



Antecedents and outcomes of hybrid entrepreneurship

Cemre Demir

to obtain the degree of
Dr. rer. pol.

Faculty III—Economics, Business Information
Technology and Business Law

University of Siegen
Germany

First evaluator: Prof. Dr. Arndt Werner,
Faculty III—Economics, Business
Information Technology and Business Law,
University of Siegen, Germany.

Second evaluator: Prof. Dr. Volker Stein,
Faculty III—Economics, Business
Information Technology and Business Law,
University of Siegen, Germany.

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Acknowledgments (English)

After completing my master's degree in St. Gallen, I returned to my hometown of Cologne at the age of 26, enriched by numerous experiences and ideas and ready to explore new professional and academic paths.

During the period between my bachelor's and master's degrees, I engaged in full-time wage employment and realized that I could not fully utilize my skills and working methods in the role of an employee. This realization prompted me to pivot toward self-employment. I worked three days a week as a student assistant in a tax office, where I could organize my working hours freely, supervise various mandates, and accumulate the necessary two years of work experience required to register for the tax advisor exam.

In the meantime, my curiosity for research remained unsatisfied, leading me to pursue a doctorate. Embarking on a doctoral degree brings in-depth specialist knowledge, freedom of research, and a contribution to science—and also personal skills such as problem solving, critical thinking, independence, and project management, which can be beneficial in many areas of life and are developed through conducting academic research. Securing a position as an external research assistant at the Chair of SME Management and Entrepreneurship at the University of Siegen has enabled me to independently pursue my professional and academic careers and to take on a hybrid status between wage employment and my own projects. There have been synergies between both activities that I would not want to have missed. At the same time, it has also been a demanding and exhausting eight years that required a lot of commitment, perseverance, and resilience.

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and willingness to help, she has also been an incredible support to me personally. I am so happy to have met her and to have worked with her.

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My fiancé, Mauro, has accompanied me hand in hand with immense empathy and understanding through all of life's circumstances. He is not only my safe haven and guiding star but also my greatest joy—the love of my life.

Finally, I would like to thank my parents, Ali and Hatun. They have always supported me with wise counsel and unwavering assistance, instilling in me a deep-rooted trust that everything will eventually turn out well. With tireless dedication and utmost effort, they ensured I received the best possible education. This doctoral thesis reflects many of their hopes and wishes. With all my love and profound gratitude, I dedicate this work to them.

Cemre Demir

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Acknowledgments (German)

Nach meinem Master-Studium in St. Gallen kehrte ich mit 26 Jahren nach Köln und damit in meine Heimat zurück. Ich war um viele Erfahrungen und Ideen bereichert; nun hieß es zu überlegen, wie es beruflich und akademisch für mich weitergeht.

Beruflich machte ich zwischen dem Bachelor- und Masterstudium meine Erfahrungen in nichtselbstständigen Tätigkeiten in Vollzeit und stellte für mich fest, dass ich meine Kompetenzen und Arbeitsweisen in der Rolle als Arbeitnehmerin nicht erschöpfend umsetzen konnte. Aus diesem Grund richtete ich meine weiteren Entscheidungen auf die Selbstständigkeit aus. Ich arbeitete drei Tage die Woche als studentische Hilfskraft in einer Steuerkanzlei. Hier konnte ich meine Stunden frei einteilen, durch die Übernahme von verschiedenen Mandaten projektweise und abwechslungsreich arbeiten und die zwei-jährige Arbeitserfahrung absolvieren, die für die Anmeldung zur Steuerberater-Prüfung notwendig war.

Da ich zeitgleich merkte, dass meine Neugierde für das Forschen noch nicht gestillt war, entschied ich mich auch für eine Promotion. Eine Promotion bringt vertiefte Fachkenntnisse, Forschungsfreiheit und einen Beitrag zur Wissenschaft mit sich. Aber auch persönliche Fähigkeiten wie Problemlösung, kritisches Denken, Selbstständigkeit und Projektmanagement, die in vielen Lebensbereichen zugutekommen können, entwickeln sich hierdurch. Ich erhielt einen Platz als externe wissenschaftliche Mitarbeiterin am Lehrstuhl für KMU Management und Entrepreneurship an der Universität Siegen. Dies ermöglichte mir, meinen beruflichen und akademischen Werdegang unabhängig voneinander zu bestreiten und einen Hybrid-Status zwischen nichtselbstständiger und selbstständiger Tätigkeit einzunehmen. Es ergaben sich Synergien und Wechselwirkungen zwischen beiden Tätigkeiten, die ich heute nicht missen möchte. Gleichzeitig waren es aber auch anspruchsvolle und kräftezehrende acht Jahre, die viel Engagement, Ausdauer und ein dickes Nervenkostüm einforderten.

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Cemre Demir

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Summary (English)

Today's labor market dynamics offer more work flexibility than ever before, enabling various types of professional careers (Gänser-Stickler et al., 2022). Under these conditions, the phenomenon of hybrid entrepreneurship (HE) has emerged and is gaining increasing academic interest (e.g., Ardianti et al., 2022; Duhamel and St-Jean, 2023; Uriarte et al., 2023). HE is the engagement in self-employment activity while simultaneously holding a primary job in wage employment (Folta et al., 2010). The novelty of HE as a distinct research concept has resulted in a surge of publications in the past decade (Demir et al., 2022). This research has recognized that hybrid entrepreneurs defy classification as either self-employed or wage-employed individuals, instead forming a distinct group with unique antecedents (e.g., Thorgren et al., 2014), characteristics (e.g., Kurczewska et al., 2020; Maritz et al., 2023), dynamics (e.g., Schulz et al., 2016; Wennberg et al., 2006), and outcomes (e.g., Fini et al., 2017; Marshall et al., 2019).

Recognizing the distinctive nature of hybrid entrepreneurs has unveiled their significant presence within the entrepreneurial landscapes of various countries (Bosma et al., 2008; Duhamel and St-Jean, 2023; Dvouletý and Bögenhold, 2023). Hybrid entrepreneurs are prevalent across diverse occupations and industries, notably in knowledge-intensive, innovative, and high-tech sectors (Fini et al., 2017; Folta et al., 2010; Markman et al., 2008; Marshall et al., 2019; Raffiee and Feng, 2014). Moreover, they can be found in all stages of an entrepreneurial career, especially in the periods of entry into and exit out of entrepreneurship (Folta et al., 2010; Raffiee and Feng, 2014).

Despite its growing significance, HE remains underrepresented in scientific academic discourse. While existing research has provided both empirical and conceptual insights, knowledge about its distinct characteristics—particularly in comparison to full-time entrepreneurship—remains limited (Duhamel and St-Jean, 2023). Given the growing number of professionals actively opting for this form of entrepreneurship (Brändle and Kuckertz, 2022; Duhamel and St-Jean, 2023), the need for further investigation becomes evident. Additionally, hybrid entrepreneurs demonstrate significantly higher business survival rates compared to individuals transitioning directly from wage employment to entrepreneurship (Raffiee and Feng, 2014), further justifying the ongoing exploration of this phenomenon.

To draw a more accurate picture of this entrepreneurial activity and the individuals involved, this dissertation explores and elucidates the concept of HE. In doing so, it takes as the focal point of its theoretical considerations the definition of HE outlined by Folta et al. (2010). According to this frequently used definition (e.g., Ferreira, 2020; Kuske et al., 2024; Marshall et al., 2019), the primary occupation must be wage employment, while self-employment is considered the secondary occupation. Apart from this condition, “hybrid entrepreneurship” is a relatively comprehensive term that does not consider time allocation between both jobs (Petrova, 2005, 2010a, 2010b, 2012) or the proportion of income generated from entrepreneurial activity

(Mungaray and Ramirez-Urquidy, 2011). Yet this understanding of HE is nuanced enough to distinguish it from related concepts such as multiple job holding (MJH; Bouwhuis et al., 2017) and part-time entrepreneurship (Petrova, 2005, 2010a, 2010b, 2012). The initial study in this dissertation, a systematic literature review, demonstrates the significance of this delineation in facilitating conceptual and empirical progress in the research stream.

The theoretical frameworks established in the second and third study within this dissertation examine the antecedents and outcomes of HE on the individual level. The analysis compares hybrid entrepreneurs with full-time entrepreneurs and places specific emphasis on periods of job transitions. In this context, HE is considered a two-staged process involving the initial transition from wage employment to HE, followed by the transition from HE to full-time entrepreneurship (Thorgren et al., 2016). The second study analyzes the impact of social capital by examining the existence and the occupational position of a hybrid entrepreneur's life partner; this approach adopts a contextual perspective in considering the smallest micro-unit of the socio-economic environment, namely, the couple relationship (Özcan, 2011). The third study explores how HE, a status that enables an individual to test and learn about their entrepreneurial ability (Petrova, 2010a, 2010b; Wennberg et al., 2006) while requiring only modest initial commitments of time and capital (Raffiee and Feng, 2014), influences an individual's well-being. Consequently, the study's focus lies on the individual's experience of satisfaction about starting and running an entrepreneurial venture (Wiklund et al., 2019). Well-being is an important outcome variable in entrepreneurship (Stephan, 2018), as it can influence persistence (e.g., Gorgievski et al., 2014; Patel and Thatcher, 2014; Wincent et al., 2008), firm performance (e.g., Ayala and Manzano, 2014), opportunity recognition (e.g., Gielnik et al., 2012; Rietveld et al., 2016), and work behavior (e.g., Foo et al., 2009; Laguna et al., 2016). The theoretical frameworks established in the second and third study aim to refine the profile of hybrid entrepreneurs, to reveal systematic differences between full-time and hybrid entrepreneurs, and to enhance the examination of causes and effects over time.

Due to the novelty of the research stream, theory-driven data collection about HE is scarce (Kurczewska et al., 2020). Consequently, the first study—the systematic literature review—relies on already published studies as its foundational data source. The second and third study draw on data from the German Socio-Economic Panel (GSOEP), spanning the years 1984 to 2019. GSOEP is the largest wide-ranging representative panel study in Germany; it is conducted annually, with 30,000 respondents in approximately 10,000 households. It contains detailed information on demographics, employment, income, and satisfaction indicators. Furthermore, its panel structure allows researchers to exploit information for each year, to observe individuals over several waves, and thus to conduct longitudinal regression with fixed effects, as undertaken in the second and third study in this dissertation. The plausibility of the data is longitudinally validated, making it a reliable source for analysis.

This dissertation has three main implications both for the theory and practice of HE. First, it emphasizes the critical importance of clearly distinguishing HE from related concepts through precise nomenclature and criteria. This distinction aids in evaluating the existing knowledge base and identifying areas where further research is needed.

Secondly, the research findings indicate that for direct transitions, the presence of a life partner does not significantly affect the likelihood, for either gender, of entering entrepreneurship—although having a self-employed life partner appears to decrease that likelihood. For indirect transitions via HE, neither the presence nor the self-employment status of a life partner has a measurable effect. When analyzing genders separately, neither factor influences the direct transition. For indirect transitions via HE, having a life partner has no effect on either gender; however, the probability of indirect transition is higher for women with self-employed partners, an outcome not observed for men. Overall, the results indicate that the mere presence of a life partner does not significantly influence entrepreneurial transitions, whether direct or indirect. However, the self-employment status of the life partner does play a role. These results suggest that the influence of social capital within partnerships is nuanced and highlight the need to investigate additional factors that may affect job transitions.

Finally, this dissertation provides evidence that different types of job transitions within the entrepreneurial context have varying effects on life, job, and leisure time satisfaction, at varying intensities. The findings show that transitioning from wage employment to HE is associated with a decline in job and life satisfaction, while leisure time satisfaction remains unaffected. Notably, the negative impact is significantly greater for job satisfaction than for life and leisure time satisfaction. In contrast, moving from wage employment to full-time entrepreneurship has a positive effect on job satisfaction but does not influence life or leisure time satisfaction. Also here, job satisfaction was found to be the most significantly affected outcome. These results highlight that well-being outcomes are distinctively shaped by the specific pathways into entrepreneurship. In conclusion, all three studies covered by this dissertation offer valuable insights by outlining the current state of knowledge and deepening the understanding of entrepreneurial behavior and the impact of hybrid entrepreneurs.

This knowledge holds practical utility. Individuals engaged in HE can leverage these results to gain insights into the opportunities and risks associated with the hybrid path. For instance, they should be mindful of the potential dual burden that comes with this choice and its possible negative effects on job satisfaction. Additionally, although HE might allow for greater flexibility and a more mindful use of leisure time, it may not necessarily enhance leisure time satisfaction due to time constraints. Moreover, policies aimed at promoting entrepreneurship can draw on these studies to create tailored economic opportunities and legal frameworks. Since having a self-employed life partner decreases an individual's inclination to pursue entrepreneurship directly, indicating a tendency toward risk diversification, policymakers could consider providing financial assistance, such as tax incentives or subsidies for self-employed

couples, to help mitigate risk and uncertainty. Policy interventions are especially important given that hybrid entrepreneurs are more responsive than full-time entrepreneurs to regulatory changes (Schulz et al., 2016). Additionally, when the strength of downside risk aversion—also referred to as prudence—in entrepreneurship is sufficiently high, hybrid entrepreneurs tend to allocate more time to their side businesses during periods of increased risk as a precautionary measure to mitigate potential losses (Benitez et al., 2024). However, despite this increased time investment, elevated opportunity costs reduce hybrid entrepreneurs' willingness to sustain their businesses during crises (Block et al., 2022). Because of this sensitivity, policy interventions strategically designed to ensure the resilience and continuity of hybrid businesses have the potential for significant success.

In summary, this dissertation will assist researchers and practitioners in gaining insights into the unique dynamics of HE. On the individual level and when compared to self-employed individuals, it illuminates the intricate interplay of factors guiding hybrid entrepreneurs into this entrepreneurial journey and explores the consequences for their well-being. Thus, it fosters a more nuanced comprehension of the evolving landscape of entrepreneurship.

Summary (German)

Der heutige Arbeitsmarkt bietet mehr Flexibilität als jemals zuvor und ermöglicht verschiedene berufliche Laufbahnen (Gänser-Stickler et al., 2022). In diesem Kontext hat sich das Phänomen des HE herausgebildet, das zunehmend auch akademisches Interesse auf sich zieht (z.B. Ardianti et al., 2022; Duhamel und St-Jean, 2023; Uriarte et al., 2023). HE bezeichnet die Ausübung einer selbstständigen Nebentätigkeit bei gleichzeitiger Hauptbeschäftigung in einem Angestelltenverhältnis (Folta et al., 2010). Die Entwicklung von HE hin zu einem souveränen Forschungsfeld hat in den letzten Jahren zu einem Anstieg an Publikationen geführt (Demir et al., 2022). Der Tenor dieser Forschung lautet, dass Hybrid-Entrepreneure nicht mit Selbstständigen oder Angestellten gleichzusetzen sind. Stattdessen bilden sie eine eigene Gruppe mit differenzierten Voraussetzungen (z.B. Thorgren et al., 2014), Eigenschaften (z.B. Kurczewska et al., 2020; Maritz et al., 2023), Dynamiken (z.B. Schulz et al., 2016; Wennberg et al., 2006) und Auswirkungen (z.B. Fini et al., 2017; Marshall et al., 2019).

Das Bewusstsein der Eigenart von Hybrid-Entrepreneuren hat aufgedeckt, dass sie einen signifikanten Anteil aller Entrepreneure in vielen Ländern ausmachen (Bosma et al., 2008; Duhamel und St-Jean, 2023; Dvouletý und Bögenhold, 2023). Hybrid-Entrepreneure sind in verschiedenen Berufen und Branchen verbreitet, vor allem in innovativen und technologischen Sektoren (Fini et al., 2017; Folta et al., 2010; Markman et al., 2008; Marshall et al., 2019; Raffiee und Feng, 2014). Darüber hinaus sind sie in allen Phasen der Unternehmensgründung präsent, insbesondere beim Wechsel in die und aus der Selbstständigkeit (Folta et al., 2010; Raffiee und Feng, 2014).

Trotz ihrer zunehmenden Relevanz ist HE in der wissenschaftlichen Literatur bislang unterrepräsentiert. Zwar existieren bereits sowohl empirische als auch konzeptionelle Beiträge, doch das Wissen über die Besonderheiten von HE—insbesondere im Vergleich zur Selbstständigkeit—bleibt begrenzt (Duhamel und St-Jean, 2023). Angesichts der wachsenden Zahl von Fachleuten, die sich aktiv für diese Form der Selbstständigkeit entscheiden (Brändle und Kuckertz, 2022; Duhamel und St-Jean, 2023), wird der Bedarf an weitergehender Untersuchung deutlich. Darüber hinaus zeigen Hybrid-Entrepreneure deutlich höhere Überlebensraten im Vergleich zu Personen, die direkt aus dem Angestelltenverhältnis in die Selbstständigkeit wechseln (Raffiee und Feng, 2014), was die fortlaufende Erforschung dieses Phänomens weiter rechtfertigt.

Um ein präziseres Bild dieser unternehmerischen Aktivität und den beteiligten Individuen zu zeichnen, widmet sich diese Dissertation dem Konzept von HE. Im Mittelpunkt der theoretischen Überlegungen steht dabei die Definition von HE nach Folta et al. (2010). Diese häufig verwendete Definition (z.B. Ferreira, 2020; Kuske et al., 2024; Marshall et al. 2019) legt fest, das Angestelltenverhältnis als Hauptbeschäftigung und die selbstständige Tätigkeit als Nebenbeschäftigung einzuordnen. Abgesehen von dieser Bedingung ist “Hybrid

Entrepreneurship” ein relativ weit gefasster Begriff, der weder eine spezifische Zeitaufteilung zwischen beiden Jobs (Petrova, 2005, 2010a, 2010b, 2012) noch einen bestimmten Einkommensanteil aus der selbstständigen Tätigkeit voraussetzt (Mungaray und Ramirez-Urquidy, 2011). Dennoch ist dieses Verständnis von HE nuanciert genug, um es von verwandten Konzepten wie der Mehrfachbeschäftigung (Bouwhuis et al., 2017) und der Teilzeit-Selbstständigkeit (Petrova, 2005, 2010a, 2010b, 2012) abzugrenzen. Die erste Studie dieser Dissertation, eine systematische Literaturübersicht, zeigt die Bedeutung dieser Abgrenzung für den konzeptuellen und empirischen Fortschritt des Forschungsfeldes.

Die in den der zweiten und dritten Studie dieser Dissertation entwickelten theoretischen Rahmen analysieren Ursachen und Wirkungen von HE auf individueller Ebene. Die Analyse beinhaltet den Vergleich von Hybrid-Entrepreneuren mit Selbstständigen und legt besonderen Wert auf Phasen beruflicher Wechsel. In diesem Zusammenhang wird HE als ein zweistufiger Prozess betrachtet, der den anfänglichen Wechsel vom Angestelltenverhältnis hin zu HE und danach den Wechsel von HE in die Selbstständigkeit umfasst (Thorgren et al., 2016). Die zweite Studie analysiert die Auswirkungen des sozialen Kapitals, wobei das Vorhandensein einer Partnerschaft und die berufliche Position des Lebenspartners bzw. der Lebenspartnerin untersucht werden. In diesem Zusammenhang wird eine kontextuelle Perspektive eingenommen, die die kleinste Mikroeinheit der sozioökonomischen Beziehungswelt, nämlich die Paarbeziehung, berücksichtigt (Özcan, 2011). Die dritte Studie beschäftigt sich damit, wie HE als Status, welcher das Erlernen unternehmerischer Fähigkeiten ermöglicht (Petrova, 2010a, 2010b; Wennberg et al., 2006), während nur geringe anfängliche Verpflichtungen in Bezug auf Zeit und Kapital erforderlich sind (Raffiee und Feng, 2014), das Wohlbefinden des Individuums beeinflusst. Daher liegt der Fokus auf der individuellen Erfahrung der Zufriedenheit beim Gründen und Führen eines Unternehmens (Wiklund et al., 2019). Das Wohlbefinden ist eine wichtige Variable im Hinblick auf Unternehmertum (Stephan, 2018), da es die Beharrlichkeit (z.B. Gorgievski et al., 2014; Patel und Thatcher, 2014; Wincent et al., 2008), die Unternehmensleistung (z.B. Ayala und Manzano, 2014), die Möglichkeitserkennung (z.B. Gielnik et al., 2012; Rietveld et al., 2016) und das Arbeitsverhalten (z. B. Foo et al., 2009; Laguna et al., 2016) beeinflussen kann.

Die theoretischen Rahmen der zweiten und dritten Studie zielen darauf ab, ein verfeinertes Profil von Hybrid-Entrepreneuren zu zeichnen, systematische Unterschiede zwischen ihnen und Selbstständigen aufzuzeigen und Ursachen und Wirkungen im Laufe der Zeit besser zu verstehen.

Aufgrund der Neuschöpfung des Forschungsfeldes sind datengetriebene Erhebungen zu HE begrenzt (Kurczewska et al., 2020). Infolgedessen stützt sich die erste Studie—die systematische Literaturübersicht—auf bereits veröffentlichte Studien und nutzt diese als Datengrundlage. Die zweite und dritte Studie greifen auf Daten des Deutschen Sozioökonomischen Panels (SOEP) von 1984 bis 2019 zurück. Das SOEP ist die größte repräsentative Panelstudie in Deutschland, die jährlich mit 30.000 Befragten in etwa 10.000

Haushalten durchgeführt wird. Es enthält detaillierte Informationen zu Demografie, Beschäftigung, Einkommen und Zufriedenheitsindikatoren. Darüber hinaus ermöglicht die Panelstruktur die Nutzung von Informationen für jedes Jahr, die Beobachtung von Individuen über mehrere Erhebungsperioden und somit die Durchführung von longitudinalen Regressionen mit Fixeffekten, wie es in der zweiten und dritten Studie durchgeführt wurde. Die Plausibilität der Daten wird vom SOEP validiert, was es zu einer zuverlässigen Datenquelle für die Analyse macht.

Diese Dissertation hat drei wesentliche Implikationen sowohl für die Theorie als auch für die Praxis des HE. Erstens untermauert sie die kritische Bedeutung einer klaren Unterscheidung von HE von verwandten Konzepten durch präzise definitorische Bezeichnungen und Kriterien. Diese Trennung hilft bei der Bewertung des bestehenden Wissensstands und der Identifizierung von Bereichen, in denen weitere Forschung erforderlich ist.

Zweitens legen die Forschungsergebnisse nahe, dass für einen direkten Wechsel, wenn beide Geschlechter betrachtet werden, eine bestehende Partnerschaft die Wahrscheinlichkeit, in die Selbstständigkeit zu wechseln, nicht signifikant beeinflusst—wobei allerdings ein selbstständiger Lebenspartner bzw. eine selbstständige Lebenspartnerin diese Wahrscheinlichkeit zu verringern scheint. Für einen indirekten Wechsel über HE haben weder eine bestehende Partnerschaft noch der Selbstständigen-Status des Lebenspartners bzw. der Lebenspartnerin einen messbaren Effekt. Bei einer getrennten Betrachtung der Geschlechter beeinflusst keiner der Faktoren den direkten Wechsel. Beim indirekten Wechsel über HE hat eine bestehende Partnerschaft für beide Geschlechter keinen Effekt, jedoch ist die Wahrscheinlichkeit eines indirekten Wechsels bei Frauen mit selbstständigen Partnern erhöht—ein Ergebnis, das bei Männern nicht beobachtet wird. Insgesamt deuten die Ergebnisse darauf hin, dass eine bestehende Partnerschaft weder den direkten noch indirekten Wechsel in die Selbstständigkeit signifikant beeinflusst. Allerdings spielt der Selbstständigen-Status des Lebenspartners bzw. der Lebenspartnerin eine Rolle. Diese Ergebnisse implizieren, dass der Einfluss von sozialem Kapital innerhalb von Partnerschaften differenziert zu betrachten ist und verdeutlichen die Notwendigkeit, zusätzliche Faktoren zu untersuchen, die die Entscheidung für einen Jobwechsel beeinflussen können.

Zum Schluss liefert diese Dissertation Hinweise darauf, dass verschiedene Arten von Jobwechseln im Kontext des Unternehmertums, unterschiedliche Auswirkungen auf die Lebens-, Berufs- und Freizeit Zufriedenheit haben, und zwar in unterschiedlicher Intensität. Die Ergebnisse deuten darauf hin, dass der Übergang vom Angestelltenverhältnis zu HE mit einem Rückgang der Arbeits- und Lebenszufriedenheit verbunden ist, während die Zufriedenheit mit der Freizeit nicht beeinflusst wird. Bemerkenswert ist, dass der negative Einfluss auf die Arbeitszufriedenheit deutlich stärker ist als auf die Lebenszufriedenheit und die Zufriedenheit mit der Freizeit. Im Gegensatz dazu hat der direkte Wechsel vom Angestelltenverhältnis in die Selbstständigkeit einen positiven Effekt auf die Arbeitszufriedenheit, beeinflusst jedoch weder die Lebens- noch die Freizeit Zufriedenheit. Auch hier zeigt sich, dass die Arbeitszufriedenheit am

stärksten betroffen ist. Diese Ergebnisse zeigen, dass das Wohlbefinden maßgeblich durch die spezifischen Wege in die Selbstständigkeit geprägt wird. Zusammenfassend bieten alle drei Studien wertvolle Erkenntnisse, indem sie den aktuellen Wissensstand darlegen und das Verständnis des Verhaltens sowie der Auswirkungen von Hybrid-Entrepreneuren vertiefen.

