\ Entrepreneurial\ Experience_t$ [a]	0.44	0.01	0.000	-0.16	0.33	0.631
$Hybrid\ Entrepreneurship_{t-1}$ [a]	0.01	0.02	0.567	0.22	0.10	0.033
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$	0.07	0.02	0.000	-0.11	0.12	0.396
$Caring\ Responsibilities_{t-1}$ [a]	0.01	0.02	0.621	-0.13	0.11	0.245
Interaction Rigid Hours x Hybrid Entrepreneurship	0.04	0.02	0.069	-0.33	0.13	0.013
Interaction Caring Resp. x Hybrid Entrepreneurship	0.00	0.01	0.812	-0.28	0.08	0.001
$Workplace\ Size_{t-1}$ [d]						
25-49 employees	-0.04	0.02	0.011			
50-199 employees	-0.07	0.02	0.000			
200-499 employees	-0.09	0.02	0.000			
500 and more employees	-0.06	0.02	0.000			
Lambda	-0.53	1.10	0.631			
Fixed Effects:						
Year Dummies (28)		Yes			Yes	
Occupational Types (9)		Yes			Yes	
No. of Observations		18,299			1,661	

Notes: All independent variables are standardized. [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting". [d]Compared against omitted category "1-24 employees".

Table F.5 Regression Results Heckman Selection Model (Gender Subsamples)

	Female Subsample						Male Subsample					
	First Stage Heckman DV = Entry to Full Entrepreneuship			Second Stage Heckman DV = Well-being			First Stage Heckman DV = Entry to Full Entrepreneuship			Second Stage Heckman DV = Well-being		
Variables	B	SE	*p*	B	SE	*p*	B	SE	*p*	B	SE	*p*
Constant	-1.57	0.03	0.000	24.33	3.55	0.000	-1.48	0.02	0.000	29.28	2.50	0.000
Age_t	-0.03	0.03	0.288	0.35	0.20	0.086	-0.13	0.02	0.000	0.28	0.18	0.120
$Married_t$[a]	-0.01	0.03	0.598	-0.10	0.21	0.630	-0.02	0.02	0.420	0.04	0.14	0.792
$Education_t$[b]												
Qualification for University Entrance	-0.01	0.03	0.693	-0.39	0.23	0.086	-0.02	0.02	0.482	-0.04	0.14	0.791
University Degree	-0.01	0.03	0.740	-0.41	0.27	0.121	0.03	0.03	0.197	-0.28	0.16	0.081
Vocational Training	-0.02	0.03	0.435	-0.30	0.21	0.156	0.01	0.02	0.506	0.03	0.13	0.829
Other Qualification	0.00	0.03	0.854	0.01	0.21	0.976	-0.01	0.02	0.490	0.08	0.13	0.526
$Living\ Situation_t$[c]												
Owns a House / Mortgage	-0.06	0.03	0.074	0.48	0.26	0.069	-0.06	0.03	0.029	0.35	0.16	0.028
Other Living Situation	-0.06	0.04	0.096	0.53	0.29	0.069	-0.07	0.03	0.017	0.20	0.18	0.264
$Financial\ Resources\ in\ Household_t$	0.02	0.03	0.383	0.30	0.21	0.151	0.01	0.02	0.426	0.03	0.11	0.773
$Well\text{-}being_{t-1}$	0.08	0.03	0.001	1.88	0.23	0.000	0.04	0.02	0.042	1.70	0.13	0.000
$Prior\ Entrepreneurial\ Experience_t$[a]	0.44	0.02	0.000	0.06	0.52	0.904	0.46	0.01	0.000	-0.43	0.40	0.283
$Hybrid\ Entrepreneurship_{t-1}$[a]	0.04	0.02	0.135	0.17	0.17	0.334	-0.01	0.02	0.580	0.28	0.12	0.023
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$	0.10	0.03	0.000	0.15	0.27	0.566	0.05	0.02	0.012	-0.24	0.13	0.076
$Caring\ Responsibilities_{t-1}$[a]	0.00	0.03	0.934	0.28	0.19	0.148	0.01	0.02	0.661	-0.37	0.13	0.004
Interaction Rigid Hours x Hybrid Entrepreneurship	0.02	0.03	0.553	-0.40	0.23	0.081	0.04	0.03	0.101	-0.28	0.16	0.084
Interaction Caring Resp. x Hybrid Entrepreneurship	0.01	0.02	0.823	-0.50	0.15	0.001	0.00	0.02	0.888	-0.14	0.10	0.176
$Workplace\ Size_{t-1}$[d]												
25-49 employees	-0.03	0.02	0.299				-0.04	0.02	0.035			
50-199 employees	-0.08	0.03	0.004				-0.06	0.02	0.004			
200-499 employees	-0.09	0.03	0.001				-0.09	0.02	0.000			
500 and more employees	-0.07	0.03	0.010				-0.05	0.02	0.016			
Lambda	0.53	1.80	0.771				-1.52	1.31	0.246			
Fixed Effects:												
Year Dummies (28)		Yes			Yes			Yes			Yes	
Occupational Types (9)		Yes			Yes			Yes			Yes	
No. of Observations		7,302			615			10,987			1,046	