Dieses Wissen hat auch einen praktischen Nutzen. Beispielsweise können Individuen, die sich in hybrider Selbstständigkeit befinden, die Ergebnisse nutzen, um Einblicke in die Chancen und Risiken des hybriden Weges zu gewinnen. So sollten sie sich beispielsweise der potenziellen Doppelbelastung bewusst sein, die mit dieser Entscheidung einhergeht, sowie der möglichen negativen Auswirkungen auf die Arbeitszufriedenheit. Darüber hinaus sollten sie erkennen, dass Herausforderungen in Bezug auf die Zufriedenheit mit der Freizeit auftreten können, da eine reduzierte verfügbare Zeit die positive Wahrnehmung von Freizeit—aufgrund bewusster Nutzung oder größerer Flexibilität—verringern könnte. Zudem können politische Maßnahmen zur Förderung des Unternehmertums diese Studien als Grundlage für die präzise Ausgestaltung wirtschaftlicher Chancen und rechtlicher Vorschriften nutzen. Da das Vorhandensein eines selbstständigen Lebenspartners bzw. einer selbstständigen Lebenspartnerin die Neigung einer Person, direkt in die Selbstständigkeit zu wechseln, verringert und auf eine Tendenz zur Risikodiversifikation hindeutet, könnten finanzielle Anreize wie Steuervergünstigungen oder Zuschüsse für selbstständige Paare bereitgestellt werden, um Risiken und Unsicherheiten abzufedern. Politische Interventionen sind besonders relevant, da Hybrid-Entrepreneure eine höhere Sensibilität gegenüber regulatorischen Maßnahmen zeigen als Selbstständige (Schulz et al., 2016). Zusätzlich neigen Hybrid-Entrepreneure dazu, in Zeiten erhöhten Risikos mehr Zeit in ihr Unternehmen zu investieren, wenn ihre Abneigung gegenüber negativen Risiken stark ausgeprägt ist. Dies dient als Vorsichtsmaßnahme zur Minderung potenzieller Verluste (Benitez et al., 2024). Trotz dieses erhöhten Zeiteinsatzes verringern jedoch die hohen Opportunitätskosten ihre Bereitschaft, ihre Unternehmen in Krisenzeiten aufrechtzuerhalten (Block et al., 2022). Aufgrund dieser Sensibilität könnten gezielt gestaltete politische Maßnahmen zur Sicherung der Widerstandsfähigkeit und Kontinuität von Hybridunternehmen erhebliches Erfolgspotenzial haben.

Zusammenfassend trägt diese Dissertation dazu bei, dass Forschung und Praxis tiefere Einblicke in die einzigartigen Dynamiken von HE gewinnen können. Auf individueller Ebene und im Vergleich zu Selbstständigen beleuchtet es das komplexe Zusammenspiel von Faktoren, die Hybrid-Entrepreneure auf diesen unternehmerischen Weg leiten, und untersucht die Konsequenzen für das Wohlbefinden dieser Individuen. So fördert diese Dissertation ein nuancierteres Verständnis der sich entwickelnden Landschaft des Unternehmertums.

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List of abbreviations

ABS	Association of Business School
AG	Aktiengesellschaft
ANOVA	Analysis of variance
AOD	Paper of Ardianti, Obschonka, and Davidsson (2022)
CMCC	Cross-model coefficient comparison
CNEF	Cross-National Equivalent File
CSE	Core self-evaluation
ESE	Entrepreneurial self-efficacy
EWB	Entrepreneurial well-being
GmbH	Gesellschaft mit beschränkter Haftung
GSE	Generalized self-efficacy
GSOEP	German Socio-Economic Panel
HE	Hybrid entrepreneurship
Ltd.	Limited company
LTSA	Long-term sickness absence
MJH	Multiple job holding
PHE	Persistent hybrid entrepreneur
RQ	Research question
SARE	System for rapid opening of enterprises
SOEP	Sozioökonomisches Panel
SPE	Self-perceived employability
THE	Transitory hybrid entrepreneur
TLO	Technology licensing offices
UK	United Kingdom
UKHLS	United Kingdom Household Longitudinal Survey
USA	United States of America
VHB	Verband der Hochschullehrer
VIF	Variance inflation factors

1 Introduction

1.1 Research motivation

“Hybrid entrepreneurship” (HE) is defined as self-employment in a secondary occupation alongside a primary position in wage employment (Folta et al., 2010). Hybrid entrepreneurs challenge conventional entrepreneurial choice theories (Dunn and Holtz-Eakin, 2000; Evans and Jovanovic, 1989) because they are not constrained to choosing between wage employment or self-employment (Burke et al., 2008). Instead, they maintain the flexibility to allocate their resources between both jobs (Petrova, 2012). Historically, the difficulty of identifying hybrid entrepreneurs has led to their categorization as either self-employed or wage-employed individuals or their complete omission from analysis due to concerns about potential selection bias (Folta et al., 2010). This has resulted in a lack of comprehensive knowledge about this group, particularly in comparison with full-time entrepreneurs.

As the field of entrepreneurship has evolved and become more refined, it has recognized and brought significant visibility to the unique characteristics of HE and its entrepreneurs (Maritz et al., 2023). Unmasking hybrid entrepreneurs has revealed their notable presence within the entrepreneurial landscape across various countries (Bosma et al., 2008, Duhamel and St-Jean, 2023; Dvouletý and Bögenhold, 2023), diverse occupations (Fini et al., 2017; Folta et al., 2010; Markman et al., 2008; Marshall et al., 2019; Raffee and Feng, 2014), and stages of entrepreneurship, particularly during transitions into and out of entrepreneurial endeavors (Folta et al., 2010; Raffee and Feng, 2014).

In Germany, for example, HE has been on the rise, with several key developments contributing to this trend. The introduction of the so-called “Ich-AG” subsidy in 2003, the amendment of the crafts code in 2004, and the accession of eight Eastern and Central European countries to the EU in May 2004 have facilitated entrepreneurial activity by lowering barriers to entry and creating new market opportunities (Butkowski et al., 2022). While these measures were intended to foster entrepreneurship in general, they have proved particularly beneficial for hybrid entrepreneurs. Research suggests that hybrid entrepreneurs are more responsive than full-time entrepreneurs to policy regulations (Schulz et al., 2016). Since many individuals choose HE to mitigate risk, explore entrepreneurial opportunities, or compensate for decreasing marginal returns, they are especially sensitive to regulatory changes that lower entry barriers (Schulz et al., 2016). Deregulation measures—such as simplified business registration and reduced administrative burdens—therefore disproportionately affect the prevalence of HE. As a result, the number of hybrid entrepreneurs in Germany reached 692,000 in 2019, an 87% increase compared to 2001 (Krause-Pilatus et al., 2024). Although HE in Germany exhibits significant fluctuation, with approximately 700,000 individuals transitioning into the hybrid status each year and almost as many exiting, the number of new entrants slightly exceeds the number of exits, contributing to the overall increase in HE in Germany (Butkowski et al., 2022).

This trend was significantly impacted by the COVID-19 pandemic. Between 2019 and 2021, the number of hybrid entrepreneurs in Germany decreased sharply from 692,000 to 461,000, a decline of 33%. Economic uncertainties and disruptions caused by the pandemic likely played major roles in prompting many to exit their entrepreneurial ventures. This assumption aligns with findings showing that hybrid entrepreneurs are less inclined to sustain their businesses during crises, likely due to elevated opportunity costs (Block et al., 2022). At the same time, research suggests that when the strength of downside risk aversion is high, hybrid entrepreneurs tend to allocate more time to their side businesses during periods of increased risk as a precautionary measure for mitigating potential losses (Benitez et al., 2024). The decline in HE during the pandemic suggests that, for many, the challenges and costs of sustaining a business outweighed the perceived benefits of precautionary time investment. However, the exact extent of the pandemic's impact remains difficult to determine, as methodological adjustments in data collection for the German Microcensus in 2020 may have also influenced the reported figures (Krause-Pilatus et al., 2024). Despite this decline, HE has shown resilience. By 2022, its prevalence had increased again to 465,000 (Krause-Pilatus et al., 2024), suggesting that HE remains an attractive and viable path for many individuals in Germany. Importantly, these fluctuations underscore the sensitivity of HE to regulatory and market changes, emphasizing its role as an indicator of structural changes in policy and labor markets.

Beyond these policy implications, HE also reflects evolving social and economic trends. The fact that hybrid entrepreneurs tend to have higher levels of education (Folta et al., 2010) and greater human capital (Petrova, 2012) suggests that this form of entrepreneurship is increasingly attractive to skilled professionals. Furthermore, their ventures exhibit higher survival rates compared to those of full-time entrepreneurs (Raffiee and Feng, 2014), highlighting the role of HE in fostering a more resilient and sustainable entrepreneurial landscape. Given these insights, acquiring a deeper understanding of HE and the individuals engaged in it is crucial—not only for shaping effective policy but also for recognizing its broader economic and societal significance.

Although the prevailing research on HE encompasses both empirical investigations and conceptual analyses, many topics related to this phenomenon remain under-investigated. By offering a holistic overview of the body of knowledge (Folta et al., 2010) and synthesizing findings from multiple studies, the present dissertation highlights several academic gaps requiring further investigation. This approach will enable future researchers to formulate more precise hypotheses, refine their methodologies, and contribute systematically to theory development.

Building on this foundation, the dissertation develops theoretical frameworks that examine the antecedents and outcomes of HE at the individual level. The identification of these frameworks was guided by the insights derived from the holistic overview, ensuring that they address the critical gaps in the existing literature. A central component of the analysis is the comparison between hybrid and full-time entrepreneurs. Understanding differences between the two entrepreneurial groups, while illuminating previously overlooked mechanisms, also helps to

refine existing theories and contributes to a more nuanced understanding of entrepreneurship. Another central aspect of the analysis is its emphasis on job transitions, which allowed for a longitudinal and dynamic perspective that captures the evolving nature of HE over time. Specifically, the dissertation examines the transition from wage employment to HE and the subsequent shift from HE to full-time entrepreneurship (Thorgren et al., 2016). Analyzing these transitions not only enhances our understanding of entrepreneurial decision-making but also identifies key factors influencing business survival and growth.

By closing these research gaps, this dissertation aims to support scholars in refining entrepreneurial theories and practitioners in designing targeted policies and support mechanisms. A deeper understanding of HE can inform policy interventions that foster entrepreneurial activity, while considering the unique challenges and opportunities hybrid entrepreneurs face.

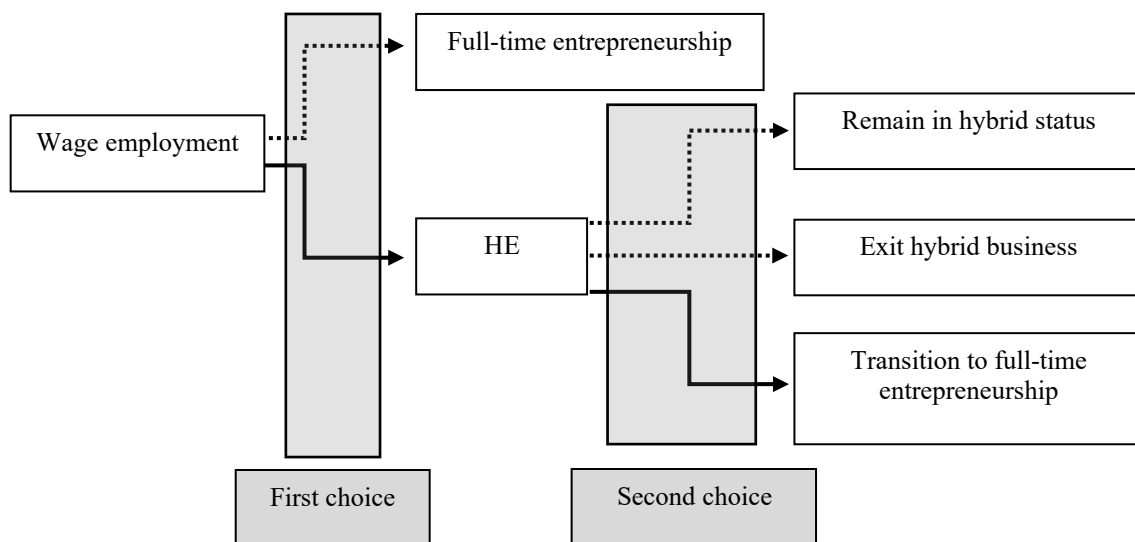
1.2 Theoretical considerations

The research outlined in this dissertation builds on various theories, with HE as established by Folta et al. (2010) serving as the central focus. Their groundbreaking study laid the foundation for numerous subsequent research endeavors (e.g., Asante et al., 2022; Carr et al., 2022; Demir et al., 2022; Dvouletý and Bögenhold, 2023; Kuske et al., 2024; Maritz et al., 2023) for several reasons. First, their concept is inclusive, encompassing both full-time and part-time employees who maintain primary wage employment while engaging in a secondary entrepreneurial activity (Folta et al., 2010). It avoids making strict distinctions based on working hours (Petrova, 2005, 2010a, 2010b, 2012) or the proportion of income generated from entrepreneurial activity (Mungaray and Ramirez-Urquidy, 2011), offering great flexibility. Second, their approach highlights that HE is not static but rather a dynamic, multifaceted entrepreneurial practice that might require different financial and time resources over time (Folta et al., 2010). Hereby they acknowledge the coexistence of two identities, employee and entrepreneur, offering a realistic understanding of job transitions into and out of HE. Lastly, their definition is grounded in extensive empirical data, making it well-supported and relevant for current research and practice (Folta et al., 2010). By offering a precise yet contextualized perspective on HE, Folta et al. (2010) have shaped the direction of future studies in the field.

In addition to the study by Folta et al. (2010) and studies aligning with its approach (e.g., Asante et al., 2022; Carr et al., 2022; Dvouletý and Bögenhold, 2023; Kuske et al., 2024; Maritz et al., 2023), other related research on the stepwise transition from wage employment to full-time entrepreneurship, such as research on part-time entrepreneurship, has been included in the theoretical considerations. This decision was necessary because strict adherence to the definition of HE by Folta et al. (2010) would have resulted in an insufficient number of studies (Demir et al., 2022), limiting the development of a comprehensive framework. To better guide research questions and hypotheses and to help define, explain, and predict the phenomenon of HE, a broader approach has been adopted.

A fundamental premise underlying this thesis is that HE is unique from both self-employment and wage employment (Folta et al., 2010). HE is a characteristic of nascent entrepreneurship (Reynolds et al., 2004). Several studies indicate that more than 50% of nascent entrepreneurs are simultaneously full-time wage-employed (Campbell and De Nardi, 2009; Petrova, 2005). While nascent entrepreneurship includes the stages of starting a new business, including the pre-entry phase (Davidsson and Honig, 2003; Kacperczyk and Younkin, 2017; Klyver et al., 2020), HE extends beyond this initial phase (Thorgren et al., 2014). In fact, it transcends mere temporal consideration and represents a distinct form of entrepreneurship (Dvouletý and Bögenhold, 2023) characterized by the presence of both persistent hybrid entrepreneurs (PHEs), individuals who remain in the hybrid status, and transitory hybrid entrepreneurs (THEs), individuals who intend to transition to full-time entrepreneurship (Viljamaa and Varamäki, 2015; Viljamaa et al., 2017). HE can be viewed as a portfolio of real options within one's primary and secondary occupations (Gänser-Stickler et al., 2022). The uncertainty present in both roles is pivotal in shaping individuals' choices regarding their entry strategy (Gänser-Stickler et al., 2022). Thereby, HE can be conceptualized as a two-staged process in which the first decision pertains to transitioning from wage employment to HE and the second decision involves the transition from HE to full-time entrepreneurship (Thorgren et al., 2016; see Figure 1.1).

Figure 1.1 HE as a two-staged process



Source: adapted from Thorgren et al. (2016)

Brändle and Kuckertz (2022) emphasize that individuals planning to engage in HE adjust their steps based on current, anticipated future, personal, and environmental circumstances. This suggests that situational responses and reactive adaptability play minor roles, and that individuals form their transition intentions proactively (Brändle and Kuckertz, 2022; Lent and

Brown, 2013; Lent et al., 2000). The first choice, to switch from wage employment to HE, may be influenced by intentions to (1) supplement income, (2) seek nonmonetary benefits, or (3) transition to full-time entrepreneurship (Folta et al., 2010). For example, Schulz et al. (2017) demonstrated that hybrid entrepreneurs are significantly more likely to earn higher wages in their side business relative to their wage job as compared to dual job holders in their secondary job compared to their main wage employment. Mungaray and Ramirez-Urquidy (2011) showed that hybrid entrepreneurs, compared to full-time entrepreneurs, are more responsive to nonmonetary aspects, such as aligning income efforts with household responsibilities. Consequently, they seem to be less interested in profit maximization (Mungaray and Ramirez-Urquidy, 2011).

The inclination toward hybrid entry is linked to an individual's human capital, switching costs, and uncertainty surrounding the entrepreneurial context (Folta et al., 2010). Empirical evidence by Folta et al. (2010) shows that wage-employed individuals tend to prefer hybrid entry when they have higher human capital (including higher wage income and higher education), higher switching costs (such as greater industry tenure), and less self-employment experience. Thorgren et al. (2014) found that a crucial motivation for engaging in HE is the opportunity to work on something one is passionate about. Passion appears to hold significant importance in the first choice, as other studies show that hybrid entrepreneurs with longer business tenure are less inclined to be motivated by passion compared to those who have recently entered HE (Nordström et al., 2016).

Providing further empirical support, Raffiee and Feng (2014) found that individuals with higher risk aversion are more likely to choose HE over full-time entrepreneurship. This suggests that risk aversion influences the mode of entry into entrepreneurship rather than the decision to enter (Raffiee and Feng, 2014). Additionally, their study revealed that individuals with lower core self-evaluation (CSE) are more likely to engage in HE than in full-time entrepreneurship. CSE is a personality trait encompassing four key elements: self-esteem, generalized self-efficacy (GSE), locus of control, and emotional stability (Judge et al., 1997). Thus, CSE reflects an individual's fundamental appraisals of themselves, their capabilities, and their competence, influencing their perceptions of risk and uncertainty in various contexts (Chang et al., 2012). Recent studies have further highlighted that individuals with high entrepreneurial self-efficacy (ESE)—the perceived capability to successfully perform entrepreneurial tasks—and high self-perceived employability (SPE)—confidence in finding new employment—are significantly more likely to choose HE (Naktiyok et al., 2010; Neneh, 2020; Pittaway et al., 2010; Rothwell and Arnold, 2007; Vanevenhoven and Liguori, 2013). This underscores the idea that individuals are likely to derive maximum utility from engaging in HE, as they can perform well in both roles.

At first glance, the findings that both low CSE (including GSE) and high ESE increase the likelihood of choosing HE may seem contradictory. However, they reflect different constructs and influence decisions through distinct mechanisms. GSE captures general confidence in

handling challenges across various domains (Bandura, 1977). Lower GSE may drive individuals toward HE as a risk-averse compromise—allowing them to test entrepreneurship while maintaining wage employment security. ESE, in contrast, is task-specific and directly linked to entrepreneurial activities (Chen et al., 1998). High ESE increases confidence in successfully running a business, making HE an attractive option for those who feel capable in both domains—wage employment and entrepreneurship. Thus, low GSE pushes individuals toward HE as a way to mitigate uncertainty, while high ESE pulls them toward HE as a means of optimizing their potential. These mechanisms are complementary rather than contradictory, reinforcing the idea that HE serves as a strategic entry mode into entrepreneurship that balances risk and opportunity.

Once in the hybrid state, an individual's second choice—whether to transition to full-time entrepreneurship, maintain their hybrid status, or leave their business entirely by switching back to wage employment—may be contingent on their ability to mitigate risk and uncertainty (Benitez et al., 2024; Raffee and Feng, 2014). This mitigation occurs through the process of learning about and testing their entrepreneurial abilities, and the potential of their business, from within the hybrid state (Folta et al., 2010; Raffee and Feng, 2014; Wennberg et al., 2006). Petrova (2010a, 2010b) and Wennberg et al. (2006) have expanded on the concept of the incremental transition to full-time entrepreneurship as a learning and testing method. Initially, individuals prefer to dedicate only a small amount of time and capital to their businesses to avoid financial risks in case of low success (Wennberg et al., 2006). Subsequently, time and capital are invested in proportion to the individual's assessment of success. Hereby, the individual may undergo several rounds of assessment (Petrova, 2010a, 2010b). The assessment process determines the extent to which fear of failure and perceived risk can be reduced, as well as the degree to which entrepreneurial competency development and self-efficacy can be enhanced (Ferreira, 2020). The duration and outcome of assessment depend on the type of business, the business climate, and the individual's ability to assess. Individuals with high abilities accumulate evidence more rapidly, effectively reducing uncertainty at a quicker pace (Sun et al., 2020). They are more likely to receive positive signals during the assessment process, making them inclined to transition to full-time entrepreneurship and achieve successful ventures (Petrova, 2010b). Conversely, individuals with lower abilities require more time for assessment and uncertainty mitigation. They are more prone to remain in the hybrid status or eventually withdraw from the business (Petrova, 2010b).

It is important to note that HE does not necessarily entail a desire to pursue full-time entrepreneurship (Folta et al., 2010; Solesvik et al., 2013; Viljamaa et al., 2017). This is evident in the presence of PHEs, who are less interested in revenue growth and self-fulfillment compared to THEs (Viljamaa and Varamäki, 2015). PHEs also have a more pessimistic view of their own capabilities and the potential of their ventures (Viljamaa and Varamäki, 2015). While the latter suggests that individuals with lower abilities may remain in the hybrid status, the former points to learning dynamics that may encourage individuals to persist in the hybrid state. Specifically, research indicates that hybrids, regardless of their entrepreneurial tenure, demonstrate higher

innovative behaviors in their employee roles compared to individuals solely engaged in wage employment (Marshall et al., 2019). This suggests that PHEs may remain in HE to enhance their entrepreneurial learning and may transfer this knowledge to their main occupation, introducing innovative changes. This may involve improving existing organizational procedures and discovering synergies among resources to achieve more efficient work results (Marshall et al., 2019).