Notes: [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting". [d]Compared against omitted category "1-24 employees".
All independent variables are standardized.

Table F.6 Regression Results with Strain as Dependent Variable (Full Sample)

	Model 1			Model 2			Model 3		
Variable	B	SE	p	B	SE	p	B	SE	p
Constant	2.07	0.02	0.000	2.07	0.02	0.000	2.07	0.02	0.000
Age_t	-0.07	0.02	0.000	-0.07	0.02	0.000	-0.06	0.02	0.002
$Female_t$ [a]	0.04	0.02	0.062	0.04	0.02	0.063	0.03	0.02	0.119
$Married_t$ [a]	0.01	0.02	0.444	0.01	0.02	0.450	0.00	0.02	0.832
$Education_t$ [b]									
Qualification for University Entrance	-0.02	0.02	0.253	-0.02	0.02	0.254	-0.02	0.02	0.265
University Degree	-0.02	0.02	0.440	-0.02	0.02	0.440	-0.01	0.02	0.600
Vocational Training	-0.05	0.02	0.016	-0.05	0.02	0.016	-0.04	0.02	0.026
Other Qualification	-0.03	0.02	0.103	-0.03	0.02	0.103	-0.03	0.02	0.100
Living $Situation_t$ [c]									
Owns a House / Mortgage	-0.04	0.02	0.136	-0.04	0.02	0.138	-0.04	0.02	0.093
Other Living Situation	0.00	0.03	0.873	0.00	0.03	0.877	-0.01	0.03	0.795
Financial Resources in $Household_t$	-0.02	0.01	0.072	-0.02	0.01	0.071	-0.02	0.01	0.124
$Strain_{t-1}$	0.28	0.02	0.000	0.28	0.02	0.000	0.28	0.02	0.000
Has $Employees_t$ [a]	0.07	0.02	0.000	0.07	0.02	0.000	0.07	0.02	0.000
Prior Entrepreneurial $Experience_t$ [a]	0.02	0.02	0.338	0.02	0.02	0.356	0.01	0.02	0.424
Hybrid $Entrepreneurship_{t-1}$ [a]				0.01	0.02	0.731	-0.01	0.02	0.551
Rigid Hours in $Wage\text{-}job_{t-1}$							0.01	0.02	0.525
Caring $Responsibilities_{t-1}$ [a]							0.03	0.02	0.154
Interaction Rigid Hours x Hybrid Entrepreneurship							0.04	0.02	0.029
Interaction Caring Resp. x Hybrid Entrepreneurship							0.05	0.02	0.001
Fixed Effects									
Year Dummies (28)	Yes			Yes			Yes		
Occupational Types (9)	Yes			Yes			Yes		
R-squared	0.159			0.159			0.166		
No. of Observations	1,803			1,803			1,803		

Notes: Linear regression with robust standard errors. Observations matched on strain in t-1. Dependent variable: strain in t. All independent variables are standardized. [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

Table F.7 Regression Results with Strain as Dependent Variable (Gender Subsamples)