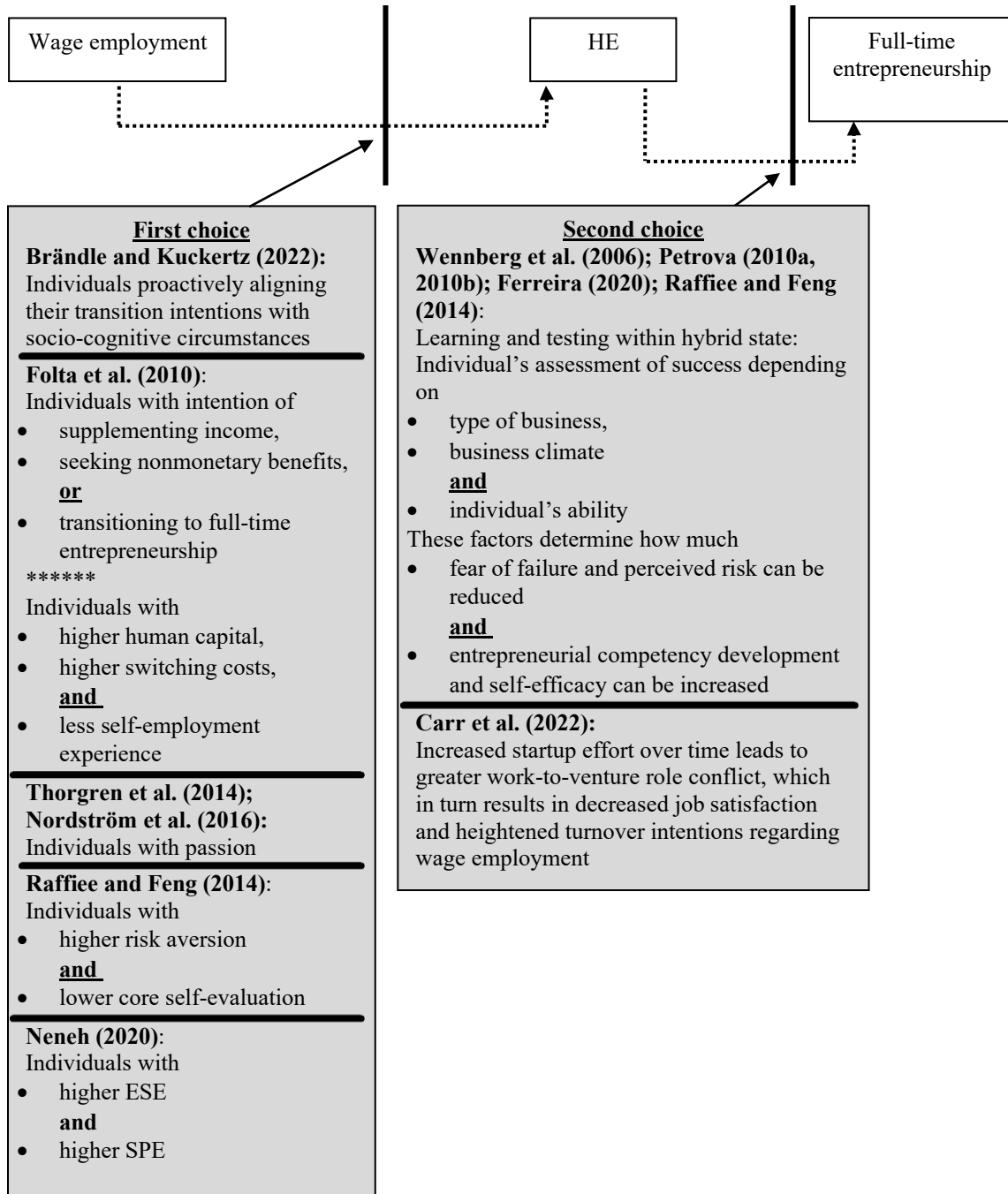
Conversely, research has shown that the higher the transfer of skills and experiences from wage work to the side business, the stronger the relationship between ESE and entrepreneurial persistence (Asante et al., 2022). This suggests that when side business and wage work require similar skills, hybrid entrepreneurs are likely to benefit in terms of ESE and entrepreneurial persistence (Asante et al., 2022). Entrepreneurial persistence—defined as the effort entrepreneurs invest despite failures or obstacles (Caliendo et al., 2020; Gimeno et al., 1997)—plays a crucial role in business success. Therefore, remaining in HE may be advantageous, as it allows hybrid entrepreneurs to capitalize on the synergies between their roles. Moreover, hybrid entrepreneurs have been shown to identify more opportunities than full-time entrepreneurs; opportunity recognition encompasses not only their perception of opportunities but also their willingness and ability to transform them into viable businesses (Uriarte et al., 2023). The opportunities they exploit also tend to be more innovative than those of full-time entrepreneurs. These findings suggest that hybrid entrepreneurs benefit from their dual roles: their wage employment grants them access to valuable knowledge, networks, and industry insights. The entrepreneurial skills acquired through their employee roles are essential for identifying and exploiting innovative opportunities when launching their own ventures (Uriarte et al., 2023).

Furthermore, the second choice individuals face can also manifest as hybrid entrepreneurs exiting their businesses (Uriarte et al., 2023). While exits may result from receiving negative signals during the assessment process (Petrova, 2010b), they can also be understood as part of a recursive process (Uriarte et al., 2023). In this context, exit is not a withdrawal from entrepreneurship but rather a strategy in the ongoing search for opportunity recognition and innovation. It aligns with a continuous learning process and the development of entrepreneurial behavior: entrepreneurs do not merely abandon single ventures but explore and test multiple opportunities, ultimately becoming habitual entrepreneurs. This strategy is chosen either to offset the costs and risks of being a PHE or to enable the transition to full-time entrepreneurship. This insight supports evidence from real option models on the cyclical nature of hybrid entrepreneurs who secure wage jobs while testing the viability of new businesses (Wennberg et al., 2006).

Although PHEs and exiting hybrid entrepreneurs exist, the prevalence of THEs is higher, indicating that a considerable number of individuals may indeed transition to full-time entrepreneurship (Wennberg et al., 2006). This is reflected in a study by Raffiee and Feng (2014), who observed a substantial portion of hybrid entrepreneurs eventually switching to full-time entrepreneurship. The authors further showed how the ability to reduce risk and uncertainty via

HE influences entrepreneurial entry and survival. Their study revealed higher business survival rates among individuals who had entered full-time entrepreneurship via HE compared to direct entrants (Raffiee and Feng, 2014). These findings suggest that the learning effect of the hybrid state positively influences not only the second choice, of transitioning to full-time entrepreneurship, but also the subsequent survival advantage. While the ability to reduce risk and uncertainty acts as a pull factor, push factors also affect the transition to full-time entrepreneurship (Amit and Muller, 1995). Carr et al. (2022) demonstrated that the increased effort required by startups over time leads to greater work-to-venture role conflict, which in turn results in decreased job satisfaction and heightened intentions to leave wage employment.

Figure 1.2 provides a comprehensive overview and synthesis of the different theories and approaches regarding the first and second choices in entrepreneurial entry via HE at the individual level. Examining HE as the incremental transition from wage employment to full-time entrepreneurship within a broader context is valuable for elucidating its antecedents and outcomes. Therefore, this dissertation adopts a more inclusive approach, with HE as established by Folta et al. (2010) serving as the central focus.

Figure 1.2 The first and second choices of entrepreneurial entry via HE

1.3 Research questions

The primary content of this dissertation consists of three distinct yet thematically interconnected studies that critically address research questions (RQs) related to the concept of HE. Hereby, HE as outlined by Folta et al. (2010) serves as the central focus of theoretical considerations. Their pioneering study has provided the basis for many subsequent research efforts (Demir et al., 2022). However, the research stream remains rather fragmented and inconsistent, due partly to differences in applied samples, research designs, and contexts (Demir et al., 2022). This diversity makes it challenging to uncover consensus and contradictions in the literature (Demir et al., 2022), or the state of research on HE according to Folta et al. (2010). To address this gap, the first set of RQs aims to provide a novel, comprehensive, and in-depth overview of the body of knowledge on HE by posing the following inquiries:

RQ 1.1: *What is the extent of consensus in the applied nomenclatures, criteria, and conceptions of HE?*

RQ 1.2: *Is HE clearly distinguished from related concepts?*

RQ 1.3: *What are conceptual and empirical findings of HE, as outlined by Folta et al. (2010)?*

Research in entrepreneurship has brought about an understanding that entrepreneurial decision-making is not isolated from its social influences. Studies of its social contexts, particularly households and families, have predominantly focused on the influences exerted by parents (e.g., De Wit and Van Winden, 1989; Dunn and Holtz-Eakin, 2000; Lindh and Ohlsson, 1996). The influences of couples on the decision-making processes of choosing and pursuing self-employment have received notably less academic attention (e.g., Bruce, 1999; Budig, 2006; Caputo and Dolinsky, 1998; Parker, 2008).

In the context of couple relationships, individuals typically consider the preferences of their partners. This principle extends to their occupational choices, wherein the type of employment pursued by one partner may influence the occupational choices of the other (e.g., Blossfeld and Drobnic, 2001; Verbakel and De Graaf, 2008; Verbakel and De Graaf, 2009). The matching of employment types within couples exhibits both positive and negative dynamics, depending on the theoretical perspective being considered. The relevant literature draws on distinct theories to explore this phenomenon. For example, a frequently utilized theory is assortative mating (e.g., Andersson and Hammarstedt, 2010; Brown et al., 2006; Ermisch et al., 2006; Kalmijn and Flap, 2001; Mare, 1991), which posits that individuals are more inclined to form partnerships with individuals who share similar characteristics with themselves (Bernasco et al., 1998; Brown et al., 2006; Parker, 2008). Entrepreneurship studies rooted in this theory

provide empirical evidence for positive employment type matching, indicating that individuals with similar inclinations toward self-employment are more likely to marry each other (Bruce, 1999). Another example is role model theory (Bosma et al., 2012; Parker, 2008), which suggests that occupational choices are either imitated or avoided based on the observed work-related successes of other individuals (Bosma et al., 2012). Researchers have identified instances of both positive and negative employment type matching, suggesting that role models can exert either positive or negative influences on individuals' choices of entrepreneurial occupations (Bosma et al., 2012). A third example is risk diversification theory, which involves diversifying or pooling risk by combining different types of employment (Parker, 2008; Schiller and Crewson, 1997). Empirical findings generally indicate negative employment type matching, as couples may wish to diversify risk by maintaining a diversified portfolio of employment types (Bernhardt, 1994; Blanchflower and Oswald, 1990; Brown et al., 2006; Clark and Drinkwater, 2000; Georgellis and Wall, 2000; Parker, 2008).

The present work grounds its analysis in a fourth frequently employed theory, namely, social capital theory. According to this theory, holding matched employment types increases the benefits of transferred social capital, as life partners contribute directly and indirectly to each other's skills and networks (Caputo and Dolinsky, 1998; Parker, 2008; Taniguchi, 2002; Verbakel and De Graaf, 2008). Studies grounding their analysis on this theory have found that positive employment type matching occurs, especially among self-employed individuals (Bruce, 1999; Lombard, 2001). While prior research has examined the impacts of the existence and occupational positions of life partners on the direct switch into full-time entrepreneurship (e. g., Caputo and Dolinsky, 1998; Özcan, 2011), their effects on HE remain unexplored. Given that HE represents an incremental transition to entrepreneurship, mitigating the uncertainty of direct entry (Folta et al., 2010; Raffiee and Feng, 2014; Wennberg et al., 2006), it raises the question of how, and to what extent, the social capital provided by a life partner influences this pathway.

Gender differences may play significant roles in this dynamic, as men and women differ in their motivations, constraints, and risk perceptions regarding HE. Women, for instance, are more likely to pursue self-employment for its flexibility but tend to be less inclined toward HE if their partner is working (Atherton et al., 2016; Hundley, 2001). Furthermore, a partner's high earnings can discourage women from HE (Eliasson and Westlund, 2013). In contrast, men appear unaffected by their partners' employment statuses and may engage in HE to achieve financial stability (Atherton et al., 2016; Eliasson and Westlund, 2013). These differences can be partially explained by women's greater risk aversion (Caliendo et al., 2009; Jianakoplos and Bernasek, 1998; Sexton and Bowman-Upton, 1990) and their stronger perception of barriers to capital acquisition (Roper and Scott, 2009). Consequently, gender-related differences may influence how social capital affects the decision to transition directly or indirectly into full-time entrepreneurship.

This thesis seeks to address these gaps by addressing the following RQs:

RQ 2.1: *Are there correlations between the existence and occupational choices of life partners and the likelihood of wage-employed individuals pursuing full-time entrepreneurship, through either direct or indirect entry?*

RQ 2.2: *Are there gender-related differences in terms of the existence and occupational choices of life partners on the direct and indirect entry into full-time entrepreneurship?*

In recent years, a lively discourse has unfolded within the field of entrepreneurship research regarding the antecedents and outcomes of well-being (Stephan et al., 2023). Entrepreneurship can be a journey characterized by phases of stress and precariousness, as well as periods of fulfillment and joy. Compared to wage employment, entrepreneurship involves longer working hours (Ajayi-obe and Parker, 2005; Hyytinen and Ruuskanen, 2007; Merz et al., 2009), higher uncertainty, greater variability in returns (Van Praag and Versloot, 2007), reduced monetary gains (Carrington et al., 1996; Hamilton, 2000), fewer fringe benefits (Storey, 1994), increased health costs and ill-being (Nikolova et al., 2021; Palmer et al., 2021; Williamson et al., 2021), and elevated levels of stress (Andersson, 2008; Parasuraman and Simmers, 2001; Schieman et al., 2006). Yet it can also offer “procedural utility” in the form of higher self-determination, autonomy, and control (Benz and Frey, 2008a). As such, entrepreneurship may be linked to well-being in both positive and negative ways (Shir, 2015; Shir et al., 2019; Solomon et al., 2022; Stephan et al., 2023; Wiklund et al., 2019).

Previous studies addressing entrepreneurial well-being have primarily examined the relationship between entrepreneurship and job satisfaction as part of domain-specific satisfaction (e.g., Benz and Frey, 2008a; Bianchi, 2012; Bläse et al., 2021; Block and Köllinger, 2009; Bradley and Roberts, 2004; De Clercq et al., 2021; Kleine-Stegemann et al., 2024; Li et al., 2021; Uy et al., 2017). These studies have consistently revealed substantially higher levels of job satisfaction among entrepreneurs compared to employees (e.g., Benz and Frey, 2004, 2008a, 2008b; Blanchflower, 2000, 2004; Blanchflower and Oswald, 1998; Bradley and Roberts, 2004; Clark et al., 2008; Hundley, 2001; Kawaguchi, 2002, 2008; Stephan et al., 2023). This positive correlation is often attributed to aspects of the procedural utility (Benz and Frey, 2004) that entrepreneurship provides, such as greater autonomy (Benz and Frey, 2008a, 2008b; Coad and Binder, 2014; Lange, 2012), more flexibility, higher skill utilization, and control (Berglund et al., 2015; Carter et al., 2003; Feldman and Bolino, 2000; Hundley, 2001; Hytti et al., 2013; Millán et al., 2013; Parasuraman and Simmers, 2001). Another traditional area of domain-specific satisfaction under frequent scrutiny is leisure time satisfaction. Here, results typically indicate a growing

dissatisfaction with leisure time when individuals are engaged in entrepreneurship, as entrepreneurship imposes high demands on time, leaving a lack of leisure time (e.g., Binder and Coad, 2016; Hyytinen and Ruuskanen, 2007; Van der Zwan et al., 2018).

While numerous studies have delved into the connections between entrepreneurship and job and leisure time satisfaction, few have explored the correlations between entrepreneurship and the broader measure of life satisfaction, and their findings are limited and inconsistent (e.g., Andersson, 2008; Binder and Coad, 2013, 2016; Dolan et al., 2008; Gholipour et al., 2022; Salinas-Jiménez et al., 2013; Stephan et al., 2023). Some of these studies have identified a positive association, suggesting that entrepreneurship is associated with higher life satisfaction than wage employment (e.g., Benz and Frey, 2008a; Blanchflower and Oswald, 1998; Shir, 2015; Stephan and Roesler, 2010; Stephan et al., 2023; Van der Zwan et al., 2018). Other studies have found either no or only a weak relationship (e.g., Andersson, 2008; Blanchflower, 2004; Schjoedt and Shaver, 2007). The latter attribute their absence of findings to a crowding-out effect between different life satisfaction domains, such as job, health, and leisure time (Binder and Coad, 2016). Another explanation is the heterogeneous nature of self-employment (Santarelli and Vivarelli, 2007), which involves both necessity (pushed) entrepreneurs and opportunity (pulled) entrepreneurs (e.g., Binder and Coad, 2013, 2016; Block and Köllinger, 2009; Kautonen and Palmroos, 2010; Reynolds et al., 2005). This distinction implies that not all forms of self-employment result in enhanced well-being. Additionally, individual characteristics and personality traits play a role, as individuals may perceive conditions differently; for instance, some may place more value on having a satisfying job than on having significant leisure time (Ardianti et al., 2022). These results suggest that experiencing an increase or decrease in satisfaction within one domain, such as job or leisure time, does not necessarily result in a corresponding change in overall life satisfaction (Binder and Coad, 2013; Van der Zwan et al., 2018).

Until now, entrepreneurial well-being research has almost exclusively focused on the direct transition from wage employment to entrepreneurship (e.g., Benz and Frey, 2008a; Binder and Coad, 2013). Limited research has been conducted on stepwise movement toward entrepreneurship via HE (e.g., Crider et al., 2024; Kuske et al., 2024), although this approach can significantly impact an individual's well-being. For example, considering HE as a strategy to mitigate the uncertainty of transitioning directly from wage employment to entrepreneurship (Raffiee and Feng, 2014; Wennberg et al., 2006) may lead to higher job and life satisfaction. Conversely, viewing HE as causing conflicts in time and resource allocation between wage employment and self-employment (Benitez et al., 2024; Burmeister- Lamp et al., 2012; Petrova, 2012) may result in lower job and life satisfaction compared to a direct transition.

In their latest study, Ardianti et al. (2022; AOD) incorporated HE into the topic of entrepreneurial well-being, adding novel insights to the existing research. Analyzing data from the United Kingdom Household Longitudinal Survey (UKHLS), the authors discovered that

hybrid entrepreneurs exhibit differences in well-being (as measured by life satisfaction, job satisfaction, and mental strain) compared to full-time entrepreneurs, full-time wage employees, and dual job holders. They attribute these differences to both treatment effects by task characteristics (reflecting the distinctive work arrangements of HE) and self-selection effects (pre-existing personality traits; Ardianti et al., 2022). This dissertation aims to replicate and expand upon the AOD study. Our extension involves cross-model coefficient comparison (CMCC) to compare the direction and magnitude of the effects related to each separate occupational movement (job switch) across the three different well-being outcome variables (job, leisure time, and life satisfaction). In other words, for each job switch, we used CMCC to compare the estimation results between the three models with different well-being outcome variables. Our replication and extension of the AOD study led to the following set of RQs:

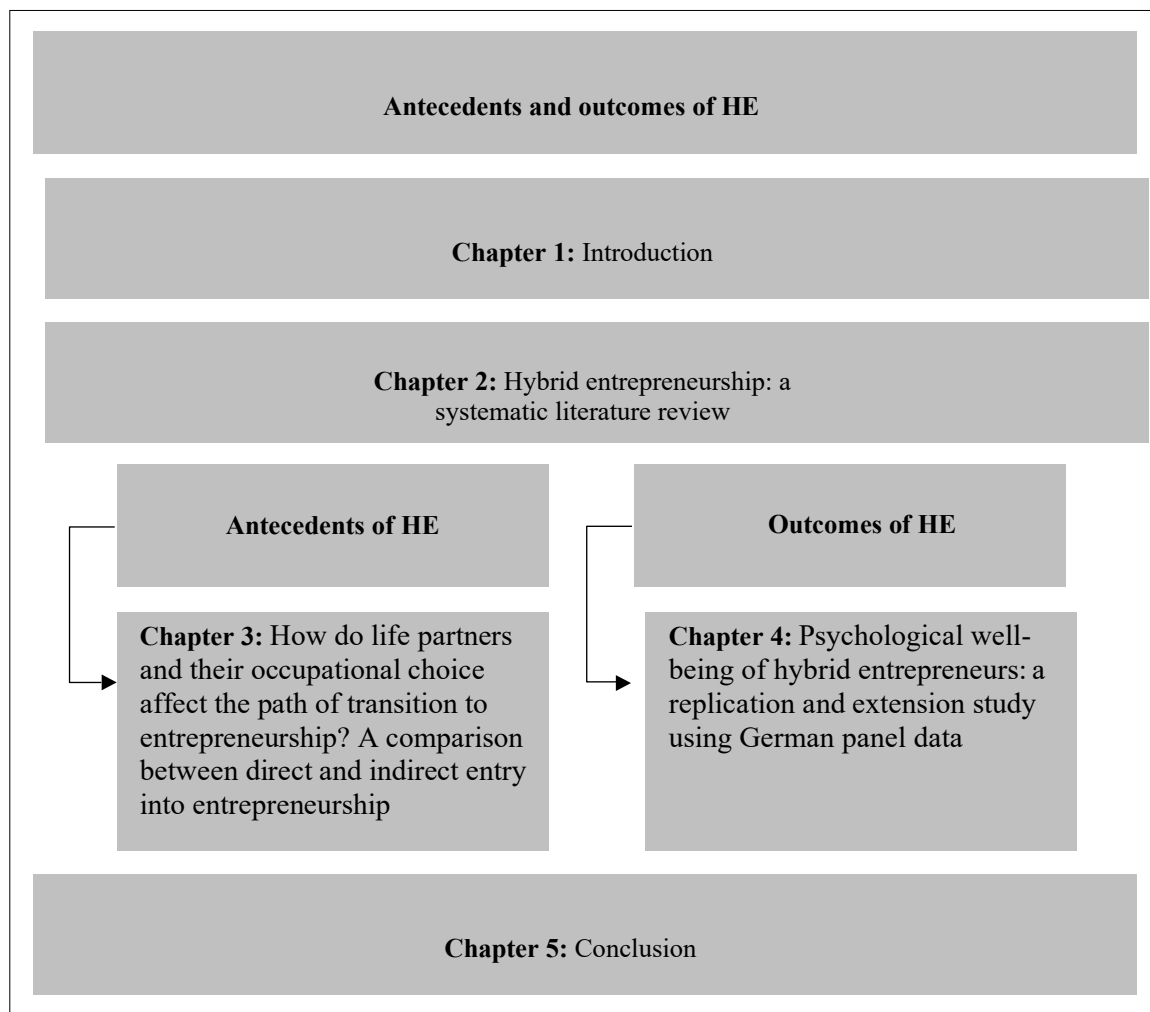
RQ 3.1: *Do individuals in Germany experience well-being (measured via job, leisure time, and life satisfaction) changes when switching from HE to non-HE occupations, or vice versa?*

RQ 3.2: *Do different occupational transitions exert varying degrees of effects on distinct well-being patterns (measured via job, leisure time, and life satisfaction)?*

1.4 Chapter outline

This thesis comprises five chapters dedicated to exploring HE. Figure 1.3 visually outlines the organization of this thesis, and the subsequent section provides a detailed description of the chapter arrangement.

Figure 1.3 Structure of the dissertation



Chapter 1 introduces the motivation behind this thesis and offers an overview of the theories being examined. It outlines the RQs it seeks to address, presents the structure of each chapter, and summarizes the publication status of projects undertaken within this thesis. This summary includes a breakdown of the author's and co-authors' contributions to the work. **Chapters 2, 3, and 4** constitute the body of this work, each representing a distinct manuscript. These chapters delve into the specifics of the research, exploring the various facets outlined in the introduction.

Chapter 2 offers a comprehensive overview of current research on HE through a systematic literature review analyzing 43 peer-reviewed articles. The review illuminates a notable

absence of consensus in the applied nomenclatures, criteria, and conceptualizations of HE, as well as a lack of clear distinctions between HE and related concepts. Based on these findings, the study consolidates its discoveries in alignment with HE as defined by Folta et al. (2010). By doing so, it not only synthesizes the current state of knowledge but also lays the groundwork for future research endeavors.

Chapter 3 discusses the antecedents of HE, utilizing panel data from GSOEP to examine the associations between the existence and occupational choices of life partners and the likelihood of wage-employed individuals entering full-time entrepreneurship. This analysis considers both direct pathways and indirect routes. Further, it explores potential gender differences within these results in alignment with social capital theory. Contrary to the hypotheses, the empirical results do not support a life partner's presence in influencing the transition to full-time entrepreneurship, whether direct or indirect. However, the self-employment status of a life partner does play a role. For both genders, having a self-employed life partner appears to reduce the likelihood of a direct transition. When the genders are analyzed separately, the findings reveal that for an indirect transition via HE, women with self-employed partners are more likely to transition, an effect not observed in men. These insights contribute to unraveling the underlying factors influencing individuals to choose the hybrid path, shedding light on nuanced, gender-specific dynamics.

Chapter 4 shifts the focus to the outcomes of HE. Once again using panel data from GSOEP, this chapter explores the effects of transitions into or out of HE on different well-being measure (job, life, and leisure time satisfaction). The study replicates the original methodological approach of Ardianti et al. (2022), conducted in the UK, and extends it by applying cross-model coefficient comparison tests (CMCCs). Consistent with the AOD study, the findings demonstrate that the changes in well-being resulting from switching to HE differ from those induced by other types of job switches. In contrast to the AOD study, however, it reveals negative effects on both job and life satisfaction induced by the switch from wage employment to HE. Through applying CMCCs, this study introduces novel evidence indicating that switching from wage employment to HE has a significantly greater negative impact on an individual's job satisfaction than on their life and leisure time satisfaction. Similarly, when switching from wage employment to full-time entrepreneurship, job satisfaction was found to be the most significantly affected outcome. From a practical perspective, the study offers suggestions on whether the hybrid status is enriching or depleting.

Chapter 5 presents the conclusion of this dissertation, providing a comprehensive summary of the RQs and synthesizing the findings and insights derived from the research discussed in the preceding chapters.

1.5 Research publication status

The studies in this dissertation have all been published in international, peer-reviewed scientific journals. These journals are either listed in ISI Web of Science/Scopus or are ranked in the VHB-JOURQUAL 3 conducted by the Association of Business School (ABS)/Verband der Hochschullehrer für Betriebswirtschaftslehre (VHB). As this research work stems from collaborative efforts with various co-authors, it is essential to delineate the contributions of each author. Table 1.1 offers a summary of the distinct studies and their publication statuses.

Table 1.1 Publication statuses of the conducted studies

Title	Publication Status	Authors	Reference
<i>Manuscripts used in this dissertation</i>			
1 Hybrid entrepreneurship: a systematic literature review	Published in <i>Journal of Small Business and Entrepreneurship</i> (VHB: C)	Demir, C.; Werner, A.; Kraus, S.; Jones, P.	Demir et al. (2022)
2 How do life partners and their occupational choice affect the path of transition to entrepreneurship? A comparison between direct and indirect entry into entrepreneurship	Published in <i>Journal of Contextual Economics/Schmollers Jahrbuch</i> (VHB: n.r.)	Demir, C.; Stephan, M.; Werner, A.	Demir et al. (2021)
3 Psychological well-being of hybrid entrepreneurs: a replication and extension study using German panel data	Published in <i>Journal of Business Venturing Insights</i> (VHB: B)	Stephan, M.; Demir, C.; Lasch, F.; Vossen, A.; Werner, A.	Stephan et al. (2023)

Chapter 1. The author of this dissertation wrote this chapter independently.