	Female Subsample									Male Subsample								
	Model 1a			Model 2a			Model 3a			Model 1b			Model 2b			Model 3b		
Variable	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Constant	25.48	0.20	0.000	25.48	0.20	0.000	2.15	0.03	0.000	2.00	0.02	0.000	2.00	0.02	0.000	2.00	0.02	0.000
Age_t	0.21	0.21	0.319	0.21	0.21	0.312	-0.05	0.03	0.180	-0.07	0.03	0.004	-0.07	0.03	0.004	-0.07	0.03	0.013
$Married_t$ [a]	0.05	0.24	0.847	0.05	0.24	0.821	0.00	0.03	0.973	0.01	0.02	0.666	0.01	0.02	0.667	0.00	0.03	0.881
$Education_t$ [b]																		
Qualification for University Entrance	-0.46	0.25	0.061	-0.46	0.24	0.062	0.01	0.04	0.752	-0.04	0.02	0.093	-0.04	0.02	0.094	-0.04	0.02	0.104
University Degree	-0.20	0.31	0.527	-0.20	0.31	0.519	0.01	0.04	0.798	-0.01	0.03	0.849	-0.01	0.03	0.848	0.00	0.03	0.926
Vocational Training	-0.06	0.25	0.814	-0.05	0.25	0.833	-0.04	0.03	0.213	-0.04	0.02	0.075	-0.04	0.02	0.075	-0.04	0.02	0.088
Other Qualification	-0.02	0.22	0.919	-0.02	0.22	0.921	-0.02	0.03	0.558	-0.03	0.02	0.275	-0.03	0.02	0.276	-0.02	0.02	0.303
$Living\ Situation_t$ [c]																		
Owns a House / Mortgage	1.15	0.36	0.001	1.14	0.35	0.001	-0.09	0.04	0.039	-0.01	0.03	0.601	-0.01	0.03	0.604	-0.02	0.03	0.448
Other Living Situation	0.80	0.30	0.008	0.81	0.31	0.008	-0.07	0.04	0.088	0.03	0.03	0.420	0.03	0.03	0.417	0.02	0.03	0.479
$Financial\ Resources\ in\ Household_t$	0.22	0.18	0.212	0.23	0.18	0.210	-0.03	0.02	0.120	-0.01	0.02	0.570	-0.01	0.02	0.568	-0.01	0.02	0.611
$Strain_{t-1}$	-1.61	0.26	0.000	-1.62	0.26	0.000	0.28	0.03	0.000	0.26	0.02	0.000	0.26	0.02	0.000	0.26	0.02	0.000
$Has\ Employees_t$ [a]	0.02	0.21	0.928	0.01	0.21	0.959	0.11	0.03	0.000	0.05	0.02	0.043	0.05	0.02	0.042	0.05	0.02	0.043
$Prior\ Entrepreneurial\ Experience_t$ [a]	-0.44	0.22	0.046	-0.43	0.22	0.050	0.06	0.03	0.045	-0.01	0.02	0.707	-0.01	0.02	0.695	-0.01	0.02	0.654
$Hybrid\ Entrepreneurship_{t-1}$ [a]				-0.12	0.25	0.622	0.00	0.03	0.872				0.00	0.02	0.876	-0.02	0.02	0.355
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							-0.02	0.03	0.592							0.03	0.02	0.162
$Caring\ Responsibilities_{t-1}$ [a]							0.07	0.03	0.043							0.02	0.02	0.457
Interaction Rigid Hours x Hybrid Entrepreneurship							0.01	0.02	0.817							0.06	0.02	0.006
Interaction Caring Resp. x Hybrid Entrepreneurship							0.09	0.03	0.003							0.03	0.02	0.066
Fixed Effects																		
Occupational Type Dummies (9)	Yes			Yes			Yes			Yes			Yes			Yes		
Year Dummies (28)	Yes			Yes			Yes			Yes			Yes			Yes		
R-squared	0.14			0.14			0.20			0.19			0.19			0.20		
No. of Observations	673			673			673			1,086			1,086			1,086		

Notes: Linear regression with robust standard errors. Observations matched on strain in t-1. Dependent variable: strain in t. All independent variables are standardized.

[a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

Table F.8 Regression Results with Life Satisfaction as Dependent Variable (Full Sample)

	Model 1			Model 2			Model 3		
Variable	B	SE	p	B	SE	p	B	SE	p
Age_t	0.06	0.06	0.308	0.06	0.06	0.289	0.04	0.06	0.504
$Female_t$ [a]	0.11	0.06	0.046	0.11	0.06	0.048	0.12	0.06	0.040
$Married_t$ [a]	0.04	0.06	0.513	0.03	0.06	0.548	0.05	0.06	0.354
$Education_t$ [b]									
Qualification for University Entrance	-0.06	0.06	0.300	-0.06	0.06	0.320	-0.06	0.06	0.293
University Degree	-0.16	0.07	0.025	-0.16	0.07	0.024	-0.17	0.07	0.020
Vocational Training	-0.01	0.06	0.933	-0.01	0.06	0.907	-0.02	0.06	0.776
Other Qualification	0.03	0.06	0.568	0.03	0.06	0.586	0.03	0.06	0.609
$Living\ Situation_t$ [c]									
Owns a House / Mortgage	0.11	0.07	0.135	0.11	0.07	0.125	0.12	0.07	0.099
Other Living Situation	0.05	0.06	0.458	0.05	0.06	0.451	0.05	0.06	0.426
$Financial\ Resources\ in\ Household_t$	0.03	0.07	0.636	0.03	0.06	0.657	0.02	0.06	0.750
$Life\ Satisfaction_{t-1}$	0.82	0.08	0.000	0.82	0.08	0.000	0.81	0.08	0.000
$Has\ Employees_t$ [a]	0.01	0.05	0.815	0.02	0.05	0.733	0.02	0.05	0.690
$Prior\ Entrepreneurial\ Experience_t$ [a]	-0.08	0.05	0.113	-0.08	0.05	0.084	-0.09	0.05	0.078
$Hybrid\ Entrepreneurship_{t-1}$ [a]				0.07	0.04	0.092	0.11	0.04	0.012
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							0.03	0.05	0.596
$Caring\ Responsibilities_{t-1}$ [a]							-0.08	0.05	0.157
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.12	0.06	0.052
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.07	0.04	0.052
Fixed Effects									
Occupational Type Dummies (9)	Yes			Yes			Yes		
Year Dummies (28)	Yes			Yes			Yes		
Pseudo R-squared	0.065			0.065			0.067		
No. of Observations	1,495			1,495			1,495		

Notes : Ordered logit regression with robust standard errors. Observations matched on life satisfaction in t-1. Dependent variable: life satisfaction in t. All independent variables are standardized.

[a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

Table F.9 Regression Results with Life Satisfaction as Dependent Variable (Gender Samples)

	Female Subsample									Male Subsample								
	Model 1a			Model 2a			Model 3a			Model 1b			Model 2b			Model 3b		
Variable	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p	B	SE	p
Age_t	0.06	0.10	0.518	0.06	0.10	0.518	0.05	0.10	0.628	0.10	0.08	0.186	0.11	0.08	0.160	0.08	0.08	0.310
$Married_t$[a]	0.01	0.10	0.936	0.01	0.10	0.937	0.03	0.10	0.796	0.04	0.07	0.541	0.04	0.07	0.552	0.08	0.08	0.337
$Education_t$[b]																		
Qualification for University Entrance	-0.28	0.12	0.016	-0.28	0.12	0.017	-0.27	0.12	0.023	0.03	0.07	0.641	0.04	0.07	0.605	0.03	0.07	0.680
University Degree	-0.44	0.13	0.001	-0.44	0.13	0.001	-0.43	0.14	0.001	-0.05	0.09	0.562	-0.06	0.09	0.515	-0.06	0.09	0.483
Vocational Training	-0.08	0.11	0.443	-0.08	0.11	0.442	-0.11	0.11	0.335	0.02	0.07	0.732	0.02	0.07	0.764	0.02	0.07	0.830
Other Qualification	0.01	0.09	0.925	0.01	0.09	0.925	0.01	0.09	0.871	0.01	0.08	0.890	0.01	0.08	0.923	0.01	0.08	0.950
$Living\ Situation_t$[c]																		
Owns a House / Mortgage	0.29	0.14	0.033	0.29	0.14	0.033	0.28	0.14	0.042	0.00	0.09	0.975	0.00	0.09	0.965	0.01	0.09	0.951
Other Living Situation	0.27	0.13	0.032	0.27	0.13	0.033	0.26	0.13	0.039	-0.05	0.08	0.496	-0.05	0.08	0.553	-0.04	0.08	0.572
$Financial\ Resources\ in\ Household_t$	0.08	0.18	0.644	0.08	0.18	0.645	0.05	0.15	0.746	0.05	0.07	0.533	0.04	0.07	0.566	0.03	0.07	0.665
$Life\ Satisfaction_{t-1}$	0.94	0.14	0.000	0.94	0.14	0.000	0.94	0.14	0.000	0.76	0.10	0.000	0.76	0.10	0.000	0.75	0.10	0.000
$Has\ Employees_t$[a]	-0.09	0.09	0.308	-0.09	0.09	0.310	-0.10	0.09	0.289	0.06	0.06	0.324	0.07	0.07	0.256	0.08	0.07	0.215
$Prior\ Entrepreneurial\ Experience_t$[a]	-0.17	0.08	0.047	-0.17	0.08	0.045	-0.17	0.08	0.041	-0.07	0.06	0.293	-0.08	0.06	0.213	-0.08	0.06	0.208
$Hybrid\ Entrepreneurship_{t-1}$[a]				0.00	0.08	0.972	0.07	0.07	0.367				0.11	0.05	0.033	0.11	0.05	0.030
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$							0.07	0.09	0.462							0.03	0.06	0.666
$Caring\ Responsibilities_{t-1}$[a]							-0.04	0.09	0.666							-0.09	0.07	0.194
Interaction Rigid Hours x Hybrid Entrepreneurship							-0.19	0.09	0.046							-0.02	0.08	0.834
Interaction Caring Resp. x Hybrid Entrepreneurship							-0.16	0.07	0.019							-0.01	0.05	0.856
Fixed Effects																		
Year Dummies (27)	Yes			Yes			Yes			Yes			Yes			Yes		
Occupational Type Dummies (9)	Yes			Yes			Yes			Yes			Yes			Yes		
Pseudo R-squared	0.103			0.103			0.108			0.058			0.059			0.060		
No. of Observations	574			574			574			921			921			921		