Chapter 2. Most of the content in this chapter was developed and written by the author of this dissertation, who was responsible for the research concept, visualization, methodology, data collection, data analysis, and most of the writing. The original paper on which the chapter is based was presented at the 23rd Annual Interdisciplinary Conference on Entrepreneurship, Innovation and SMEs (G-Forum) with the theme “Opportunities for SMEs in a globalized world” in 2019 in Vienna. The manuscript underwent one round of minor revisions, which was overseen primarily by the author of this dissertation. The paper was accepted for publication in the *Journal of Small Business and Entrepreneurship* in March 2020 and was published in 2022.

Chapter 3. A significant part of this chapter was developed and written by the author of this dissertation, who played a pivotal role in the conceptualization, visualization, methodology, data analysis (including formal analysis and data curation), and writing. The

original manuscript was presented at the 17th Interdisciplinary European Conference on Entrepreneurship Research (IECER) with the theme “Entrepreneurship for a better world” in 2019, in Utrecht. The publication process involved two rounds of major and minor revisions, with a large portion of the editing carried out by the author of this dissertation. The paper was accepted for publication in the *Journal of Contextual Economics/Schmollers Jahrbuch* in 2021 and was published the same year.

Chapter 4. For this chapter, the author of this dissertation was responsible for the conceptualization, methodology, data analysis (including formal analysis and data curation), and writing. The publication process involved one round of minor revisions, which were partly overseen by the author of this dissertation. The paper was accepted for publication in the *Journal of Business Venturing Insights* in 2023 and was published in the same year.

Chapter 5. The author of this dissertation wrote this chapter independently.

2 Hybrid entrepreneurship: a systematic literature review

Cemre Demir • Arndt Werner • Sascha Kraus • Paul Jones

Abstract

HE describes the engagement in self-employment activity while simultaneously holding a primary job in wage employment. Because this phenomenon has received increasing scholarly attention in recent years, this study offers a first systematic literature review and uncovers both consensus and contradictions in the existing literature. Specifically, 43 papers were analyzed with respect to bibliographical information, research design and key results. We find that there is a missing consensus in applied nomenclatures, criteria and conception of HE and a delineation of HE from related concepts. As a result, alternative terminology is used to label the same phenomenon by different authors. Together, our study increases understanding of HE by providing a holistic perspective of the phenomena and by offering avenues for future research.

Keywords: Hybrid entrepreneurship • Part-time entrepreneurship

2.1 Introduction

Changes in demographics, social norms and labor market conditions have led to the emergence of flexible working arrangements and patchwork careers (Roberts and Robinson, 2010; Thorgren et al., 2014). A dominant example of such progressions is HE. Engaging in self-employment activity while simultaneously holding a primary job in wage employment is increasing in many countries globally (Bosma et al., 2008).

Empirically, the previous and current entrepreneurship literature does not deal adequately with this unique entrepreneurial activity (Schulz et al., 2017). Many studies classify hybrid entrepreneurs into mutually exclusive categories as self-employed or wage-employed and do not allow the two groups to overlap. On that account, hybrid entrepreneurs sometimes even get eliminated from samples. Forcing this categorization neglects the circumstance that hybrid status affects full-time entrepreneurial entry, because it reduces uncertainty through learning about entrepreneurial ability (Folta et al., 2010). It also overlooks the evidence that determinants of hybrid entry are different from those of full-time entrepreneurial entry (Folta et al., 2010). For example, individuals with higher uncertainty regarding entrepreneurial ability, higher switching costs (higher employer size and employer age) and higher opportunity costs (higher salary income and education) prefer hybrid entry (Folta et al., 2010). Choosing hybrid entry, these individuals show the intention to transition into full-time entrepreneurship as well as to seek nonmonetary benefits. High earners also chose hybrid entry to supplement their income, because they have the opportunity to do so. The intention to supplement income cannot be found among financially constrained individuals, who choose hybrid entry (Folta et al., 2010).

Embracing hybrid entrepreneurs as a distinct category reveals that they constitute a significant share of all entrepreneurs (Burke et al., 2008) and of all entrepreneurial episodes, especially the transitions into and out of entrepreneurship (Folta et al., 2010). Their prevalence changes our understanding of entrepreneurship, wherefore prior studies on this topic might need to be interpreted differently. For example, contrary findings regarding liquidity constraints (Evans and Jovanovic, 1989) might exist because of hybrid entrepreneurs. They are generally less liquidity constrained, because they enter entrepreneurship through an incremental process (Folta et al., 2010). As such, considering them distinctively in the analysis might lead to more congruent results. Hybrid entrepreneurs might also be the reason why past studies did not discover different risk attitudes between entrepreneurs and wage-employed individuals (e.g., Kihlstrom and Laffont, 1979). Furthermore, previous findings on entrepreneurial exit rates (e.g., Bates, 1990; Taylor, 1999) might need to be looked at in a new light when considering that hybrid entrepreneurs are testing the waters.

With all these characteristics to them, hybrid entrepreneurs are important to society regarding labor market dynamics. Their existence mirrors changes in market conditions and shows that evermore individuals decide to work in non-standard arrangements. Entrepreneurs are embedded in societal arrangements that determine their growth potential, whereby labor

flexibility is a significant predictor of the prevalence rates of high-growth entrepreneurship (Baughn et al., 2010). Besides, the circumstance that individuals with more hybrid experience also prefer hybrid to full-entrepreneurial entry (Folta et al., 2010) points to severe precariousness of self-employment. This might be affected by a lack of adequate entrepreneurial policies and support from governmental sides. As such, hybrid entrepreneurs are valuable because they can serve as seismographs for changes in social norms and given economic and policy conditions. Finally, because hybrid entrepreneurs are often better educated and because they initially review their entrepreneurial opportunities before transitioning into full-time entrepreneurship (Folta et al., 2010), they might start more high-growth firms and perform more effectively when ultimately being full-time entrepreneurs. As such, they depict crucial players in the field and come along with great potential for firm creation.

With all the given explanations so far, it is now apparent that entrepreneurship cannot be associated with an all-or-nothing approach anymore or a dichotomous choice between entry and no entry, or between self-employment and wage employment. The research area of HE embraces this perspective academically (Folta et al., 2010). Despite increased scholarly interest in the phenomenon of HE in recent years (Thorgren et al., 2014) a coherent picture of what is known and what is required to be known has not emerged. Therefore, the purpose of this study is to distinguish HE from related concepts in order to uncover consensus and contradictions in the literature. Ultimately, this study seeks to offer further understanding of HE according to Folta et al. (2010) to provide a holistic overview of the state of research and to offer potential avenues for future research.

The study applies the systematic literature review methodology suggested by Tranfield et al. (2003). Following an extensive database search and examination of references/citations and a keyword search and an assessment of applicability into this review, 43 papers were analyzed with respect to bibliographical information, research design and findings. Furthermore, the content of each study was evaluated and summarized in order to extract mutual themes. Thereafter, the papers were categorized and synthesized to outline the extent of consensus shared and to link the common emerging themes and research questions across them. The findings highlighted a missing consensus in applied nomenclatures, criteria, and conception of HE and also an absence of delineation of HE from related concepts. These circumstances typically result in a misleading categorization of papers into research areas. Grounded on these findings, this study offers a first attempt in differentiation and sets apart the two main competing concepts of “hybrid entrepreneurship” by Folta et al. (2010) and “part-time entrepreneurship” by Petrova (2005, 2010a, 2010b, 2012), as within the review process the study found they were typically confused. Guided by this organization and distinction, this review ultimately identified only three other studies, which provide genuine conceptual and empirical findings on the phenomenon according to Folta et al. (2010) seminal study. Thus, this study suggests that there should be an appropriate application of nomenclature, criteria and conception for HE and related concepts to

clearly distinguish the phenomenon and research areas. Furthermore, additional research is required focusing on HE as a specific occurrence, as it remains under researched.

Collectively, this study is a novel scholarly contribution to the growing research on HE. Being the first systematic literature on this topic, it reveals the existing body of knowledge and research gaps. As such, it offers a foundation for further research and conceptual and empirical progress. Compiling all the valuable insights about hybrid entrepreneurs and highlighting this group's prevalence in and importance for labor market dynamics, our study is also helpful for practitioners. The study proceeds as follows: in the next section, a description of the methodology for the literature review is provided. Hereafter, the findings are outlined including detailed content analysis. In the final section the paper concludes by discussing the main results, limitations, practical implications, and suggestions for future research.

2.2 Methodology

To evaluate the current state of the literature on HE, this work follows the guideline of Tranfield et al. (2003) on how to conduct a systematic literature review. The guideline instructs a rigorous and effective literature review process for developing evidence-informed knowledge by adopting a replicable, scientific, and transparent process. Following this guideline, the study aims to minimize bias by providing an audit trail of decisions, procedures, and conclusions. Tranfield et al. (2003) propose a three-step process, whereby each stage is divided into multiple phases with different purposes. The three stages are:

1. planning the review
2. conducting the review
3. reporting and disseminating the review

The first stage—planning the review—sets out the motivation for the review and is a repeated process of definition, clarification, and refinement in order to arrive at a definite review question. Here, explanation of the study motivation and the review question was provided in the introduction. The first stage also involves the development of a review protocol, which captures the outcome of each step taken and each decision made, and which ensures objectivity. The underlying review protocol records the search strategy, the selection of studies (inclusion and exclusion at each stage of the review is documented with the reasons for exclusions), quality assessment, the data extraction, and the monitoring progress. These phases are the most important to be protocolled in order to reconstruct and replicate the ascertainment of all the references retrieved in our review.

The second stage—conducting the review—begins with the identification of relevant literature. For preliminary inclusion in this review, the literature had to contain a combination and conjunction of specific keywords. First, a keyword search in title, abstract, keywords, topic and

author identifiers was carried out on the following eight electronic databases: (1) EBSCO Business Source Elite, (2) Elsevier Science Direct, (3) Emerald Insight, (4) SpringerLink, (5) Scopus, (6) ISI Web of Knowledge (Web of Science), (7) Wiley Online Library and (8) Jstor. Where possible, the search was refined by limiting the results to English review and research articles published in peer-reviewed journals. In addition, where possible, wildcards were used to maximize the search results. In total, the study applied six different sets of search terms:

Table 2.1 Search term sets

Search term set	Search terms
1	“part-time entrepreneur*” OR “hybrid entrepreneur*” OR “moonlight entrepreneur*” OR “mixed workers” OR “part-time AND self-employ*” OR “side activity entrepreneur*” (OR “hybrid AND self-employ*”)
2	“multiple job holding” AND “self-employ*”
3	“part-time entrepreneurship” OR “hybrid entrepreneurship” OR “moonlight entrepreneurship” OR “mixed workers” OR “side activity entrepreneurship”
4	“part-time” AND “self-employed”
5	“hybrid” AND “self-employed”
6	“multiple job holding” AND “self-employed”

Thus, the total number of results found through searching the eight electronic databases was 253.

Second, four search runs were undertaken on Google Scholar by operationalizing the following search terms: (1) “part-time” AND “self-employed” (2) “hybrid entrepreneur*” (3) “hybrid entrepreneurship” (4) “multiple job holding” AND “self-employ*”. Patents and citations were excluded obtaining 37 results via Google Scholar. Third, a reference list search was conducted. Three articles, which appeared among the most relevant and most frequently results within the electronic database searches were analyzed. These articles were:

- Folta et al. (2010)
- Petrova (2012)
- Raffiee and Feng (2014)

The reference lists of these articles were then scanned manually by searching for the following keywords in the titles: “part-time” OR “hybrid” OR “side-activity” OR “moonlight”. This reference list search revealed nine results. Finally, a citation list search rounded up our identification of relevant literature. Hereby, the citation lists of the three articles were manually screened via Google Scholar by searching for the following keywords in the titles: “part-time” OR “hybrid” OR “side-activity” OR “moonlight”. By limiting the language to English and by excluding patents and citations, 75 results were obtained.

Overall, the above screenings yielded 374 results. Of them, 154 results were duplications and six were not in English and were excluded. Thereafter, the publications were retrieved from the internet for a more detailed evaluation in form of screening the entire texts for “hybrid” OR “part-time” OR “self-employed” OR “side” OR “moonlight” and reading those passages in detail, in which the search words were contained. The full-text evaluation took place twice for each article as we wanted to ascertain the eligibility of the included papers and to exclude those not on topic. The difficulty hereby was to assess whether articles, which approached to part-time entrepreneurship referred to it as the engagement in self-employment activity while simultaneously holding a primary job in wage employment or as the engagement in self-employment activity on a part-time basis solely and without a wage employment, e.g., of retired individuals or individuals in parental leave. As our review is interested in analyzing the literature on the former case, articles were excluded, when they failed to answer this specific research question.

Studies in systematic literature reviews are repeatedly evaluated with the consultation of a predetermined set of criteria (Xiao and Watson, 2019). The relevance of a study to the review depends on its quality of methodology and on its fit to answer the research question of the review. As such, further selection took place by applying two inclusion criteria. The first criterion was the journal quality threshold. Within the past decades, the peer-review evaluation emerged within academia, which functions as a form of self-regulation to maintain quality standards, improve performance, and provide credibility. Therefore, literature from peer-reviewed journals should serve as a solid foundation for the review. As such, we included articles,

1. if they were published in journals that received an impact factor from the 2018 Clarivate Analytics journal citation report of 2.00 and higher, or
2. if they were published in journals that were ranked by the Association of Business School (ABS)/Verband der Hochschullehrer für Betriebswirtschaftslehre (VHB) with C or higher.

The threshold of the Clarivate Analytics journal citation report and/or the ABS has been used as a measure for quality in other systematic literature reviews (Bouncken et al., 2015; Ghadge et al., 2012), for which we believe it is also a legitimate criterion in our review as well. Within the selection process up until this point, 38 relevant articles were identified. While searching for quality literature is essential, it is also important to include those articles that are applicable to the proposed research question of the review. These articles may not have been published in peer-reviewed journals, yet they still help to build the theoretical foundations for the validity of the theories, constructs, and measures. Therefore, the re-inclusion of excluded results depending on their fit with the review’s topic constitutes our second inclusion criteria (Falkner and Hiebl, 2015). Articles, which were excluded due to the first criterion were scanned and reselected, if they had a

solid reference to scientific studies, were relying on scientific research methods and were not entirely practitioner-oriented. Taking the above selections together, 43 articles (see Appendix A.2.1 and A.2.2) made the final review sample and were used to finalize the second stage and to proceed with the third stage of the systematic literature review suggested by Tranfield et al. (2003) in general and Kraus et al. (2020) especially for the field of entrepreneurship.

2.3 Findings

For preparing the data summary and synthesis, a data extraction sheet was compiled with detailed information regarding the author(s), year, title, source, source type, research method, methodology, variables, unit of analysis, geographical scope(s), research question, key findings on HE, area contribution, definition of HE, and implications. Tranfield et al. (2003) suggest producing a two-chapter report within management research. The first chapter would contain descriptive characteristics of the articles by using the simple categories of the extraction sheet. The second chapter would report the findings of a thematic analysis, which focuses on the extent of consensus shared by the articles and links the common emerging themes and research questions across them (Tranfield et al., 2003). Results of the two-chapter approach will be presented in detail in the following two sections.

2.4 Descriptive statistics

2.4.1 Publication date, journal, and geographical scope

Figure 2.1 Number of publications per year

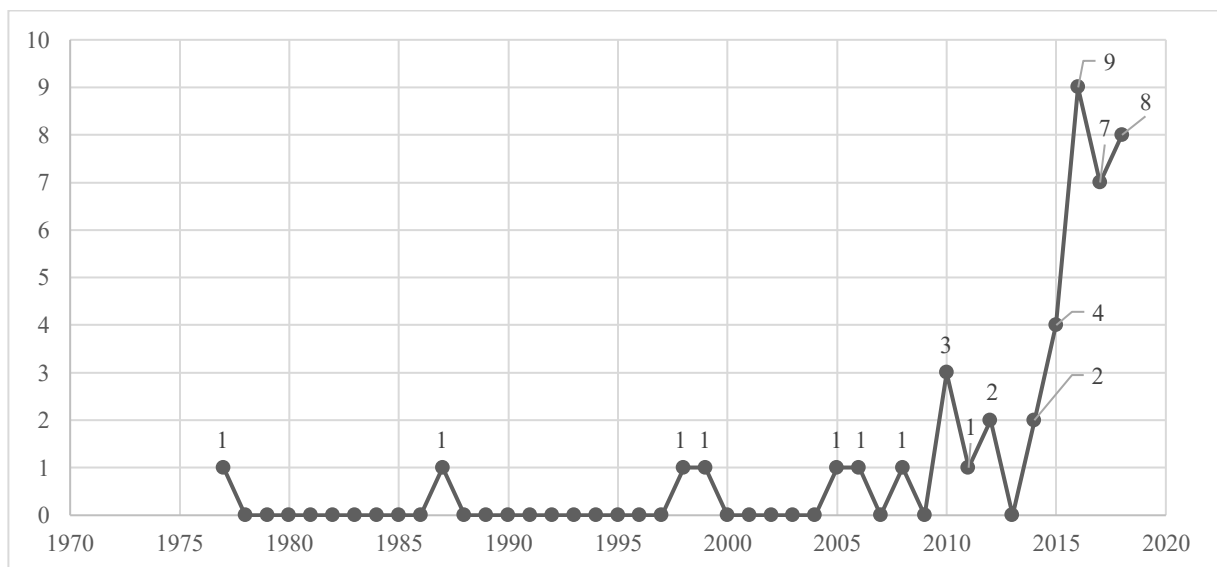


Figure 2.1 depicts the publication date of the 43 articles. As we did not determine a

publication time-frame criterion, the illustrated publication distribution begins with the oldest identified article in 1977 and ends with the most recent ones in 2018. The number of published articles increased predominantly within the last eight years of this time-frame. Before 2010, only scattered publications can be sighted with none or one publication per year. In 2010, a small incline can be observed with three publications in that year. While again minimal research on HE was conducted during the period from 2011 to 2013, the number of published articles increased exponentially from 2014 to 2016, with two publications in 2014, four publications in 2015 and nine publications in 2016. After this strong increase, the years 2017 and 2018 demonstrate a trend with a slight decline of publications with seven published articles in 2017 and eight in 2018. Looking at the entire time-frame from 1977 to 2018, only around 13% (six) of the 43 articles approaching HE was published in the first three decades (1977 to 2007) and around 87% in the last decade (2008 to 2018). This finding underpins the increased topicality of the research area of HE.

In terms of the journal distribution, no significant clustering of the articles can be identified. The 43 articles were published in 32 different academic outlets. Overall, 42 of the outlets are journals, one outlet is a university publisher. Three manuscripts were identified in the journals “International Small Business Journal”, “Journal of Business Venturing” and “Small Business Economics”. Two publications each were identified in the journals “Academy of Management Proceedings”, “Baltic Journal of Management”, “Frontiers of Entrepreneurship Research” and “Journal of Business Venturing Insights”. Thereafter, the remaining 26 articles were published in different journals.

Regarding the geographical distribution of the 43 articles, three articles had no geographical scope, four covered more than one country and the remaining concerned one specific country. Of the latter, the great majority focused on European countries (21 articles), followed by North America (twelve articles). This circumstance can be explained by the forerunner position of European and North American scholars in scrutinizing the phenomenon of HE. They began early to establish a body of knowledge dedicated to this topic. This may have enabled other scholars to use this groundwork in order to promote and fine-grain HE research in these geographical contexts.

2.4.2 Research method, data collection, and area contribution

Figure 2.2 Distribution of applied research methods of the publications in percentage

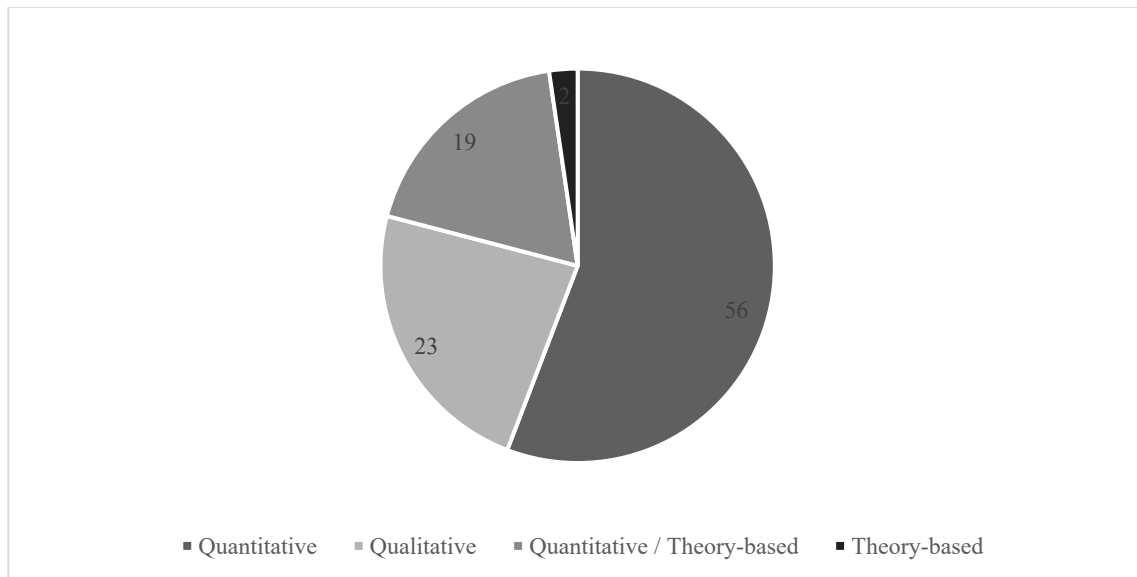


Figure 2.2 depicts the distribution of applied research methods. 24 articles made use of the quantitative method, constituting 56% of all articles reviewed. These articles applied logistic model regressions in their analysis. Ten articles adopted a qualitative method, making up 23% of the sample. Nine of them relied on case studies whilst the remaining one is a systematic literature review. Eight further articles, so 19% of the reviewed articles, adopted a mix of the quantitative and theory-based method by first developing a model and subsequently testing this model with quantitative methods. Only one article, making up the last 2% of the final sample, was purely theory-based.

In the matter of data collection, 19 articles retrieved their data of interest from governmentally sponsored institutions and projects. These datasets usually come with the advantage of containing well-represented and reliable information of the populations in their national contexts. By comprising official and mandatory surveys, they generally possess high response rates. Furthermore, by covering multiple years, they allow for longitudinal analysis. 17 articles built their findings on their own data. The authors of these articles conducted postal, viral, and direct interviews and surveys and subsequently enhanced the reliability and internal validity of their data with applicable methods in order to minimize potential biases. Collecting their own data has the advantage of targeting the exact sample of interest and of gathering very specific and fine-grained information about the relevant subjects. Three articles combined already available data of public census with self-conducted online surveys and the remaining four articles of the final sample did not ground their findings on any data due to their theory-based or systematic literature approach. Closely tied to the data collection practice, the sample sizes reveal some

similarities among the reviewed articles. Table 2.2 shows that those relying on data from government institutions and projects generally have larger sample sizes than those setting up their work on own data.

Table 2.2 Data collection method and sample size

Data collection method	Article No.	Sample size
No data	13	0
No data	3	0
No data	34	0
No data	17	0
Data from government institutions and projects	16	1
Own data	35	2
Own data	11	10
Own data	7	15
Own data	18	18
Own data	40	20
Own data	12	46
Own data	10	54
Own data	9	82
Own data	37	103
Own data	38	249
Own data	23	262
Own data	36	262
Own data	1	481
Data from government institutions and projects	21	559
Own data	22	603
Combination available data and own data	4	626
Combination available data and own data	5	626
Combination available data and own data	6	626
Data from government institutions and projects	24	777
Own data	39	848
Data from government institutions and projects	25	1,049
Data from government institutions and projects	26	1,049
Data from government institutions and projects	27	1,049
Data from government institutions and projects	28	1,052
Own data	20	1,221
Data from government institutions and projects	14	2,198
Data from government institutions and projects	29	6,392
Data from government institutions and projects	42	9,032
Data from government institutions and projects	8	9,868
Own data	19	23,394
Data from government institutions and projects	2	28,157
Data from government institutions and projects	15	44,613
Data from government institutions and projects	33	47,820
Data from government institutions and projects	31	212,523
Data from government institutions and projects	32	212,523
Data from government institutions and projects	41	236,045
Data from government institutions and projects	43	1,645,949
Data from government institutions and projects	30	2,554,340

Lastly, concerning the research area contribution, the study examined the author provided keywords of the reviewed articles and found that only 18 of the 43 relevant articles contained “hybrid entrepreneurship” in their keywords. This finding already indicates an

inconsistency in terminology of the HE phenomenon. The following section will provide an in-depth content analysis based on the data extraction sheet. Common issues have been categorized and synthesized in order to draw a general conclusion regarding whether and how the 43 articles relate to HE in terms of nomenclatures, criteria and conception.