Notes: Ordered logit regression with robust standard errors. Observations matched on life satisfaction in t-1. Dependent variable: life satisfaction in t. All independent variables are standardized.
[a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting".

Table F.10 Regression Results Fixed Effects Model (Full Sample)

Variable	B	SE	p
Constant	24.91	0.85	0.000
Age_t	-6.91	7.20	0.340
$Married_t$ [a]	0.28	0.46	0.543
$Education_t$ [b]			
Qualification for University Entrance	-0.53	0.88	0.551
University Degree	2.77	1.17	0.020
Vocational Training	0.48	1.27	0.708
Other Qualification	0.62	0.43	0.150
$Living\ Situation_t$ [c]			
Owns a House / Mortgage	1.42	1.40	0.312
Other Living Situation	1.55	1.11	0.165
$Financial\ Resources\ in\ Household_t$	-0.22	0.30	0.455
$Entry\ to\ Full\ Entrepreneurship_{t-1}$ [a]	0.16	0.14	0.251
$Rigid\ Hours\ in\ Wage\text{-}job_{t-1}$	-0.30	0.16	0.060
$Caring\ Responsibilities_{t-1}$ [a]	-0.06	0.30	0.853
Interaction Rigid Hours x Entry to Full Entrepreneurship	-0.36	0.14	0.011
Interaction Caring Resp. x Entry to Full Entrepreneurship	-0.39	0.14	0.006
Fixed Effects			
Occupational Type Dummies (9)		Yes	
Year Dummies (28)		Yes	
Individual-level (101)		Yes	
Within R-squared		0.098	
No. of Observations		694	

Notes: Individual-fixed linear regression with robust standard errors. Dependent variable: well-being in t. All independent variables are standardized. [a]Dummy variable: 1 = yes. [b]Compared against omitted category "secondary education or lower". [c]Compared against omitted category "renting". We do not control for the following variables: being female and prior entrepreneurial experience (already controlled for by the individual-fixed effects estimator as they remain constant over time), having employees (only available in full entrepreneurship), and well-being in t-1 (analysis examines hybrid entrepreneurs' change in well-being).