2.4.3 Distinguishing HE from related concepts

With their study, in which they model an individual's stepwise movement from wage employment into self-employment, Folta et al. (2010) made a core contribution to the research stream of HE. The authors propose that individuals might transition into self-employment while also retaining their wage employment. Within their process-based model of HE, they define "hybrid entrepreneurs" as individuals, who engage in self-employment activity while simultaneously holding a primary job in wage employment. Hereby, they explicitly distinguish this concept from "part-time entrepreneurs" or "work mixers", which they argue have different meanings. According to Folta et al. (2010), "part-time entrepreneurship" emphasizes a clear-cut distinction depending on hours worked. Further, "work mix" places a focus on the question of how individuals allocate their time between entrepreneurship and wage employment. In contrast to these ideas, for which Folta et al. (2010) do not make any references to the sources, "hybrid entrepreneurship" is a more inclusive technical term, where the criteria of being full-time wage-employed or part-time self-employed is not obligatory. Hybrid entrepreneurs need only have a primary wage employment and a secondary job in self-employment (Folta et al., 2010).

The study of Folta et al. (2010) is relevant, as it is the first attempt to conceptually embrace the phenomenon of HE. As such, their understanding of HE constitutes the pivotal point of our analysis and the applied nomenclatures, criteria, and conception of the remaining 42 reviewed articles will be put into comparison with it in order to evaluate the degree of consensus in the field of study. The study employs a three-way approach. First, the study considers what terminology is used for the exact meaning of HE as proposed by Folta et al. (2010). Then, following a reverse logic, the study investigates how the terminology "hybrid entrepreneurship" is understood and postulated with criteria and conception by the other 42 reviewed articles. Finally, and independent of terminology and conception by Folta et al. (2010), the study views the variety of related understandings, technical terms and concepts of the simultaneous engagement in self-employment and wage employment, hereby trying to distinguish the concepts and ultimately extracting actual findings on HE.

A key aspect of the definition of HE by Folta et al. (2010) is the emphasis and order of priority of both jobs. The authors clearly contend that wage employment should be the primary job and self-employment the second job. When we assess this central condition, we find that only three other articles incorporate this feature explicitly in their understanding of the phenomenon. Schulz et al. (2017) make a clear reference to the study of Folta et al. (2010) and hence follow their exact understanding and also terminology of HE. However, the other two articles use very

different technical terms with one referring to it as “hybrid multiple job holding” (Bouwhuis et al., 2017) and the other labeling it as “part-time entrepreneurship” (Marshall et al., 2019). Consequently, this preliminary analysis indicates a missing consistency within the research field, where different authors associate the same phenomenon with divergent nomenclatures. It also confirms our methodology in the second stage of conducting the review, where we searched for six different sets of keywords in order to capture relevant literature. With preliminary informal and undocumented searches, the study obtained a sense for the keywords to search for. As such, the finding of our analysis is the subsequently provided legitimation for our adapted search keywords.

Conducting the second proceeding of a three-way approach and investigating how the terminology “hybrid entrepreneurship” is understood and postulated with criteria and conception, we find that 25 of the 43 reviewed articles employ the term, including Folta et al. (2010) and Schulz et al. (2017). 20 articles adopt a similar definition of HE compared to Folta et al. (2010) by referring to “hybrid entrepreneurship” as the engagement in self-employment while retaining a job in wage employment. However, they miss a key aspect, namely the order of priority of both jobs. The authors of the 20 articles do not presuppose whether self-employment or wage employment is indicated as the primary job and hence do not make a difference between individuals, who perceive self-employment as their main or second job. Since they only require that time is spent in both self-employment and wage employment, their understanding of HE is defined in more general terms. The remaining three articles employ “hybrid entrepreneurship” in a very distinct context and use it to describe the combination of several institutional logics, such as commercial versus sustainable logics, throughout the entrepreneurial process. When these multiple logics are in play, diverse forms of value creation emerge (Davies and Chambers, 2018; Dufays and Huybrechts, 2016; Hahn and Ince, 2016). This can happen within the solo entrepreneur himself, or within entrepreneurial teams, associated as “hybrid collective entrepreneurship” (Dufays and Huybrechts, 2016). In a similar approach to the one adopted in these three papers, Powell and Sandholtz (2012) implemented the nomenclature “amphibious entrepreneur” to denominate entrepreneurs, who move within different social contexts and combine multiple social identities in the entrepreneurial process.

Continuing with the third proceeding of our three-way approach, the remaining 16 of the 43 reviewed articles do not fall into the above explained categories and hence have related but distinct understandings and also nomenclatures of the simultaneous engagement in self-employment and wage employment. Being represented with four articles within our sample and being explicitly identified by Folta et al. (2010) as a related phenomenon, a central competing concept is introduced by Petrova (2005, 2010a, 2010b, 2012). Petrova’s research addresses part-time entrepreneurs - individuals, who undertake both regular wage employment and are also self-employed. Hereby, the author applies a threshold of 35 hours per week for the self-employment engagement level. Those, who spend more than 35 hours per week in their business ventures are

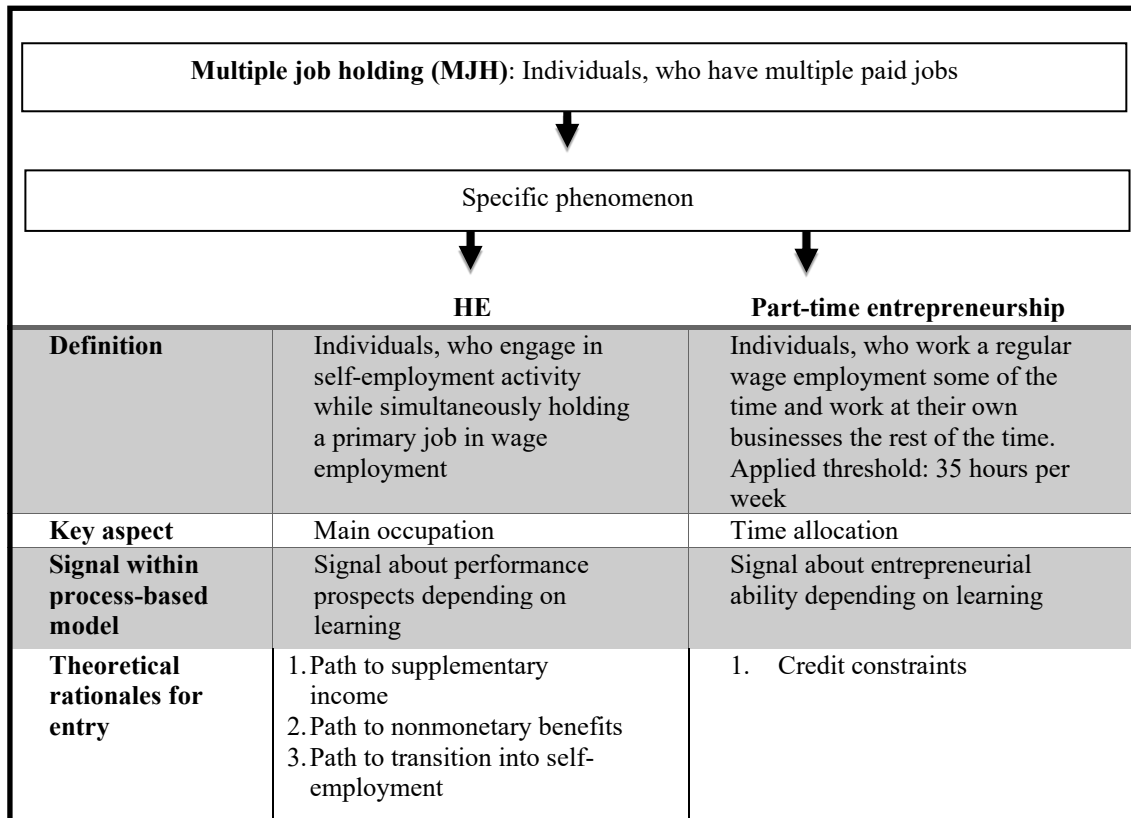
to be considered full-time entrepreneurs. In contrast to Folta et al. (2010), who use the main occupation as their key aspect, Petrova proffers the time allocation as a central part of their definition. Further, also employing the technical term “part-time entrepreneurs”, two papers introduce a third key aspect, namely the proportion of income generated from entrepreneurial activity. Mungaray and Ramirez-Urquidy (2011) define part-time entrepreneurs as agents, whose entrepreneurial income represents a maximum of 75% of their total income and who participate simultaneously in self-employment and wage employment. Wennberg et al. (2006) specify the threshold with 50% of the total income, but also declare that individuals have to be simultaneously engaged in self-employment and wage employment. Both studies consider individuals above these thresholds as full-time entrepreneurs. What is apparent from this literature is the requirement to distinguish nomenclatures, criteria and conception describing the phenomenon of the simultaneous engagement in wage employment and self-employment.

The remaining ten articles do not grant a potential for categorization and synthetization, wherefore the most outstanding of them are individually itemized hereinafter. Block and Landgraf (2016) refer to “part-time self-employment” and highlight that it allows for simultaneous wage employment. Thereafter, Block et al. (2019) employed a more extensive definition and specify “part-time self-employed” as those, who report being self-employed and holding another occupation simultaneously. Thus, students and retired individuals can fall into this category (Block et al., 2019). So like Folta et al. (2010), this is a further example for several authors, who change their conception on this phenomenon. Doutriaux (1987) employs the technical term “part-time entrepreneurs” to describe individuals, who keep their employed position on a full-time or part-time basis at time of start-up of their own venture. By putting forward the characteristic of retaining the wage employment on a full-time or part-time basis, the author proposes the supplementation as well as the substitution of wage employment with part-time entrepreneurship and is hence unique in the conception. Skrzek Lubasińska and Szaban (2019) present a review and discussion of terminology and criteria describing the self-employment phenomenon and thus attempt to offer a conceptually and empirically grounded categorization for this heterogeneous group. Among other categories they distinguish between dependent self-employed and hybrid self-employed and indicate that some authors use the latter term to describe the former phenomenon, which they argue is misleading. The former usually have an instruction giving supervisor and work for one client only. The latter are workers, who have a permanent contract with one employer, but simultaneously work with other clients due to under-employment. Hence their study calls attention for the difficulty to establish a comprehensive and universally accepted definition as well as an all-encompassing set of characteristics for entrepreneurship in general and also to call attention for the missing consensus in the application of the hybrid terminology specifically (Skrzek Lubasińska and Szaban, 2019).

Therefore, Wall (2015) makes no explicit reference to HE but describes a gradual transition from wage employment to self-employment and a phasing out of wage employment as the own business grows. The wage employment serves as a “bread and butter work” in order to ensure an adequate income, even though this limits the ability to build the own businesses. Consequently, this study is novel as it does not make use of any hybrid terminology but portrays the occurrence of HE in the form of a case study.

In addition, the study of Zhang and Ac (2018) is a good example of the outcome of a missing consensus of applied terminology and understanding of HE, as the authors mix nomenclature, criteria, and conception of various papers to describe their sample of individuals in the intersection between wage employment and self-employment. They make use of the term “part-time entrepreneurs” with which they describe individuals, who work less hours, have a weaker commitment and bear less risks than full-time entrepreneurs. Among other citations, they refer to Wennberg et al. (2006) when putting forward that these individuals minimize the uncertainty related to the sideline start-up by keeping their secure wage employment while testing the viability of the new business. Furthermore, they cite Folta et al. (2010) when arguing that these individuals require fewer physical and financial resources for less marginal cost than full-time entrepreneurs.

In summary, our three-way approach highlights that there is a missing consensus in applied nomenclatures, criteria, and conception not only with regard to the research stream of HE, but also with regard to related concepts. The study finds that different terminology is employed to label the same phenomenon by different authors. Moreover, from a reverse perspective, different criteria and conception are postulated to the same technical term by different scholars. This is often due to differences in applied samples, research designs and contexts. These differences might arise due to scholars not collecting their own data but making use of already existing datasets from governmental or scientific institutions. In this way, filtering hybrid entrepreneurs as a sample group from these given datasets congruent with the concept of Folta et al. (2010) might not be practical in every case. Furthermore, given the fact that no clear distinction between the concepts was outlined so far, consequential errors might have developed with scholars carrying forward a misleading use of technical terms, criteria, and conception. Under the circumstance of many identified concepts within our review, an all-encompassing organisation and distinction of all of them is not possible. Here we want to set apart the two main competing concepts of “hybrid entrepreneurship” by Folta et al. (2010) and “part-time entrepreneurship” by Petrova (2005, 2010a, 2010b, 2012) in Figure 2.3, as within the process of our review we find that they were often confused. Figure 2.3 also incorporates “multiple job holding” as a coating framework, where HE as well as part-time entrepreneurship fall within.

Figure 2.3 Conceptual distinction of HE and part-time entrepreneurship

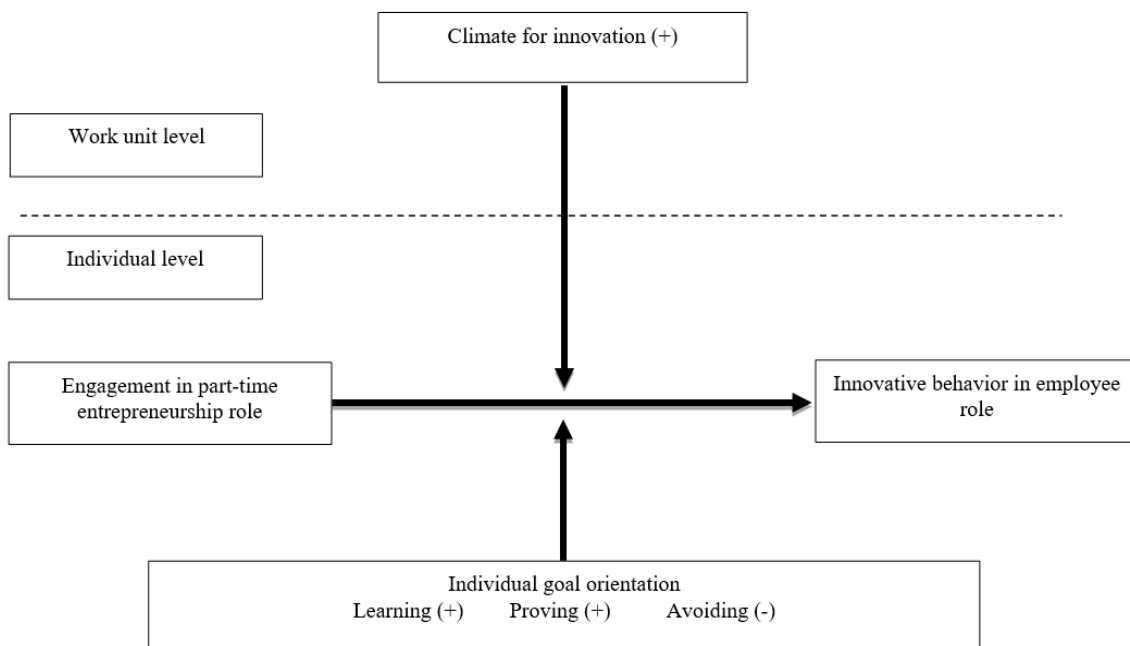
HE as well as part-time entrepreneurship can be seen as specific types of MJH. The key aspect to hybrid entrepreneurs is their main occupation. They are individuals with a primary job in wage employment and a secondary job in self-employment. HE is attractive to people, who are not experienced about their entrepreneurial capability and who wish to gather more evidence about it. They have high switching or opportunity costs or target uncertain business opportunities. To limit their sunk commitment, they choose the hybrid path. Within the process-based model, they receive a signal about performance prospects and thus learn while in hybrid status. Depending on the assessment of these prospects, they decide on how to proceed with their business. The underlying theoretical rationale for hybrid entry consists of three factors. First, individuals might want to supplement their income. This may be due to economic hardship, limits on hourly earnings in the primary job's earning capacity, larger families, or the opportunity to increase overall income at low marginal cost. Second, individuals might seek nonmonetary benefits, such as flexibility. They are willing to sacrifice some income for these benefits, however, they are not willing to sacrifice their wage employment as a whole and seek these benefits through full-time entrepreneurship. Finally, individuals might use HE as a transition into full-time entrepreneurship. The small-scale entry through HE avoids high switching costs and allows to be more flexible compared to immediate full-time entrepreneurial entry. Such an incremental process furthermore allows to reduce uncertainty about the venture's prospects and the individual's entrepreneurial capability, because the entrepreneur can keep the wage employment while testing entrepreneurship (Folta et al., 2010).

On the other side, the key aspect to part-time entrepreneurs is their time allocation. They work at their regular wage employment and up to 35 hours per week at their own business. These individuals become part-time entrepreneurs because they cannot certainly assess their entrepreneurial ability beforehand entering entrepreneurship. They prefer to spend only a certain amount of time and capital in their business in order to test entrepreneurial waters and to lower the financial risks if their ability turns out to be low. Within the process-based model, they receive a signal about their ability. This process involves entrepreneurial learning. Depending on the assessment whether their ability is high or low, they decide on how to proceed with their business (Petrova, 2005, 2010a, 2010b, 2012). The theoretical rationale for part-time entrepreneurial entry focuses on credit constraints: those with less initial capital are less likely to become entrepreneurs (Evans and Jovanovic, 1989).

2.5 Body of knowledge on HE

Building on the previous section, where we distinguish HE from related concepts, this section summarizes actual findings in line with HE according to Folta et al. (2010). The authors of the identified papers may use different technical terms, however, they follow the exact understanding of HE by Folta et al. (2010) and hence contribute genuinely to the research stream. To avoid misinterpretations, only HE and no other label is used hereinafter. Our review identified three papers, which will be summarized separately in the following. They all were published in 2017 and 2018, underpinning the topicality of the research area of HE, but also demonstrating that the need to enlarge upon the subject-matter just recently gained scholarly attention.

A conceptual extension is established by Marshall et al. (2019). They develop a model on how hybrid entrepreneurial activity brings forth innovative behavior in an individual's employee role. The scholars combine the literatures on entrepreneurial learning, knowledge and learning transfer, and employee innovation and consider HE as a context and entrepreneurial learning as a mechanism, through which employee innovation is improved. According to the model presented in Figure 2.4, innovative capabilities are developed in the entrepreneurial role, are then refined, and ultimately transferred to the employee role.

Figure 2.4 Conceptual extension of HE concerning entrepreneurial learning

Source: adapted from Marshall et al. (2019)

The transfer is moderated by the individual's goal orientation (motivation) and the work environment for innovation (opportunity). Goal orientation is composed of three dimensions: Learning orientation, performance-proving orientation, and performance-avoiding orientation. Individuals with higher learning orientation estimate that capabilities and procedural knowledge can be enhanced through learning and demanding tasks. They generally undertake more risky innovative learning procedures and are more prone to knowledge transfers between settings despite high risks of failure. Performance-proving orientation is the improvement and refinement of existing competencies by practicing already established task strategies instead of testing new ones. Individuals with higher performance-proving orientation desire to demonstrate their capabilities and to receive positive feedback from other individuals with higher performance-proving orientation. Finally, individuals with higher performance-avoiding orientation perceive competencies as static and irrevocable and therefore assess new task strategies as risky, eventually resulting in them avoiding learning opportunities. This behavior is due to their fear of negative performance evaluation. Ultimately, they are unsuccessful to discern the relevance of learning and are less successful in making use of learned content. By factoring in individual differences (in form of motivation) and contextual moderators (in form of opportunity) as explained above, hybrid entrepreneurs may be more capable than other employees at exercising and demonstrating innovative behaviors in the employee role.

Building up on this model, the empirical findings support that hybrid entrepreneurs demonstrate greater innovative behaviors in the employee role than employees without a secondary job in entrepreneurship. Assessing the work unit and individual level conditions that

promote greater learning transfer between the entrepreneurial and the employee role, it appears that higher work unit climate for innovation, higher learning goal orientation and lower avoidance goal orientation favor this specific transfer (Marshall et al., 2019).

The study by Bouwhuis et al. (2017) explored the longitudinal association between multiple job holding and long-term sickness absence to gain insights on the health consequences of having more than one job. Among other forms of multiple job holding, the authors also incorporated hybrid multiple job holders, employees with a second job in self-employment, in their analysis. No significant association between long-term sickness absence and the examined multiple job holding categories was found. The lack of evidence compared to previous studies on the linkage between multiple job holding and health can be explained by several reasons. First, it may be due to the usage of long-term sickness absence as an indicator variable of health. Although it is a widely accepted outcome measure for health, it may be the case that not all effects of multiple job holding on health examined in previous studies result in long-term sickness absence. Second, heterogeneity in individual demographic characteristics and motivational reasons and also in country-specific socioeconomic set-ups may explain, why, compared to previous studies, Bouwhuis et al. (2017) did not find any significant relationship. Finally, the so-called “healthy worker effect” could be an explanation. This effect puts forward that only individuals with good health have more than one job and work longer hours. The only finding of the study is that hybrid entrepreneurs have improved health compared to employees with one job (Bouwhuis et al., 2017).

Thereafter, Schulz et al. (2017) demonstrate that multiple job holders, who are hybrid entrepreneurs, have higher hourly earnings in their second job compared to their primary job. The engagement in wage employment in both jobs does not significantly increase the probability of having higher hourly earnings in the second job. The authors use three mechanisms for HE to explain their finding. First, individuals may keep a lower paid wage employment in the initial phase of entrepreneurial activity, when the wage employment proffers non-pecuniary benefits, such as employee-specific pension schemes. Second, postulating that earnings in self-employment are more exposed to fluctuations and are thus riskier than earnings in wage employment, risk-averse individuals might require a risk-premium in form of higher hourly earnings in order to engage in both occupations simultaneously. Finally, assuming that marginal earnings are constant in wage employment and are decreasing in self-employment, earnings-maximizing individuals might combine both occupations, since this implies higher hourly earnings in self-employment in the occupation-combining optimum (Schulz et al., 2017).

As there is evidence from past studies that gender and household composition affect multiple job holders’ earnings structure, the authors furthermore assay the extent, to which their hypothesis applies to women and men separately and also test whether there are earning differences between multiple job holders in single households, in multi-person households as solo earners and in multi-person households with more than one earner. They find differences in temporal characteristics of earnings structures between men and women, especially in the initial

phase of multiple job holding. Ultimately, the earnings structures become similar. For men, while the desire to work more (in hours-constrained primary jobs) does not explain them taking on a second job at higher average earnings, the desire to start a business does. For women, neither the desire to work more nor the desire to start a business have a positive impact on having higher second job earnings, wherefore HE theory is not able to substantiate higher hourly earnings in the second job for women. Regarding the household context, the authors do not observe statistically significant differences between the three types in terms of the effect of HE on the earning structure (Schulz et al., 2017).

2.6 Discussion

A systematic review of past literature is a crucial undertaking for any academic research. The need to uncover of what is already known and what needs to be known in the body of knowledge helps to facilitate conceptual and empirical progress. Our study is the first one taking upon this issue for the scholarly field of HE by applying the systematic literature review methodology suggested by Tranfield et al. (2003) and developing context-sensitive research. Hereby, the understanding of HE according to Folta et al. (2010) constitutes the pivotal point of the analysis and the applied nomenclatures, criteria and conception of the remaining reviewed articles are put into comparison with it in order to evaluate the body of knowledge on the phenomenon. In a first step, our results show that there is a missing consensus in applied nomenclatures, criteria, and conception of HE and also a missing delineation of HE from related concepts. The study finds that different terminology is used to label the same phenomenon by different authors. Moreover, from a reverse perspective, different criteria and conception are postulated to the same technical term by different scholars. This is often due to differences in applied samples, research designs and contexts. These differences might arise due to scholars not collecting their own data but making use of existing datasets from governmental or scientific institutions. Thus, filtering hybrid entrepreneurs as a sample group from these given datasets congruent with Folta et al. (2010) might not be practical in every case. Furthermore, given the fact that no clear distinction between the concepts was outlined so far, consequential errors might have developed with scholars carrying forward a misleading use of technical terms, criteria, and conception, which conclusively results in an incorrect categorization of their papers into research areas. Grounded on these findings, our study takes a first attempt in differentiation and sets apart the two main competing concepts of “hybrid entrepreneurship” by Folta et al. (2010) and “part-time entrepreneurship” by Petrova (2005, 2010a, 2010b, 2012), as within the review process we find that they were misleadingly confused. Guided by this organization and distinction, our review ultimately identified only three other papers, which provide genuine conceptual and empirical findings on the phenomenon of HE according to Folta et al. (2010).

2.6.1 Implications for future research

Based on these findings, our research offers several theoretical implications and opportunities for further research. Foremost from a holistic standpoint, we suggest that future research should make use of a decisive application of nomenclature, criteria and conception for HE and related concepts. It is required to distinguish the phenomenon and thus research areas in order to more effectively assess the existing knowledge base and also the knowledge gaps. Only when approaches and goals are precisely organized around and complied with the frameworks of the concepts, genuine and considerable research can be produced.