Table F.11 Reviewed Studies per Category

	Performance and Success (n = 25)	**Entrepreneurial Career Choices (n = 22)**	**Entrepreneurial Behavior and Cognition (n = 12)**	**Health & Well-being (n =18)**	**Social Environment (n = 1)**
Positive cognitive well-being (n = 19)	Job satisfaction (J. Chen et al., 2021; Drnovšek & Slavec Gomezel, 2022) Life Satisfaction *(Lindblom et al., 2020a; Tisu et al., 2023)* Other or combined measures (Dijkhuizen et al., 2018; Drnovšek et al., 2023)	Job satisfaction *(Contreras-Barraza et al., 2022; Dong et al., 2022a, 2022b; Henao-García et al., 2022; Lindblom et al., 2020b; Nikolaev et al., 2020; Qu, 2022)* Life satisfaction *(Henao-García et al., 2022; Lindblom et al., 2020a; Marshall et al., 2020; Shahid & Kundi, 2022)*	Job satisfaction *(J. Chen et al., 2021; Wei et al., 2020)*	Job satisfaction *(Drnovšek & Slavec Gomezel, 2022; Gashi et al., 2024; Lindblom et al., 2020b; Tahar et al., 2022)* Life Satisfaction *(Sousa et al., 2023)* Happiness *(Drnovšek et al., 2023)*	
Positive affective Well-being (n = 7)	Happiness *(Clercq et al., 2022a; Drnovšek et al., 2023; Pincheira et al., 2023)*	Happiness *(Bao & Dou, 2021; Marshall et al., 2020; Shahid & Kundi, 2022)*	Happiness *(Clercq et al., 2022a)*	Happiness *(Eijdenberg & Thompson, 2020)*	
Other positive well-being (n = 12)	Qualitative measure of well-being *(Drnovšek & Slavec Gomezel, 2022)* Quality of life *(Peters et al., 2019)* Eudaimonic well-being *(Eib & Bernhard-Oettel, 2023)* Combined measure of well-being *(Karimi & Reisi, 2023)* Genetic pedisposition *(Patel, Rietveld, Wolfe, & Wiklund, 2021)* Entrepreneurial well-being *(Turnalar-Çetinkaya & İslamoğlu, 2021)*	General well-being *(Marshall et al., 2020)* Genetic predisposition to well-being *(Patel, Rietveld, Wolfe, & Wiklund, 2021)* Combined measure of well-being *(Karimi & Reisi, 2022)*	General well-being *(Bui et al., 2023)* Combined measure of well-being *(M.-H. Chen et al., 2020)*	Qualitative measure of well-being *(Drnovšek et al., 2023)* Combined measure of well-being *(Palumbo, 2022)* Entrepreneurial well-being *(Turnalar-Çetinkaya & İslamoğlu, 2021)*	Entrepreneurial well-being *(Turnalar-Çetinkaya & İslamoğlu, 2021)*
Negative affective well-being (n = 24)	Strain *(Drnovšek & Slavec Gomezel, 2022; Elshaer et al., 2024; Wang et al., 2023)* Emotional exhaustion *(Clercq et al., 2022c, 2024; Soenen et al., 2019)*	Strain *(Beutell et al., 2019; Bogan et al., 2022; Lindblom et al., 2020b; Liu et al., 2024; Swail & Marlow, 2024)* Emotional Exhaustion *(Sardeshmukh et al., 2021; Shahid & Kundi, 2022)*	Strain *(Arshi et al., 2021; Beutell et al., 2019; St-Jean et al., 2023; Wijewardena et al., 2020)* Emotional Exhaustion *(Clercq et al., 2022b; Neneh, 2021; St-Jean et al., 2023)*	Strain *(Drnovšek & Slavec Gomezel, 2022; Levasseur et al., 2019; Lindblom et al., 2020b; Schjoedt, 2021; Semerci & Volery, 2018; U. Stephan et al., 2020; St-Jean & Tremblay, 2023; St-Jean et al., 2023)* Emotional exhaustion *(McDowell et al., 2019)*	
Mental health problems (n = 14)	Mental health *(Hatak & Zhou, 2021; Hessels et al., 2020; Tisu et al., 2023)* ADHD *(Patel, Rietveld, & Verheul, 2021; Rajah et al., 2021; Vörös & Lukovszki, 2021; Yu et al., 2021)* Hypomania *(Wolfe et al., 2020)*	Mental health *(Bogan et al., 2022; Hessels et al., 2020)* Stress-related mental health problems *(Dong et al., 2022a, 2022b)* ADHD *(Gunia et al., 2021; Patel, Rietveld, & Verheul, 2021; Rajah et al., 2021)*	ADHD *(C. B. Moore et al., 2021)*	ADHD *(Gong et al., 2022; Vörös & Lukovszki, 2021)*	

Erklärung

Hiermit versichere ich an Eides Statt, dass ich die vorgelegte Dissertation selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Die aus anderen Quellen direkt oder indirekt übernommenen Aussagen, Daten und Konzepte sind unter Angabe der Quelle gekennzeichnet. Bei der Auswahl und Auswertung folgenden Materials haben mir die nachstehend aufgeführten Personen in der jeweils beschriebenen Weise entgeltlich geholfen:

Entgeltlich:

Im Rahmen von Studie 1 wurde das Transkriptionsunternehmen „Transkripto“ mit der Transkription der Interviews beauftragt. Das Unternehmen „American Journal Experts“ wurde als Language Editing Service beauftragt.