From an atomistic standpoint, additional conceptual and empirical research is required focusing on HE as a specific occurrence, as little is known about it thus far. First, regarding the contextual mechanisms, the effects of the employing companies, fellow employees and the households on hybrid entrepreneurs and their businesses are unknown from the extant literature. A fruitful avenue for further research could be to investigate the characteristics of the companies, where hybrid entrepreneurs are employed—their industry, their size, their structure, and their degree of support for entrepreneurial activity of employees. Another research direction could be to examine the role of fellow employees and the effects of team work on hybrid entrepreneurs and their businesses. Implementing these research opportunities could help to investigate how hybrid entrepreneurial opportunity emerges in the context of the organization. Furthermore, future research could examine the influence of the households on hybrid entrepreneurs and their businesses. Knowing from the general literature on entrepreneurship that families influence the decision to start a new venture (Kirkwood, 2012), promising approaches would be to investigate the role of parental influences. As parent's careers have an impact on the entrepreneurial intentions of their children (Engle et al., 2011; Polin et al., 2016), it would be valuable to know whether this holds true for hybrid entrepreneurs as well. Furthermore, intra-couple influences are an interesting subject worth being analyzed. Future research could examine whether employment type matching (Blossfeld and Drobnic, 2001; Verbakel and De Graaf, 2009) between partners takes place and whether an individual's decision to be a hybrid entrepreneur might be affected by the entrepreneurial propensity of the partner. It would also be valuable to analyze the composition of the household income, respectively whether diversification or centralization takes place, the experiences, and perceptions of support (compare Hilbrecht, 2016) and how this affects the engagement in HE.

Second, regarding the individual mechanisms, little is known about the drivers and barriers, which predict the phenomenon of HE. Future scholars could examine the individual risk attitude in more detail and could also assess the effect of certain satisfaction measures, such as satisfaction with personal income, satisfaction with leisure time and job satisfaction (Roche, 2015). More attention could also be paid to the human capital in terms of education, length of time with the firm and position of the individual within the firm and how these factors influence the propensity of approaching to HE.

Third, another research direction addresses the characteristics of the hybrid business itself. It is not known so far whether the hybrid business is established in the same industry with similar services compared to the employing company and whether hybrid entrepreneurs therefore make use of specific synergy effects. A related blind spot of scholarly attention can be found regarding the survival rates, productivity, and innovation creation of businesses established by hybrid entrepreneurs.

Finally, a general suggestion for further research can be made by highlighting the adaptation of a dynamic, integrated, and multi-national perspective, which includes and recognizes the multiple perspectives of entrepreneurship (Clark and Harrison, 2018). As entrepreneurship is a lengthy process, future scholars should aim at implementing longitudinal analysis in order to track all the mechanisms which evolve, and which have an effect on the hybrid entrepreneurial engagement. Similarly, the co-action of factors across the different micro- and macro levels should be considered, given the fact that entrepreneurship is a complex and multi-level involved undertaking. Considering differences in demographics, social norms, and labor market conditions, HE might vary across countries (see Baughn et al., 2010; Engle et al., 2011), wherefore future scholarly work could also conduct multi-national analysis in order to enrich the research stream with more insights.

Taken together, the above outlined theoretical implications and avenues for future academic work are neither exhaustive nor conclusive, yet we hope that they will provide an orientation for subsequent research and that they will stimulate scholars to execute further investigation on the important topic of HE. Only with a body of knowledge, decisive advice and assistance can be given to practitioners.

2.6.2 Limitations

Like any research, our work has some limitations. Constituting a systematic literature review, our findings are contingent to the specific search and selection strategy of relevant literature. First, since electronic keyword-based searches offer thorough results, we focused on literature available in electronic databases and excluded all other types of sources, such as books. Although eight electronic databases were utilized for the search, it might still be the case that not all relevant literature were included in these databases. Related to this decision, we concentrated exclusively on journal articles, as they depict findings on a subject in a more timely and specific manner. As other types of literature, such as book articles, were not analyzed, important findings might not be included in our review. Second, the decision to narrow the results on English articles targeted to filter research, which can be reviewed and used from scholars all over the world. We incorporated this limitation consciously, however, it comes with the consequence of excluding valuable research written and published in other languages. Third, despite of making use of a combination and conjunction of related keywords, there is still the risk that we missed out in embracing all relevant keywords. Different or additional keywords might have resulted in other

search results. Fourth, as the nomination of the three most relevant articles took place quite subjectively, the (also manually selected) results of the subsequent reference list search might have not been incorporated, when other articles were found to be most important. The same holds true for the citation list search. Fifth, our full-text evaluation was performed twice as we wanted to ascertain the eligibility of the included articles and to exclude those not on topic. The greatest difficulty was to assess whether articles, which considered part-time entrepreneurship referred to it as the engagement in self-employment activity while simultaneously holding a primary job in wage employment or as the engagement in self-employment activity on a part-time basis solely and without a wage employment, e.g., of retired individuals or individuals in parental leave. Since there was no consultation of a technical criteria, but selection took place rather manually at this point of the review process, it might be the case that articles were erroneously excluded. Finally, the implementation of a journal quality threshold targeted to filter peer-reviewed and qualitative articles. This criterion decisively decreased the number of results. With the subsequent re-inclusion of excluded results depending on their fit with the review's topic, we aimed to increase the number of relevant results again. As such, a re-selection of scholarly-oriented and scientific articles with a solid reference to HE took place. While these articles help to build the theoretical foundations for the validity of the theories, constructs, and measures of HE, they might not have undergone similar controls as articles in peer-reviewed journals, wherefore their inclusion into the review remains problematic.

2.7 Conclusion

Against the backdrop of the outlined limitations, which we believe are symptomatic for any systematic literature review, our study depicts a scholarly contribution to the research field of HE. It is a first attempt to conceptually distinguish HE from related concepts in order to uncover consensus and contradictions in the literature. Furthermore, it is the first review of genuine literature on this specific phenomenon. Building on our findings, our study proposes future research opportunities on HE. These aspects make our review help to frame the approaches and goals of the research field. It also helps to understand where scholarly attention exists and where more exploration is required. As such, we believe our work should be useful for other scholars, will provide a firm foundation for further research, will thereby facilitate conceptual and empirical progress, and will help to produce a reliable knowledge stock on HE.

3 How do life partners and their occupational choice affect the path of transition to entrepreneurship? A comparison between direct and indirect entry into entrepreneurship

Cemre Demir • Meike Stephan • Arndt Werner

Abstract

Although HE constitutes a significant share of entrepreneurial activity, research on this topic is still in its infancy. Moreover, in general entrepreneurship research only few studies have investigated intra-couple influences on the decision to be and to become self-employed. Therefore, in the study at hand, we use panel data from the German Socio-Economic Panel (GSOEP) to analyze whether life partners and their occupational choice relate to wage-employed individuals' propensity to enter full-time entrepreneurship either directly or indirectly via HE. Drawing on social capital theory, this study also tests whether the results are different for men and women. Although hypothesized, we find no empirical evidence for the relevance of life partners and their occupations on direct transition to full-time entrepreneurship. For women, however, our findings do suggest that having a self-employed life partner significantly increases their propensity to enter entrepreneurship indirectly, that is, via HE.

Keywords: Hybrid entrepreneurship • Social capital • Life partner • Occupation • Gender-related differences

JEL Codes: L26 • D81 • J16

3.1 Introduction

The research area of entrepreneurship is rich in literature covering individual-specific factors associated with an individual's decision to undertake entrepreneurship. Much of the previous research has ascribed this decision to the traits and dispositions of the entrepreneur, thereby emphasizing the role of internal mechanisms (Özcan and Reichstein, 2009) and making strong assumptions about outside effects, external influences, and the context (Carroll and Mosakowski, 1987; Thornton, 1999). In reaction to this classical perspective, Welter (2011) has called for a more context-embracing perspective within entrepreneurial research and has suggested a focus on context conditions by identifying two dimensions dealing with the question of "when" (temporal and historical) and four dimensions dealing with the question of "where" (business, social, spatial, and institutional). The social context incorporates the household and family embeddedness. Responding to this call, entrepreneurship research embracing the social context has increasingly investigated intergenerational influences (e.g., De Wit and Van Winden, 1989; Dunn and Holtz-Eakin, 2000; Lindh and Ohlsson, 1996). However, interactions between couples are still lacking appropriate academic attention. This is surprising because most entrepreneurs have a life partner (Blanchflower, 2007; Blanchflower and Meyer, 1994; Bruce, 1999; Özcan, 2011; Parker, 2008). Only few studies have addressed intra-couple influences (e.g., Bruce, 1999; Budig, 2006; Caputo and Dolinsky, 1998; Parker, 2008), and the understanding of its impact on the decision to be and to become self-employed are still vague.

The study at hand responds to this gap in research literature by analyzing whether an individual's decision to become an entrepreneur is affected by social capital in form of the existence as well as the occupational position of a life partner. While previous studies have only investigated the effect of life partners on the choice of a direct movement into full-time entrepreneurship (e.g., Caputo and Dolinsky, 1998; Özcan, 2011), research has not yet considered whether the individuals in transition have already been engaged in entrepreneurial activities in secondary employment (e.g., HE) at the time of the switch. Thus, the impact of life partners and their social capital on this stepwise movement into entrepreneurship remains unclear. Specifically, the study at hand focuses on the transition from HE, that is, where an individual remains in a salaried primary job while entering self-employment in a secondary job (Folta et al., 2010). HE enables the individual to test and learn about their entrepreneurial ability and business potential (Petrova, 2010a, 2010b), while only making small initial commitments in terms of time and capital (Raffiee and Feng, 2014). This process of testing and learning determines how much fear of failure and perceived risk can be reduced and how entrepreneurial competency and self-efficacy can be increased (Ferreira, 2020). Ultimately, this determines how the business is continued (Wennberg et al., 2006). Assuming that individuals who are more risk-averse are also more likely to enter HE relative to full-time entrepreneurship (Raffiee and Feng, 2014), and assuming that women are more risk-averse than men (Solesvik et al., 2013), the study at hand focuses on social capital effects and gender-related differences in decision-making behavior

within staged entry into entrepreneurship.

Using panel data from the German Socio-Economic Panel (GSOEP), we ran conditional fixed effects logistic regressions that link the presence of social capital in form of the existence as well as the occupational position of the life partner to the individual's occupational choice of entering entrepreneurship directly from wage employment or indirectly via HE. By doing so, our study is novel: it can distinctively identify social capital effects within the entrepreneurial process and hence shed light on how social capital differently relates to a direct and indirect movement into entrepreneurship. Our study contributes to the literature on HE by investigating the relevance of social capital on the decision to enter full-time entrepreneurship versus HE. Our study also contributes to the entrepreneurship research embracing the social context by seeking evidence regarding whether the existence of a life partner as well as the life partner's occupational position is relevant in the context of this specific occupational decision. Furthermore, our study contributes to the debate on gender-related differences in entrepreneurship by investigating possible different meanings of social capital for men and women in their decision-making behavior. Besides these theoretical implications, our study also has practical implications, as it can provide policymakers with a greater understanding of the dynamics of HE and the relevance of social capital within the family context for new venture creation. The paper proceeds as follows: in the second section, an overview of the related literature is provided, and the theoretical framework and the hypotheses are outlined. The third section contains a description of the data sample, variables, and analytic strategy. The fourth section presents the results of the empirical study. Finally, the fifth section concludes this paper by discussing the main results, limitations, practical implications, and suggestions for future research.

3.2 Literature overview and hypothesis development

3.2.1 Unmasking HE as a stepwise movement into entrepreneurship

Hybrid entrepreneurs have been neglected in entrepreneurship research for a long time as their prevalence challenges the traditional consideration of entrepreneurship as a dichotomous choice between entry and no entry, between self-employment and wage employment (Burke et al., 2008). In the past decade, however, researchers have recognized that hybrid entrepreneurs are a discrete group with unique antecedents (e.g., Thorgren et al., 2014), characteristics (e.g., Kurczewska et al., 2020), dynamics (e.g., Schulz et al., 2016; Wennberg et al., 2006), and outcomes (e.g., Fini et al., 2017; Marshall et al., 2019). Folta et al. (2010) have made a core contribution to this relatively new research stream by introducing a theoretical framework focusing on the individual's stepwise movement from wage employment to self-employment. In their process-based model, the authors emphasize that individuals can transition into self-employment while also retaining their wage employment. In a first systematic literature review (Demir et al., 2022), a vast number of applied nomenclatures, criteria, and conceptions was found—not only concerning HE, but also concerning related concepts such as multiple job

holding (Bouwhuis et al., 2017) and part-time entrepreneurship (Petrova, 2005, 2010a, 2010b, 2012). To provide a solid overview of the simultaneous engagement in wage employment and self-employment, independent of the terms and labels, the study at hand defines hybrid entrepreneurs as individuals who engage in self-employment activities while simultaneously holding a primary job in wage employment. This definition is in line with the proposed concept by Folta et al. (2010).

Hybrid entrepreneurs constitute a significant share of all entrepreneurs throughout many countries (e.g., Bosma et al., 2008), and they can be found in all entrepreneurial stages, especially in the transitions into and out of entrepreneurship (Folta et al., 2010; Raffiee and Feng, 2014). Hybrid entrepreneurs are commonly categorized depending on whether they remain in the hybrid state (PHEs) or transit into full-time entrepreneurship (THEs) (Viljamaa and Varamäki, 2015; Viljamaa et al., 2017). The latter relates to HE as a feature of nascent entrepreneurship (Folta et al., 2010). More than half of nascent entrepreneurs start their business while still being wage-employed (Bosma et al., 2008; Burke et al., 2008; Campbell and De Nardi, 2009; Reynolds et al., 2004; Van Gelderen et al., 2005), and are thus to be considered hybrid entrepreneurs. HE is often referred to as a two-stage process: the first step captures the decision to transition from wage employment to HE; the second step captures the decision to transition from HE to full-time entrepreneurship (Thorgren et al., 2016). Entry into HE is different to entry into self-employment or wage employment: individuals choose the hybrid path with the intention to supplement income, seek nonmonetary benefits, or transition to full-time entrepreneurship (Folta et al., 2010). The decision to undertake HE is fundamentally influenced by an individual's uncertainty concerning their entrepreneurial context, their human capital, and their switching costs. Folta et al. (2010), for example, have found evidence that individuals working in larger firms and having less entrepreneurship experience, higher opportunity costs, higher human capital, and higher switching costs in terms of greater industry tenure prefer hybrid entry to self-employment entry. In a related vein, Raffiee and Feng (2014) have found that individuals who are risk-averse and have low core self-evaluation are more likely to enter HE than they are to enter full-time entrepreneurship. This suggests that risk aversion is an important determiner of how individuals enter self-employment. To observe the entry into self-employment, our article focuses on the second step of the two-stage process—the decision to transition from HE to full-time entrepreneurship.

3.2.2 Social capital, risk, and the decision to become an entrepreneur

An individual's occupational choice of entrepreneurship does not occur in a social vacuum but is strongly influenced by the family and the household context (among other external factors). This shapes the constraints, resources, and motivations, as well as—ultimately—the individual's decision-making behavior (Özcan, 2011). Constituting the smallest micro-unit of the socio-economic environment, the couple relationship particularly affects occupational choices (Özcan, 2011). Individuals generally consider not only their own but also the needs and preferences of their life partners. Thus, the type of employment of one life partner influences the type of employment of the other (e.g., Blossfeld and Drobnic, 2001; Bradbury et al., 1986; Verbakel and De Graaf, 2008, 2009). Moreover, social capital has been proven to be an immensely important factor for the decision to start a business as well as for the nascent entrepreneurs' success (Davidsson and Honig, 2003). Social capital is present in existing network relationships that provide resources and information more cheaply than at market prices (Davidsson and Honig, 2003; Semrau and Werner, 2012, 2014). The family—especially the life partner—is a strong network tie that can provide emotional and financial support as well as knowledge spillovers (Davidsson and Honig, 2003). In line with this, the findings of Özcan (2011) suggest that being married increases the likelihood of entering entrepreneurship as a main occupation for women and men because of such social capital effects.

There is a positive relationship between life partners and the occupational choice of entrepreneurship (Parker, 2008). Besides social capital theory, which is central to our study, literature also has used the positive assortative mating rationale (e.g., Andersson and Hammarstedt, 2010; Brown et al., 2006; Dohmen et al., 2005; Ermisch et al., 2006; Kalmijn and Flap, 2001; Mare, 1991) to explain this positive correlation. According to this theory, individuals are more likely to group with individuals with similar characteristics to themselves (Andersson and Hammarstedt, 2010). Empirical studies grounded on this rationale have shown that self-employment propensity acts as a sorting mechanism: individuals similarly inclined to self-employment are more likely to be in a relationship (Bruce, 1999). Entrepreneurial households differ from wage-employed households regarding risk aversion and decision making (Carter et al., 2017). The career pathway of starting a business is generally associated with risk (Müller, 2006). Risk as a characteristic of the entrepreneurial business must be distinguished from the risk attitude of the entrepreneur as an individual. Previous studies have found that entrepreneurs are usually less risk-averse than employees (Müller, 2006), and those with higher risk aversion are less likely to opt for full-time entrepreneurship (Raffee and Feng, 2014). Following Sitkin and Pablo (1992), decision-making behavior is affected by risk propensity and risk perception. According to Weingart and Sitkin, risk propensity is “an individual's current tendency to take or avoid risks” (1995, 1575). Wennberg et al. (2006) propose that a stepwise entry into entrepreneurship (by remaining in wage employment and acting as a hybrid entrepreneur) is motivated by a risk-sharing effect, favored by more risk-averse individuals. Compared to full

entry into entrepreneurship, HE requires less start-up capital, less time investment, and no abandonment of the secure main wage employment (Petrova, 2012). Furthermore, HE enables individuals who regard their hybrid business as a first step towards full-time self-employment to first test entrepreneurial environments. Assuming that informational asymmetries pose a threat to a new venture's success (Backes-Gellner and Werner, 2007), testing entrepreneurial markets via HE allows individuals to gain and develop knowledge about entrepreneurial abilities and to assess the business idea in the context of the market. Through this, the individual can learn about the pitfalls and potentials of entrepreneurship and can undertake adjustments and refinements before committing full time (Wennberg et al., 2006). HE allows the individual to make small and less-intensive initial commitments (Folta et al., 2010). Initially, individuals prefer to spend only a small amount of time and capital on the business, avoiding the risk of financial pitfalls if the business and personal potential turns out to be low. Then, time and capital are increasingly invested depending on the entrepreneur's level of expectation that the new business idea has potential for success. This potential is reassessed after a certain period (Petrova, 2010a, 2010b).

If HE mitigates the risk of failure in entrepreneurship (in comparison to a direct switch from wage employment into full-time entrepreneurship), the question remains as to whether and how social capital provided by the life partner affects the two routes into full-time entrepreneurship. It can be argued that life partners provide emotional support (Bosma et al., 2004) and can reduce the partner's doubts by providing objective opinions and emotional attention. Consequently, the life partner can act encouragingly (Werbel and Danes, 2010). Furthermore, the life partner can contribute with voluntary work in the venture as well as with financial resources to secure liquidity. Capital provided by the life partner also positively impacts the ability to obtain further start-up loans from external financial suppliers (Davidsson and Honig, 2003; Semrau and Werner, 2012, 2014; Werbel and Danes, 2010). In sum, social and financial capital provided by the life partner reduces uncertainty, risk, and fear of failure. Social capital provided by the life partner therefore positively impacts the risk perception of the individual. Assuming that a direct switch to entrepreneurship is associated with higher risk compared to an indirect switch from HE, we propose that emotional, financial, and physical support of the life partner and the possibility to share risks are important for switching into full-time entrepreneurship. We therefore propose the following hypothesis:

Hypothesis 1a (H1a): *The presence of a life partner shows higher positive effects for a direct transition into full-time entrepreneurship than for the indirect route via HE.*

Research drawing on social capital theory has also emphasized that when life partners have similar types of employment, transfers of social capital have increased benefits. In this case, life partners can more easily draw on each other's resources through the direct and indirect provision of additional skills, knowledge, experiential learning, motivation, and networks (e.g., Budig, 2006; Caputo and Dolinsky, 1998; Danes et al., 2009; Parker, 2008; Taniguchi, 2002; Verbakel and De Graaf, 2008). Thus, when investigating the effect of the life partner's role on the propensity of individuals to enter entrepreneurship, the life partner's characteristics in terms of social capital should be considered. The presence of social capital—in the form of people who advise on how to behave or who to contact when things do not work as planned—is associated with a reduction of uncertainty (Aldrich et al., 1989). In general, a life partner who participates in the labor market acquires more social capital than a non-working life partner. This positively affects the quantity of possible social capital exchange of the couple and the partner's success in the labor market (Bernardi, 1999; Özcan, 2011). A self-employed life partner who has already established a network of social contacts (e.g., suppliers, tax consultants, financial suppliers) provides additional valuable social capital for entrepreneurship. For entrepreneurial couples, the presence of knowledge spillovers impacts the life partners' choice in favor of entrepreneurship (Parker, 2008). Moreover, a self-employed life partner possesses the job flexibility and autonomy to enable both members of the couple to specialize and participate in the labor market (Özcan, 2011). Thus, we propose the following hypothesis:

Hypothesis 1b (H1b): *Compared to individuals with life partners in other occupations, individuals with entrepreneurial life partners are more likely to switch directly into full-time entrepreneurship than via HE.*

3.2.3 Gender-related differences in the choice of routes for entrepreneurship

Previous research has shown that men and women differ in their labor market behavior (Panos et al., 2014). This difference can largely be explained by societal norms regarding women's dominant role in conflict responsibilities. Empirical studies, for example, have shown that women spend much more time than men in household activities and child-rearing and are more willing to quit their paid jobs or take on secondary or part-time jobs for family-related reasons (Amuedo-Dorantes and Kimmel, 2009; Grosch et al., 2006; Hersch and Stratton, 1997; Theodossiou, 2002). Moreover, in comparison to men, women must interrupt their jobs for child-rearing more often, which negatively impacts their membership in job-related networks. This can result in a loss of social capital (Brush, 1998). Women and men also exhibit differences in entrepreneurship behavior: prior studies have observed that factors affecting entrepreneurial behavior—be it micro-economically (e.g., Caputo and Dolinsky, 1998; Taniguchi, 2002) or macro-economically (e.g., Block et al., 2019)—differ by gender (e.g., Budig, 2006; Burke et al., 2008; Costin, 2012; Dabic et al., 2012; Georgellis and Wall, 2000; Langowitz and Minniti, 2007;

Wall, 2015). This leads to gender-specific entrepreneurial propensities (Burke et al., 2008; Hörisch et al., 2017).

Significant gender differences also exist when focusing on the drivers of HE. Atherton et al. (2016) have shown that women are more likely than men to choose self-employment to achieve greater flexibility in work for the sake of non-work-related tasks but are less likely to be hybrid entrepreneurs if their partner is working. Being a hybrid entrepreneur thus reflects a low capitalization of women's businesses (Hundley, 2001). This is also supported by Eliasson and Westlund (2013), who have found a negative effect on HE for women with a partner with high annual earnings. Men, however, seem to be unaffected by their partners' earnings concerning their decision to be hybrid entrepreneurs. However, they are more likely than women to be hybrid entrepreneurs to pay housing costs (Atherton et al., 2016). Several studies have also indicated that women are less willing to face uncertain levels of income, revealing more risk-averse behavior compared to men (Caliendo et al., 2009; Jianakoplos and Bernasek, 1998; Sexton and Bowman-Upton, 1990). Moreover, women perceive barriers associated with the acquisition of necessary capital more negatively than men, which can also be regarded as a proxy for a gender effect on risk perception (Roper and Scott, 2009). Along this line of thought, Brush indicates that different "social structures in work, family and social life" (1998, 160) of women certainly affect their endowment of human and social capital, resulting in a real disadvantage for women in terms of raising capital—they are perceived as a riskier entrepreneurial group. Based on empirical results of gender-related differences in decision-making behavior, social capital provided by having a life partner who is furthermore also self-employed might be more important for the more risk-averse women (in comparison to men) due to the reduction of risk. We expect that the aforementioned assumptions described in H1a and H1b are stronger for women compared to men. Therefore, for women, we expect the following:

Hypothesis 2a (H2a): *In comparison to men, for women, the presence of social capital provided by the life partner shows higher positive impacts on the probability of a direct and indirect switch to self-employment.*

Hypothesis 2b (H2b): *For women, the expected difference in the presence of social capital related to a direct versus an indirect switch is more pronounced than for men.*

3.3 Methodology

3.3.1 Sample

To test our hypotheses, we used data from the GSOEP—a representative panel survey of private households in Germany, conducted annually with 30,000 respondents. We used data on the Cross-National Equivalent File (CNEF) with extended income information (PEQUIV), the person-related generated status (PGEN), and the individual question module (PL) from the years 1993 to 2016. The dataset contains detailed information on the relevant topics of demographics, employment, income, and satisfaction indicators. Furthermore, through its panel structure, it allows researchers to exploit information for each year and to observe individuals over several waves. The plausibility of the data is longitudinally validated, making GSOEP a superior source for panel analysis.