Im Rahmen von Studie 2 wurde zweimal das Unternehmen „WordQueen“ von Mary Cole als Language Editing Service beauftragt.

Weitere Personen, neben den in der Einleitung der Dissertation aufgeführten Koautorinnen und Koautoren, waren an der inhaltlich-materiellen Erstellung der vorliegenden Dissertation nicht beteiligt. Insbesondere habe ich hierfür nicht die entgeltliche Hilfe von Vermittlungs- bzw. Beratungsdiensten in Anspruch genommen. Niemand hat von mir unmittelbar oder mittelbar geldwerte Leistungen für Arbeiten erhalten, die im Zusammenhang mit dem Inhalt der vorgelegten Dissertation stehen. Die Dissertation wurde bisher weder im In- noch im Ausland in gleicher oder ähnlicher Form einer anderen Prüfungsbehörde vorgelegt. Ich versichere, dass ich nach bestem Wissen die reine Wahrheit gesagt und nichts verschwiegen habe.

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Köln, 27.03.2025

Johanna Kuske

Curriculum Vitae

Name:	Johanna Kuske
Birth:	01.04.1993, Hanover, Germany
A-Levels:	24.06.2011 – Elsa-Brändström-Schule Hannover, Germany
Bachelor:	September 2011 – July 2014, Bachelor in Psychology, University of Groningen, Netherlands Degree obtained: 09.06.2014 – *B.Sc.* in Psychology
Master:	September 2015 – September 2016, Master in Organizational Psychology, Manchester Alliance Business School Degree obtained: 16.09.20166 – *M.Sc.* in Organizational Psychology
Doctorate:	Since January 2019, Research Associate/PhD Candidate Professorship in Entrepreneurship and Management at the University of Cologne
Work Experience:	August 2016 – December 2018, Organizational Psychologist at icunet, Cologne, Germany
Publications:	Gänser-Stickler, G. M., Burmeister-Lamp, K., **Kuske, J**., Schwens, C. Fostering Individual Entrepreneurial Orientation among Employees: The Role of Leaders Communicating Entrepreneurial Visions and Goals. *Currently under review in Journal of Business Research*. **Kuske, J.,** Schulz, M., Schwens, C. (2024): Hybrid Entrepreneurship and Entrepreneurs' Well-Being: The Moderating Effect of Role Demands Outside Entrepreneurship. In: *Entrepreneurship Theory and Practice*, Artikel 10422587241288108. DOI: 10.1177/10422587241288108. **Kuske, J.**; Zapkau, F. B.; Gänser-Stickler, G. M.; Schwens, C. (2024): Too small to care? Developing a model explaining managers' decision to adopt employee stress prevention practices in micro and small enterprises. In: *Industrial Marketing Management* (121), S. 40–54. DOI: 10.1016/j.indmarman.2024.06.005. Engels, M., Scheepers, L., Boß, L., Kuhlmann, R., **Kuske, J.**, Lesener, L., Pavlista, V., Schmidt-Stiedenroth, K., Diebig, M., Ruhle, S. A., Zapkau, F. B., Angerer, P., Hoewner, J., Lehr, D., Schwens, C., Süß, S., Wulf, I. C. & Dragano, N. (2024). Web-based Occupational Stress Prevention in German Micro- and Small-sized Enterprises – Process Evaluation Results of an Implementation Study. *BMC Public Health*, 24(1), 1618. DOI: 10.1186/s12889-024-19102-8. **Kuske, J.**, Schwens, C., Schulz, M., Zapkau, Florian B. (2022): Wie Stressprävention in Kleinst- und Kleinunternehmen unterstützt werden kann. *Personal Quarterly*, 04, 10-15. (Practical Paper) Pavlista, V., Angerer, P., **Kuske, J.**, Schwens C., Diebig, M. (2022): Exploring the Barriers of Psychosocial Risk Assessment Implementation in Micro and Small Sized Firms: Evidence from a Non-responder Survey

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