3.3.2 Variables

Table 3.1 describes the dependent, independent, and control variables.

Table 3.1 Description of variables

Variables	Description
<i>Dependent variable:</i>	
Occupational choice	
Direct entry into self-employment	Transition from wage employment to self-employment: binary variable (1=Transition; 0= No transition/Persistence in wage employment)
Indirect entry into self-employment	Transition from HE to self-employment: binary variable (1=Transition; 0= No transition/Persistence in HE)
<i>Independent variables:</i>	
Life partner	Existence of life partner in previous year: binary variable (1= Life partner; 0= No life partner)
Life partner occupational position	Occupational position of life partner in previous year: categorical variable with 3 characteristics (2=self-employed; 1=wage-employed; 0= not employed/registered unemployed)
<i>Control variables:</i>	
Age	Age: metric variable in years
Educational attainment	Number of years of education: metric variable in years
Self-rated health status	Self-rated health status in previous year: 5-Likert scale variable (1=excellent to 5=poor)
Wages and salary	Logged wages and salary from main wage employment in previous year: metric variable in Euro
Job satisfaction	Satisfaction with work in previous year: 11-Likert scale variable (0=completely dissatisfied to 10=completely satisfied)
Life partner educational attainment	Number of years of education completed by the life partner: metric variable in years
Children	Number of children in the household: metric variable in numbers

3.3.2.1 Dependent variable

The dependent variable is the occupational choice of the individual. Following Folta et al. (2010), we distinguished between wage employment, HE, and self-employment. We used information on the employment status, the occupational position of the primary job, and income from self-employment. The variable of employment status separates employed individuals from non-employed individuals in their main occupation. As we are interested in individuals who are employed, we excluded individuals with employment status of vocational training, not employed, or sheltered workshop. This left individuals who stated that they were full-time employed, regular part-time employed, or marginal, irregular part-time employed (in Germany, this constitutes “Mini-Jobs”, where the monthly income does not exceed EUR 450) as their main occupation. In GSOEP, the occupational position of the primary job is defined by the survey participants’ subjective assessment. Other criteria, such as the time allocation, the proportion of income generated from the main job, or tax considerations do not constitute defining elements for the main job in GSOEP. Regarding the occupational position, we excluded the following categories: not employed, in education, registered unemployed, pensioner, military or community service, and apprentice. We defined manual laborers, employees, and civil servants as wage-employed individuals. We defined self-employed as self-employed individuals. Within the category of self-employed, we excluded farmers and helping hands in family businesses, as they are unlikely to have a significant economic effect (Gruenert, 1999), are difficult to compare with other jobs, and thus might cause potential selection bias (Müller and Arum, 2004). The category of self-employed thus contains individuals who are freelancers, self-employed without employees, and self-employed with employees. Self-employment is a frequently used proxy for entrepreneurship in empirical research (Parker, 2009).

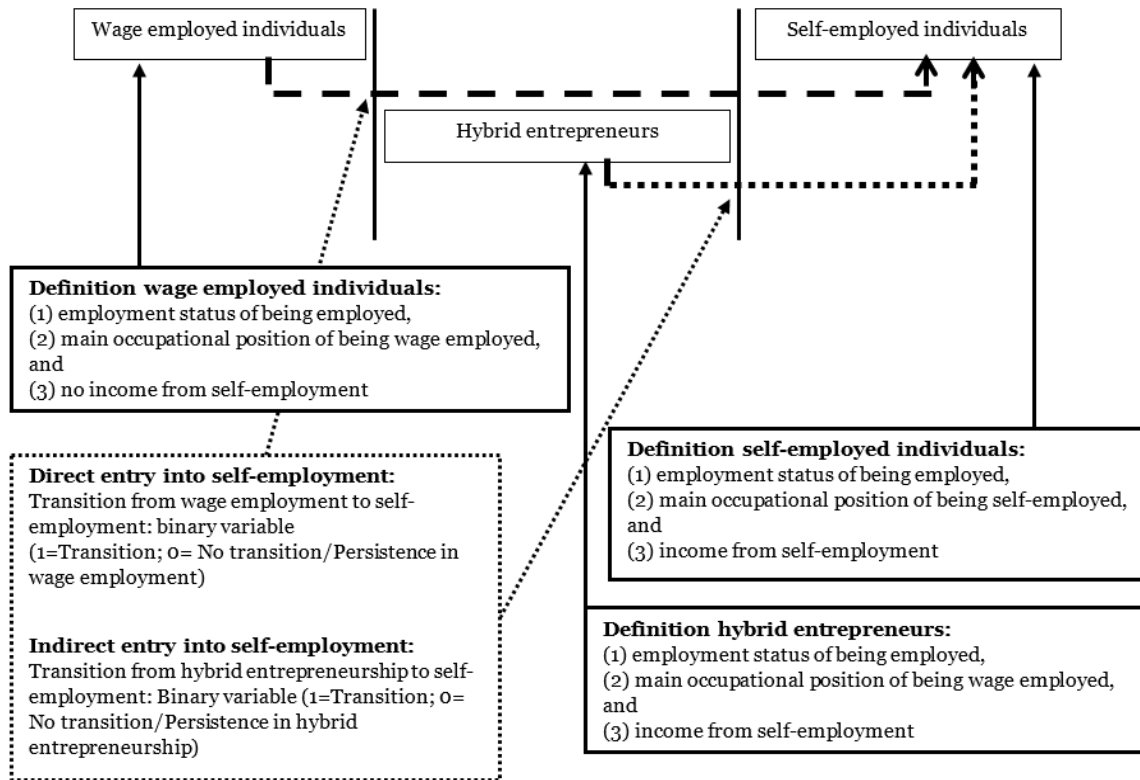
To further define our sample, we used information about income from self-employment. The variable of income from self-employment is the product of the number of months that income was received in the previous year. To bypass the time-matching problem of having the employment status and the occupational position from the survey year, but the income from self-employment from the previous year, we leaded the variable on income from self-employment in our analysis. We excluded zero values because of our focus on employed individuals. Furthermore, income above the threshold of EUR 200,000 was not considered because of some unrealistically high values. Income from self-employment is self-reported in GSOEP. From past studies, this is known to be quite unreliable (e.g., Blanchflower and Oswald, 1998).

Individuals in our sample were considered “hybrid entrepreneurs” if they, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being wage-employed, and (3) income from self-employment. For HE, Folta et al. (2010) emphasize that wage employment should be the main occupation and self-employment the secondary occupation. Apart from this condition, “hybrid entrepreneurship” is a relatively inclusive term. It does not oblige any consideration of the criteria of time allocation between both jobs (Petrova,

2005, 2010a, 2010b, 2012) or the proportion of income generated from the entrepreneurial activity (Mungaray and Ramirez-Urquidy, 2011). In some few waves, GSOEP collects information on regular and irregular secondary jobs, as well as the occupational classification of secondary jobs. We considered including this combined information as a fourth condition to define hybrid entrepreneurs, but we found a limitation: the variable on regular and irregular secondary jobs did not distinguish between whether the secondary job was in wage employment or self-employment. Furthermore, we found a limitation to the occupational classification of the secondary jobs: it offers unlimited classifications, again with no distinction between wage employment and self-employment. Even a combination of information could not clarify the source of income from self-employment, so we refrained from using these items. Individuals in our sample were considered “self-employed” if they, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being self-employed, and (3) income from self-employment. Finally, individuals in our sample were considered “wage-employed” if they, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being wage-employed, and (3) no income from self-employment.

For our regression analysis, we used the panel structure of the data and constructed two transition variables. The first transition variable depicted the switch from wage employment to self-employment. The variable took the value 0 if an individual did not transition or remained in wage employment when comparing $t-1$ to t . The variable took the value 1 if an individual transitioned from wage employment in $t-1$ to self-employment in t . The second transition variable depicted the switch from HE to self-employment. The variable took the value 0 if an individual did not transition or remained in HE when comparing $t-1$ to t . The variable took the value 1 if an individual transitioned from HE in $t-1$ to self-employment in t . Figure 3.1 provides an overview of the underlying items and depicts how we constructed the transition variables.

Figure 3.1 Operationalization of the variable



3.3.2.2 Independent variables

Our independent variables are the existence of a cohabiting life partner and the life partner's occupational position. Both of our independent variables are lagged one year. To capture the existence of a life partner, we constructed a dummy variable. Our variable took the value 1 if an individual had a cohabiting life partner. It took the value 0 if an individual did not have a cohabiting life partner. To analyze how family characteristics affect the likelihood of self-employment, most studies use marital status. A common method is to construct a dummy variable and equal singlehood of cohabitation, being divorced or widowed, or being unmarried (Özcan, 2011). This equalization is questionable given the distinctive characteristics of each family status regarding the provision of financial and nonfinancial resources, social shifts regarding the participation of women in the labor force (Stevenson and Wolfers, 2007), and demographic shifts regarding the average age at time of marriage (Teachman et al., 2013). There are now a broad range of family circumstances where unmarried couples cohabit. Scholars have recently found that there is no difference between married and cohabiting couples in terms of the life partners' influence on upward mobility (Verbakel and De Graaf, 2009). Thus, cohabiting life partners can also influence an individual's occupational choice independent of the marital status (Arum, 1997; Bernardi, 1999; Brown et al., 2006; Budig, 2006; Parker, 2008). In the special case of risky entrepreneurship, the life partner can provide stability and a safety net (Brown et al., 2006; Hess, 2004; Le, 1999). We therefore suggest that an intra-household relationship is now more relevant

than marital status when it comes to how life partners provide the context in which entrepreneurial decisions and behavior unfold and when it comes to the existence of intra-couple influences in form of social capital transfer on an individual's occupation. Our data allowed us to match life partners within the household, independent of the marital status. We used this cohabitation information to construct our first independent variable. To account for the life partner's occupational position, we constructed a categorical variable with three characteristics. The variable took the value 0 if the life partner was not employed or registered unemployed, it took the value 1 if the life partner was wage-employed, and it took the value 2 if the life partner was self-employed.

There is a time-matching issue between our dependent and independent variables. The dependent variable of occupational choice occurred at some point in time during the period between $t-1$ and t , whereas we measured the independent variables of the existence of a life partner and the life partner's occupational position at time $t-1$. If an individual switched occupation multiple times in one year, our model would yield imprecise results due to the time lag between the dependent and independent variables. However, we believe that such an occupational vacillation is a rare event in our sample, so our model should be able to depict the relationship between our variables appropriately.

3.3.2.3 Control variables

We included several control variables which are frequently used in (hybrid) entrepreneurship research and which might act as confounders if excluded from the analysis. We controlled for the individual level variables of age, educational attainment, self-rated health status (lagged one year), wages and salary from main wage employment (lagged one year), and job satisfaction (lagged one year). We also controlled for the life partner's educational attainment and the number of children in the household. Except for wages and salary from main wage employment, we did not test for nonlinear impacts. In the following, we summarize relevant findings on nonlinear relationships from past studies and show that they are often ambiguous due to counterarguments. Testing all nonlinear effects would thus not carry weight for conclusive results and would go beyond the scope of this study.

In our sample, we consider individuals aged 18 to 67 as this is the age span of most individuals within the labor market. Studies on the first step of self-employment entry have found that age impacts the transition (Kautonen et al., 2014; Lévesque and Minniti, 2006; Singh and DeNoble, 2003), and that this relationship is either linear (Lévesque and Minniti, 2006) or an inverted U-shaped relationship (Kautonen et al., 2014). The latter means that the probability of an individual to become an entrepreneur increases with age up to a certain threshold and decreases thereafter (Lévesque and Minniti, 2011). Recent studies on the second step of self-employment entry have noticed a U-shaped relationship between a hybrid entrepreneur's age and the intention to enter full-time entrepreneurship: younger and older hybrid entrepreneurs are more likely than

middle-aged individuals to become full-time entrepreneurs (Thorgren et al., 2016). Interestingly, this contrasts with the other aforementioned studies. There are various ideas regarding older individuals' engagement in entrepreneurship, tied to the opportunities to start a business on the one hand and the willingness to do so on the other hand (Blanchflower et al., 2001; Van Praag and Van Ophem, 1995). Concerning opportunities, older people may have better access to human, financial, and social capital and may have accumulated more entrepreneurial resources, such as experience and knowledge (Singh and DeNoble, 2003; Weber and Schaper, 2004). Concerning willingness, there are opposing rationales: there may be a declining willingness to become self-employed with increasing age, which can be explained by the opportunity cost of time (Lévesque and Minniti, 2011), higher risk aversion, lower physical abilities (Kautonen et al., 2014), and less time for amortizations of initial investments (Hintermaier and Steinberger, 2005). However, there may also be an increasing willingness for older people to move to self-employment, related to the phenomenon of bridge employment—paid work done after retirement (Kerr and Armstrong-Stassen, 2011; Van Solinge, 2014). A major motivation for this career change is to have more flexible working conditions to achieve a better work-life balance and a safeguard of health (Cahill et al., 2013).

The relationship between educational attainment as an indicator for human capital endowment and the transition to entrepreneurship has yielded inconclusive theoretical and empirical findings (e.g., Blanchflower, 2004; Clark and Drinkwater, 2000; Kim et al., 2006; Van Der Sluis et al., 2008). Higher education can increase human capital, access to financial capital (Evans and Jovanovic, 1989), abilities to identify opportunities, and also skills in making managerial decisions (Lucas, 1978), all of which favor the occupational choice of self-employment. However, higher education also correlates with a higher salary. Assuming that this comes along with a high degree of specialization, this can impede self-employment (Blanchflower, 2000). A recent theoretical framework has considered an underlying U-shaped relationship, meaning that individuals with low or high levels of education are more likely to enter entrepreneurship than individuals with intermediate levels of education (Poschke, 2013). This consideration can be justified when considering differences in motivations of individuals (Simoes et al., 2016). The occupational choice of being an entrepreneur is generally either opportunity- or necessity-driven. While less-educated individuals tend to transition into self-employment as a form of last resort (e.g., to avoid unemployment), individuals with higher levels of education tend to do so to pursue opportunities (Von Greiff, 2009). The educational attainment of the life partner typically serves as an indicator for human and social capital resources (Özcan, 2011). Previous research has indicated a positive relationship between an individual's self-employment and their partner's education level, as a partner's education may enhance knowledge transfers (Parker, 2008), and increase the family's human capital when entrepreneurial activity occurs in family businesses (Sanders and Nee, 1996). In our study, we operationalized both the educational attainment of the individual and that of the life partner as the number of years of education

completed. The value of this variable ranged from 7 to 18 and was generated by GSOEP (Grabka, 2016). Individuals with no degree were assigned 7 to 8 years. A school leaving degree were assigned between 9 and 12 years of education. Individuals with a vocational degree were assigned an additional 2 to 3.5 years. Individuals who attended a technical college were assigned an additional 4 years. A vocational college or university degree equated to a total of 18 years of education (the construction of this variable follows Couch, 1994).

Literature on the relationship between health and entrepreneurial entry is scarce (e.g., Jones and Latreille, 2011; Pagán, 2009). Most studies have considered health status as a control variable (e.g., Caputo and Dolinsky, 1998). There is mixed evidence, with some studies indicating a positive relationship between poor health and self-employment (Borjas, 1986; Jones and Latreille, 2011; Pagán, 2009; Zissimopoulos and Karoly, 2007) and others revealing negative associations (Cahill et al., 2013; Parker and Rougier, 2007; Taylor, 2001). The ambiguous findings derive from different proxies used to access health status and also from differing ages of the sample groups (Simoes et al., 2016). Within GSOEP, respondents answered the question about health status on an ordinal scaled, five-point Likert scale ranging from 1 (excellent) to 5 (poor); this is the proxy considered in our study.

We used wages and salary from main wage employment to account for effects of income on the occupational choice. The decision to switch occupation, especially from wage employment to self-employment, may cause substantial irrecoverable switching costs, like opportunity costs from sacrificing wage income (Dixit and Rob, 1994; Folta et al., 2010; O'Brien et al., 2003). Wages or salary from the main job is the product of the number of months that income was received and the average amount per month. We excluded values below EUR 5,400 because of our focus on employed individuals. This threshold represents the annual wage or salary of “Mini-Job” holders. It seems implausible that individuals are employed for lower wages and salary in Germany. Furthermore, we did not consider income above the threshold of EUR 200,000 because of some unrealistic high values. We used the logarithm of this income variable, assuming that a change in the proportion of income would lead to the same change in proportion in occupational choice (Easterlin, 2001; Layard et al., 2008; Stevenson and Wolfers, 2008).

Past studies have emphasized that employees with lower job satisfaction but high levels of human, social, and financial capital are more likely to switch to entrepreneurship (Budig, 2006). Domain-specific life satisfaction in GSOEP was initially measured with seven items (1984 to 1990), and since 2008 it has been measured with ten items. We used the single item of job satisfaction as a proxy measure for satisfaction derived from work. Respondents were asked about their satisfaction with their work. They gave answers on an ordinal scaled, eleven-point Likert scale ranging from 0 (lowest satisfaction) to 10 (highest satisfaction).

We also controlled for the number of children in the household—persons in the household under the age of 18 at the time of the survey. The value of this variable ranged from 0 to 10. Parenthood is negatively correlated with the likelihood of entrepreneurship (Simoes et al.,

2016). It has a negative impact when an individual considers the struggle to balance the demands of family and self-employment to be too great (Fairchild, 2009; Sena et al., 2012) and when family responsibilities increase risk aversion (Simoes et al., 2016). However, it has a positive impact when an individual considers entrepreneurship as a means to achieve greater independence and flexibility and a better balance of competing domestic and employment responsibilities (Brown et al., 2006; Bruce, 1999; Caputo and Dolinsky, 1998; Lin et al., 2000; Lombard, 2001; Wellington, 2006).

3.3.3 Analytical procedure

The GSOEP contains multiple observations over time of the involved individuals and thus depicts a panel dataset. The Hausman test (Hausman, 1978) can be used to specify the performance of a fixed effects model. Fixed effects models are a common method to analyze longitudinal data (Schurer and Yong, 2012; Vaisey and Miles, 2017). Such models account for unobservable or simply unobserved effects that do not change over time (i.e., they are fixed). Thus, the use of panel data allows researchers to control for time-invariant characteristics (e.g., birthplace, gender, genetic disposition, etc.) that are (or are not) measured. By doing so, the risk of biased results through excluded predictor variables is reduced. The elimination of fixed effects can be achieved through various techniques (e.g., Wooldridge, 2006). We applied the within-transformation: the mean of all variables was subtracted from each actual observation (Wooldridge, 2006). As each of our dependent variables is dichotomous (individuals do transition or they do not transition) and to account for fixed effects, we used fixed effects logit models, alternatively called conditional fixed effects models (StataCorp., 2015). Such models differ from “normal” logistic regressions in that they calculate the likelihood in relation to each group, that is, in relation to each individual over time, thus accounting for individual fixed effects that do not vary over time. To account for possible heteroskedasticity and autocorrelation, we computed robust standard errors using the Huber/White/sandwich estimator (ibid.). Moreover, all variables were tested for multicollinearity by computing pairwise correlations and variance inflation factors (VIF; Wooldridge, 2006). The correlations and VIF values do not lead to multicollinearity concerns (Hill and Adkins, 2001).

3.4 Results

Our first sample which considers both, singles and individuals with life partners, contains 557 individuals (3,621 observations), including 283 individuals (1,899 observations) who have indirectly entered entrepreneurship and 274 individuals (1,722 observations) who have directly entered entrepreneurship. About 75% of the direct entrants are individuals with life partners and about 78% of the indirect entrants are individuals with life partners. Our second sample which considers only individuals with life partners contains 327 individuals (2,117 observations), including 167 individuals (1,115 observations) who have indirectly entered

entrepreneurship and 160 individuals (1,002 observations) who have directly entered entrepreneurship. Table 3.2 reports the descriptive statistics for the direct entrants. Table 3.3 reports the descriptive statistics for the indirect entrants.

Table 3.2 Descriptive statistics for direct entrants

Variables	Mean	Std. Dev.	Min	Max
Direct entry into self-employment	.16	.37	0	1
Age	40.74	8.83	21	65
Educational attainment	13.5	2.87	7	18
Self-rated health status	2.32	.81	1	5
Wages and salary	34519.5	23845.36	5400	153388
Job satisfaction	7.23	1.83	0	10
Life partner educational attainment	13.08	2.95	7	18
Children	1.05	1.01	0	4
Life partner unemployed	.21	.41	0	1
Life partner wage-employed	.62	.48	0	1
Life partner self-employed	.16	.37	0	1

Note: These descriptive statistics refer to our first main model (Model 2 in Table 3.6)

Table 3.3 Descriptive statistics for indirect entrants

Variables	Mean	Std. Dev.	Min	Max
Indirect entry into self-employment	.15	.36	0	1
Age	41.59	8.59	23	67
Educational attainment	13.63	2.88	7	18
Self-rated health status	2.34	.79	1	5
Wages and salary	36087.72	23794.35	5400	159600
Job satisfaction	7.1	2.21	0	10
Life partner educational attainment	12.86	2.77	7	18
Children	1.25	1.1	0	5
Life partner unemployed	.25	.43	0	1
Life partner wage-employed	.67	.47	0	1
Life partner self-employed	.08	.28	0	1

Note: These descriptive statistics refer to our second main model (Model 4 in Table 3.6)

Table 3.4 shows the correlation matrix for the direct entrants.

Table 3.4 Correlation matrix for direct entrants

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Direct entry into self-employment	1.00										
(2) Age	0.01	1.00									
(3) Educational attainment	0.00	0.12***	1.00								
(4) Self-rated health status	-0.02	0.19***	-0.14***	1.00							
(5) Wages and salary	-0.05*	0.14***	0.32***	-0.11***	1.00						
(6) Job satisfaction	0.06*	-0.04	-0.03	-0.26***	0.03	1.00					
(7) Life partner educational attainment	0.00	0.16***	0.66***	-0.05	0.16***	-0.02	1.00				
(8) Children	0.04	-0.22***	0.07**	-0.08**	0.14***	-0.02	0.00	1.00			
(9) Life partner unemployed	-0.01	-0.08***	-0.05*	-0.01	0.15***	0.06*	-0.19***	0.26***	1.00		
(10) Life partner wage-employed	0.01	-0.07**	-0.02	-0.02	-0.10***	-0.11***	0.03	-0.21***	-0.67***	1.00	
(11) Life partner self-employed	0.00	0.19***	0.08**	0.03	-0.04	0.08**	0.17***	-0.01	-0.23***	-0.57***	1.00

*This correlation matrix refers to our first main model (Model 2 in Table 3.6); * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$*

Table 3.5 reports the correlation matrix for the indirect entrants.

Table 3.5 Correlation matrix for indirect entrants

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Indirect entry into self-employment	1.00										
(2) Age	0.05	1.00									
(3) Educational attainment	0.03	0.20***	1.00								
(4) Self-rated health status	-0.01	0.19***	-0.04	1.00							
(5) Wages and salary	0.02	0.23***	0.18***	-0.02	1.00						
(6) Job satisfaction	-0.06**	0.00	0.00	-0.36***	0.07**	1.00					
(7) Life partner educational attainment	0.02	0.09***	0.65***	0.01	0.01	-0.02	1.00				
(8) Children	0.05*	-0.29***	0.03	-0.05*	-0.03	0.05	-0.04	1.00			
(9) Life partner unemployed	-0.02	-0.12***	-0.08***	-0.08***	0.07**	0.08***	-0.20***	0.27***	1.00		
(10) Life partner wage-employed	0.01	0.09***	0.02	0.08**	0.00	-0.10***	0.11***	-0.27***	-0.81***	1.00	
(11) Life partner self-employed	0.02	0.03	0.10***	-0.01	-0.11***	0.05	0.12***	0.05*	-0.17***	-0.43***	1.00

*This correlation matrix refers to our first main model (Model 4 in Table 3.6); * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$*

Table 3.6 shows the overall results of the logistic regression models for the direct and indirect transition to self-employment without any differentiation by gender.

Table 3.6 Results of conditional fixed effects logistic regression for all individuals

	Model 1			Model 2			Model 3			Model 4		
	Direct entry into self-employment			Indirect entry into self-employment via HE			Indirect entry into self-employment via HE			Indirect entry into self-employment via HE		
	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error
Age	1.147	***	(.037)	1.198	***	(.056)	1.116	***	(.031)	1.215	***	(.056)
Educational attainment	1.030		(.149)	.637		(.255)	1.537	**	(.276)	1.389		(.329)
Self-rated health status	.861		(.104)	.873		(.142)	.923		(.131)	.815		(.196)
Wages and salary	.593	**	(.123)	.573	**	(.147)	.121	***	(.031)	.097	***	(.036)
Job satisfaction	.863	***	(.041)	.889	*	(.055)	.802	***	(.040)	.795	***	(.057)
Life partner educational attainment	.	.	.	.615		(.262)	.	.	.	.964		(.258)
Children	1.825	***	(.384)	2.218	***	(.679)	.991		(.200)	1.204		(.373)
Life partner												
Life partner occupational position												
Not employed/registered unemployed	.914		(.308)	.	.	.	1.318		(.551)	.	.	.
Wage-employed (=reference category)	.	.	.	1.041		(.382)	.	.	.	1.350		(.647)
Self-employed	.	.	.	.288	*	(.196)	.	.	.	3.150		(3.184)
Pseudo R ²	.075			.107			.279			.360		
Chi ²	36.66			34.16			93.89			61.03		
Number of individuals	274			160			283			167		
Number of observations	1,722			1,002			1,899			1,115		
Prob > Chi ²	.000			.000			.000			.000		

Note: * $p < .01$; ** $p < .05$; *** $p < .01$; robust standard errors (in parentheses)

The odds ratios of the included variables express the percentage impact on the individual's probability of entering entrepreneurship via a direct transition out of wage employment. Odds ratios with a value higher than 1 show that the variable has a positive impact on an individual's choice to enter entrepreneurship directly in comparison to remaining in wage employment. Odds ratios with a value lower than 1 show negative impacts of the variable for the choice of a direct entry to entrepreneurship.

Table 3.6 depicts models 1 to 4. Model 1 reports the results of the impact of our control variables (age, health, education, wage level, children, job satisfaction), and our first independent variable (the existence of a life partner) on direct entry into entrepreneurship. Model 1 shows significant results for age, wage level, job satisfaction, and children. In line with the results of Lévesque and Minniti (2006), Lin et al. (2000), and Wellington (2006), age and children show a positive impact on an individual's tendency to become self-employed, but job satisfaction and wage level show a negative impact on the transition to self-employment. Higher wage level and higher job satisfaction in wage employment reduce an individual's motivation to change the occupation, leading the individual to remain in wage employment (Budig, 2006). Contrary to our assumptions, the existence of a life partner does not result in a higher tendency to directly enter entrepreneurship.

In Model 2, we tested more specifically for social capital effects on the direct transition to entrepreneurship. By further controlling for the occupational position of the life partner and the life partner's education, we found a negative impact of the life partner's self-employment on an individual's tendency to directly enter into entrepreneurship. This result is contrary to our theoretical assumptions and previous studies (e.g., Özcan, 2011). The education of the life partner shows no significant impact on the direct transition to entrepreneurship. Model 3 and Model 4 display the results for an indirect movement into entrepreneurship by switching out of a hybrid status. Like Model 1, Model 3 also controls for age, health, education, wage level, children, job satisfaction, and also includes our first independent variable (the existence of a life partner). The results of Model 3 (representing the variables' impact on an indirect switch) slightly differ from the effects in Model 1 (capturing the effect on a direct switch). Model 3 also shows a positive and significant impact of age and negative impacts of a higher level of job satisfaction and wage level. In comparison to Model 1, children show no effect whereas education has a positive impact on an individual's tendency to make an indirect switch to entrepreneurship. As for the direct switch, the existence of a life partner does not affect an individual's endeavor to leave the hybrid status. We must reject Hypothesis 1a because we found no effect of the life partner on the movement to entrepreneurship out of any position (wage employment and HE). Furthermore, in comparison to an employed life partner, a self-employed life partner shows a negative significant impact on a direct switch. For an indirect switch, the odds ratio of a self-employed life partner displays a more than three times higher but insignificant likelihood of deciding to leave the hybrid status in favor of full-time entrepreneurship. We assumed that a self-employed life partner would positively

impact the individual's likelihood of leaving the current status for full-time entrepreneurship by any route, with a higher impact on a direct switch; our findings in Model 2 and 4 do not reflect these assumptions. Thus, we also must reject Hypothesis 1b.

3.4.1 Results for gender-related effects of the role of social capital

Table 3.7 and 3.8 depict models 5 to 12, which display the effects on the routes of transition to entrepreneurship by gender. This enables us to test Hypotheses 2a and 2b.

Table 3.7 Results of conditional fixed effects logistic regression for direct entry into self-employment by gender

Direct entry into self-employment	Model 5 Women			Model 6 Men			Model 7 Women			Model 8 Men		
	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error
Age	1.182	***	(.062)	1.124	***	(.044)	1.455	***	(.183)	1.163	***	(.058)
Educational attainment	.839		(.346)	1.077		(.148)	.541		(.648)	.508		(.213)
Self-rated health status	.675	*	(.148)	.997		(.146)	.740		(.181)	.997		(.209)
Wages and salary	.474	**	(.167)	.626	*	(.171)	.729		(.403)	.562	*	(.170)
Job satisfaction	.886	*	(.062)	.844	***	(.053)	.923		(.096)	.867	*	(.068)
Life partner educational attainment	.	.	.	.		.	2.073		(1.168)	.443	*	(.210)
Children	1.508		(.503)	1.973	**	(.528)	3.010		(2.014)	2.194	**	(.691)
Life partner	.879		(.477)	.917		(.395)	.	.	.	.	.	.
Life partner occupational position												
Not employed/registered unemployed	.	.	.	.	.	.	.857		(.567)	1.017		(.432)
Wage-employed (=reference category)	.	.	.	.	.	.	.	.	.	.	.	.
Self-employed	.	.	.	.	.	.	.090		(.178)	.354		(.266)
Pseudo R ²	.106			.067			.215			.095		
Chi ²	18.38			25.28			20.91			26.04		
Number of individuals	97			177			50			110		
Number of observations	613			1,109			316			686		
Prob > Chi ²	.010			.000			.013			.002		

Note: * $p < .01$; ** $p < .05$; *** $p < .01$; robust standard errors (in parentheses)

Table 3.8 Results of conditional fixed effects logistic regression for indirect entry into self-employment by gender

Indirect entry into self-employment via HE	Model 9 Women			Model 10 Men			Model 11 Women			Model 12 Men		
	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error	Odds ratio	Sig	Std. error
Age	1.151	***	(.059)	1.116	***	(.037)	1.325	***	(.108)	1.201	***	(.064)
Educational attainment	2.054	**	(.608)	1.390		(.305)	2.011		(1.076)	1.314		(.271)
Self-rated health status	1.444	*	(.301)	.745		(.141)	2.146	*	(.870)	.619		(.188)
Wages and salary	.163	***	(.058)	.099	***	(.035)	.112	***	(.063)	.078	***	(.039)
Job satisfaction	.865	*	(.073)	.767	***	(.047)	.942		(.155)	.738	***	(.066)
Life partner educational attainment							.128		(.111)	1.058		(.275)
Children	1.354		(.587)	.969		(.223)	.323	**	(.314)	1.303		(.447)
Life partner												
Life partner occupational position												
Not employed/registered unemployed				1.240		(.658)						
Wage-employed (=reference category)							1.867		(1.971)	1.145		(.655)
Self-employed												
							8.463	**	(8.596)	1.996		(3.529)
Pseudo R ²	.253			.304			.373			.388		
Chi ²	42.47			56.42			34.60			45.54		
Number of individuals	88			195			41			126		
Number of observations	469			1,430			224			891		
Prob > Chi ²	.000			.000			.000			.000		

Note: * $p \leq 0.1$; ** $p \leq 0.05$; *** $p \leq 0.01$; robust standard errors (in parentheses)

By first observing gender-related differences in the effect of social capital on the direct entry into entrepreneurship, displayed in Model 5 and Model 6, we found the following results: for women and men, age has a significant and positive effect on the direct transition to entrepreneurship. For women, the probability of leaving wage employment for self-employment increases by 18% per year, for men this increase shows a value of 12%. Furthermore, for women, we found a negative relationship between health and direct transition to entrepreneurship: if women perceive their own health status worse, the likelihood for a direct switch decreases by almost 33%. For both men and women, higher job satisfaction and higher wage level show negative effects on the probability of leaving the current position for self-employment. Moreover, children play a more significant and positive role for men (in comparison to women) in the decision to directly switch to entrepreneurship—this impact displays an increase of 97% per child. We found no significant effect of the existence of a life partner on the transition to entrepreneurship for either women or men. When more precisely observing the social capital effects of the life partner on the direct transition to entrepreneurship, displayed in Model 7 and Model 8, we again found no significant impact of the life partner's self-employment for either women or men. By controlling for the occupational position of the life partner, for men, the life partner's education negatively impacts men's tendency to directly transition to self-employment: the tendency reduces by 56% per additional year of the life partner's education. For women, controlling for the occupational position of the life partner negates any further impacts of wage level, job satisfaction, and health on the direct transition to self-employment.

Model 9 and Model 10 show the effects on an indirect entry to entrepreneurship, differentiated by gender. For the indirect switch, we found significant results for age, education, health, wage level, and job satisfaction for women. For women who switch indirectly, health shows a reversed effect: women's tendency to leave the hybrid status in favor of self-employment increases by 44% if health is perceived poor. For men, we also found positive effects of age and negative effects of job satisfaction and wage level. Regarding our first variable of interest—the existence of a life partner—our results show that women's and men's likelihood of taking an indirect step into self-employment is not affected by having a life partner. When including the occupational position and the education of the life partner (Model 11 and Model 12), women's likelihood of switching is no longer affected by job satisfaction and educational attainment, but the effect of children becomes significant. Children are negatively correlated to women's tendency to enter entrepreneurship indirectly, decreasing the likelihood by almost 68%. Additionally, women's likelihood of leaving the hybrid status for full-time entrepreneurship is positively associated with having a self-employed life partner: the likelihood increases by more than 800%. For men, we do not receive significant effects of the life partner's occupational position on men's tendency to leave the hybrid status in favor of full-time entrepreneurship. The results of the gender-specific models for both ways of entering entrepreneurship partly verify our Hypothesis 2a. For the indirect switch, women's likelihood of entering entrepreneurship is more

strongly affected (than that of men) by social capital represented in the occupational position of the life partner. For women who directly switch to entrepreneurship, we found no significant effects of the life partner's social capital. This makes us reject Hypothesis 2b.

Table 3.9 summarizes our accepted and rejected hypotheses.

Table 3.9 Accepted and rejected hypotheses

Assumed hypotheses	
H1a: "The presence of a life partner shows higher positive effects for a direct transition into full-time entrepreneurship than for the indirect route via HE."	X
H1b: "Compared to individuals with life partners in other occupations, individuals with entrepreneurial life partners are more likely to switch directly into full-time entrepreneurship than via HE."	X
H2a: "In comparison to men, for women, the presence of social capital provided by the life partner shows higher positive impacts on the probability of a direct and indirect switch to self-employment."	X/✓
H2b: "For women, the expected difference in the presence of social capital related to a direct versus an indirect switch is more pronounced than for men."	X

3.5 Discussion

Research is increasingly focusing on the family as the central social context factor shaping entrepreneurial decisions and behavior (e.g., De Wit and Van Winden, 1989; Dunn and Holtz-Eakin, 2000; Lindh and Ohlsson, 1996). In this vein, important influences can originate from the life partner (Budig, 2006; Parker, 2008). As couples comprise the majority of entrepreneurs in Germany, our paper answers the research question of whether an individual's decision regarding the route into entrepreneurship might be affected by social capital provided by a life partner. Our study draws on data from the GSOEP with a sample of 1,002 observations of a direct switch to entrepreneurship out of wage employment and 1,115 observations of an indirect switch to entrepreneurship out of the hybrid status. Our results suggest that life partners and their occupations do not increase an individual's propensity to become an entrepreneur. Contrary to our hypotheses and in contrast to previous studies (e.g., Caputo and Dolinsky, 1998; Özcan, 2011), our results suggest that having a self-employed life partner decreases the probability of directly switching to entrepreneurship. We further found no effect of the life partner's occupation on the probability of switching to entrepreneurship out of the hybrid status. The presence of a life partner shows no effect on the probability of entering entrepreneurship via direct or indirect routes. Moreover, our results suggest that social capital has no different effect on the choice of direct entry compared to indirect entry. Our hypotheses for gender-related differences in terms of

the impact of social capital on the probability of entering entrepreneurship can be partly verified. We found evidence that having a self-employed life partner positively influences a woman's propensity to enter full-time entrepreneurship out of a hybrid status, whereas we found no gender-related differences for the direct switch. The simple presence of a life partner does not increase women's likelihood of either directly or indirectly entering entrepreneurship. Concerning the direct path to entrepreneurship, this result is consistent with Caputo and Dolinsky (1998).

We have reflected on best practices when reporting and discussing the findings of our research. Recent initiatives (e.g., Rothstein et al., 2005) have reassessed the criteria for what constitutes valid and powerful empirical research and have indicated the issue of “file-drawing”, that is, when studies with negative results remain unpublished. This practice often accompanies the phenomenon of “p-hacking”, where significance levels are pushed below the threshold of .05 (Bettis, 2012; Brodeur et al., 2016) or “HARKing”, which stands for hypothesizing after the results are known (Bosco et al., 2016). Such trends reduce the transparency and replicability of scientific research and can be misleading as they do not reflect the true underlying empirical process (Meyer et al., 2017). In line with recent proposed guidelines and suggestions tackling the aforementioned issues, we believe that our research—despite its many nil-findings—offers implications that help to further improve research on entrepreneurship. For example, and in a similar vein, Schulz et al. (2017) also provided sophisticated and enriching research, although they do not find significant differences between their variables on household composition with respect to the impact of HE on explaining multiple job holders' earnings structure. Our empirical results do not confirm the hypothesized positive effect of the presence of a life partner and especially a resourceful life partner on the propensity to transition to entrepreneurship. Furthermore, and differing to studies which have also focused on the nexus of social capital and self-employment (e.g., Caputo and Dolinsky, 1998; Davidsson and Honig, 2003; Müller, 2006; Wagner, 2005), our study suggests that life partners have different impacts on the probability of transitioning to entrepreneurship depending on the different routes taken. We have demonstrated that having a self-employed life partner is not necessarily a predictor of an individual's engagement in entrepreneurship when assuming that a transfer of social capital occurs. We initially proposed that social capital is transferred through the self-employed life partner's established networks, time flexibility, and autonomy, allowing both partners to specialize and participate in the labor market. In consideration of our findings, we must extend our perspective to include further effects that might interfere with social capital transfer by life partners and their provided resources. For example, occupational choice in the household context is also affected by decisions of risk diversification and risk pooling through the combination of different types of employment (Parker, 2008; Schiller and Crewson, 1997). Studies have shown that couples seek to manage risk by having different employment types, thereby implying informal insurance arrangements (e.g., Blanchflower and Oswald, 1990; Clark and Drinkwater, 2000; Georgellis and Wall, 2000). Considering self-employment's association with high levels of risk (Duchesneau and

Gartner, 1990; Knight, 1921) and the endeavor of households to diversify risk, an individual may persist in wage employment because of their life partners' self-employment. Individuals whose partners are already self-employed could choose the indirect route into entrepreneurship via HE because HE reduces the initial risks of entrepreneurship. Furthermore, entrepreneurship is more likely to increase the level of work–family conflict as it is associated with higher work obligations and more working hours (O'Driscoll et al., 1992; Parasuraman et al., 1996). In the beginning in particular, a business venture requires a significant amount of time and effort from the entrepreneur and the other household members, which increases the family-business intersection and creates fertile ground for conflicts that arise through the work–family interface (Werbel and Danes, 2010). Therefore, the household context and the life partner in particular can act as a constraint: life partners who perceive work–family conflicts have been proven to increase strain on the self-employed (Werbel and Danes, 2010).

Our research offers several opportunities for future academic work. Generally, additional conceptual and empirical research focusing on HE is needed as little is currently known about this phenomenon. Because of the urgent need to embrace a more context-based perspective within entrepreneurial research, we embedded our paper in the social dimension categorized by Welter (2011), which covers networks, households, and families. As such, the following propositions and ideas for HE also relate to the social dimension. Firstly, the effects of networks on hybrid entrepreneurs are unknown to date. A fruitful avenue for further research could therefore be to investigate the existence of networks, the type of networks (e.g., in the private and in the market domains), and the broadness of networks. Closely tied to this issue are peer effects on hybrid entrepreneurs and their businesses. Here, future work could investigate how the engagement of a colleague in HE and the presence of HE as a conversation topic among colleagues affect an individual's decision to be a hybrid entrepreneur. Secondly, future research could further examine the influence of the households on hybrid entrepreneurs and their businesses. For example, another interesting prospect that is also likely to attract policy interest would be to investigate couples' joint participation in a hybrid venture and analyze their entrepreneurial success. Finally, the family embeddedness of HE remains unexplored. Future studies on HE could therefore focus on these role model functions and intergenerational influences. Future research addressing the influence of life partners—especially the life partner's self-employment—on the likelihood of an individual to enter entrepreneurship should consider how the ongoing COVID-19 pandemic might have affected decisions in favor of entrepreneurship over wage employment. Assuming an increased pursuit of risk diversification due to the COVID-19 pandemic, the life partner's self-employment could make individuals less likely to choose entrepreneurship. These theoretical and practical implications as well as avenues for future academic work are neither exhaustive nor conclusive, yet we hope that they will provide an orientation for subsequent research and will stimulate scholars to investigate the important topic of HE further.

Like any research, our work comes with some limitations. Firstly, our study cannot display the explanatory powers of other theories that can rationalize intra-couple influences on the decision to be engaged in HE. For example, positive assortative mating (e.g., Andersson and Hammarstedt, 2010; Brown et al., 2006; Ermisch et al., 2006; Kalmijn and Flap, 2001; Mare, 1991), risk diversification (e.g., Parker, 1997), and role model and demonstration effects (e.g., Bosma et al., 2012) are possible explanations for our empirical results and could be in effect simultaneously. Furthermore, our study suffers from data-related limitations. As we used an existing dataset, we cannot specify, for example, whether the life partners work in the same entrepreneurial business as copreneurs. If so, aspects of the scholarly domain of the family business could also be relevant and could help to find reasons for determinants being so complex and intertwined. Moreover, data-related limitations appear regarding self-employed individuals, who run an incorporated business. An incorporated business appears as a legal entity and provides legal benefits, such as the protection of personal assets (Özcan, 2011). An entrepreneur in an incorporated business inhabits an ownership position in that business and is also employed as an executive manager in that same business. GSOEP contains information of the self-reported and self-assessed occupational position of the individual. The question on the occupational position was revised in 2019 by including the option “Managing partner or similar white-collar employee in self-owned business/company” in the section “White-collar worker”. As such, in the 2019 wave of GSOEP, owner managers of an incorporated business, e.g., an Ltd. or a GmbH, who essentially hold an employment contract with their own firm are classified as white-collar workers, respectively wage-employed individuals. However, before 2019, this information was not elaborated in GSOEP. Therefore, for our data from the years 1993 to 2016, we cannot unambiguously say how entrepreneurs with an incorporated business who have an employment contract with their own firm are classified. Based on the 2019 wave, we can only assume that in previous waves such individuals were also classified as white-collar workers, respectively wage-employed individuals. The question remains whether this classification is justifiable. Such individuals might be contractually employed, yet they carry out entrepreneurial tasks in their own firm and are crucial for the business survival and identity. Concerning this specific limitation to our research, future scholars could collect theory-driven data for this specific phenomenon.

Despite the outlined limitations, our work depicts a valuable scholarly contribution. It is the first attempt to simultaneously focus on HE literature, adopt a social context perspective, offer explanations from social capital theory, and consider gender-related differences in decision-making behavior. We thus help establish where scholarly attention currently exists and where more exploration is needed. Our findings also reveal issues worthy of analysis. Thus, this paper draws attention to promising research opportunities: the topic of HE portrays changes in social norms and labor market conditions. This makes our paper unique, inhabiting a new space within research and constituting a valuable scholarly contribution.

4 Psychological well-being of hybrid entrepreneurs: a replication and extension study using German panel data

Meike Stephan • Cemre Demir • Frank Lasch • Alexander Vossen • Arndt Werner

Abstract

This study contributes to new debates about how HE is related to specific psychological well-being dimensions (job, life, and leisure time satisfaction). To address this issue, Ardianti, Obschonka, and Davidsson (2022; AOD) published first empirical results in JBVInsights. They provide evidence for different effects on well-being, depending on how individuals have switched from or into HE. By drawing on panel data from Germany, two studies are conducted. While study 1 replicates the original methodological approach, study 2 provides an extension by applying cross-model coefficient comparison tests. In study 1 we were able to replicate some of the original results presented by AOD. In contrast to the original study, we find that the switch from wage employment to HE is negatively related to job and life satisfaction. Also, while AOD show that a switch from HE to full-time entrepreneurship relates significantly to job and life satisfaction, we find no such effects. Finally, in study 2, we provide novel evidence that the effects induced by a job switch to hybrid and full-time entrepreneurship are significantly stronger for job satisfaction when compared to life and leisure time satisfaction.

Keywords: Entrepreneurial well-being • Life satisfaction • Job satisfaction • Leisure time satisfaction • Hybrid entrepreneurship

JEL Codes: I39 • J22 • J24 • J28 • L26

4.1 Introduction

Entrepreneurial well-being (EWB) has become an important influencing construct in psychological and entrepreneurship research (Aguilar et al., 2013; Frey and Stutzer, 2002; Frijters et al., 2004; Layard, 2005; Proto and Rustichini, 2015; Shir et al., 2019; Wiklund et al., 2019). Defined as “the experience of satisfaction, positive affect, infrequent negative affect, and psychological functioning about developing, starting, growing, and running an entrepreneurial venture” (Wiklund et al., 2019, 582), well-being is influenced by entrepreneurship in both positive and negative ways (Shir, 2015; Shir et al., 2019; Solomon et al., 2022; Stephan et al., 2023; Wiklund et al., 2019).

While most of this research focuses on antecedents and consequences of a direct entry of individuals into full-time self-employment (Benz and Frey, 2008a; Binder and Coad, 2013), EWB of hybrid entrepreneurs has not been systematically researched. Being the first to provide empirical evidence on how HE may be related to specific psychological well-being dimensions, Ardianti et al. (2022; hereafter “AOD” study) have recently published empirical results on the indirect entry into self-employment via HE (individuals working simultaneously in wage and self-employment; Folta et al., 2010). They find that HE results in higher strain levels, lower job satisfaction when compared to full-time employment or self-employment. These results are an important advancement in EWB research as entry modes via HE have become more and more prevalent in many countries (Ardianti et al., 2022; Joona and Wadensjö, 2013; Reynolds, 2012; Xi et al., 2018). Viewed positively, HE allows individuals to test and learn about their entrepreneurial ability and business potential (Petrova, 2010a, 2010b) while making only small initial time and capital commitments (Raffiee and Feng, 2014). Viewed negatively, HE can cause tensions of time and resource allocation between wage employment and self-employment and role allocation problems. Hence, combining wage employment and self-employment will most certainly affect well-being in distinct ways when compared to other occupational situations.

The main objective of this article is to replicate and extend the UK-based results with data from the German Socio-Economic Panel (GSOEP): In study 1 we replicate the methodological approach of the AOD study and compare our results to the original article. In study 2 we extend existing research by utilizing cross-model coefficient comparison (Mize et al., 2019) to account for different strengths of the job switches on different well-being dimensions. By applying this method, we compare the marginal effects of a specific occupational movement behavior (e.g., switching from wage employment to HE) on different outcomes (e.g., job vs. life satisfaction).

In line with the AOD study, we show that changes in well-being induced by a switch to HE differ from changes in well-being induced by other kinds of switches. In contrast to the AOD study, we find a negative effect on job and life satisfaction induced by the switch to HE from wage employment. In study 2 we show that the negative effect of switching from wage employment to HE is significantly higher for job satisfaction when compared to life satisfaction.

4.2 Background: the AOD study

4.2.1 Data and sample

Using data from the United Kingdom Household Longitudinal Survey (UKHLS) of the years 2011 to 2017, the AOD study comprises information about 119,446 full-time wage-employed individuals, 18,496 self-employed individuals, 3,847 hybrid entrepreneurs, and 5,149 dual wage job holders.

4.2.2 Method

The AOD study examines whether switches from or into HE show differences in well-being compared to other job switches and whether potential differences are caused by the specific work arrangements of HE (“treatment effects” based on the procedural utility argument) or by ex-ante personality traits (“self-selection effects”; Baron et al., 2016; Schneider et al., 1995). To detect self-selection effects, the study starts by conducting ANOVA and Games Howell post-hoc analysis. To address the issue of self-selection bias and to isolate them from the treatment effect, an entropy balancing approach is used (Hainmueller, 2012). This methodology enables to test for the pure effect of a treatment (job switch) independently from self-selection effects of individuals into entrepreneurship (Stephan, 2018; Stephan et al., 2020). Entropy balancing is applied to individuals of the control group (who maintained the job status in two consecutive years) and the treatment group (individuals performing a job switch). By using the weights retrieved from entropy balancing, a difference-in-difference regression is conducted for each kind of job switch.

4.2.3 Variables and coding

To make the treatment group and the control group comparable by simulating random allocation and reducing pre-existing differences, three outcome variables were used (t and $t+1$) in their matching approach: changes in life and job satisfaction, and mental strain. Life and job satisfaction were measured on a seven-point Likert scale, mental strain on a four-point Likert scale. Independent variables relate to age, gender, marital status, education, organization type and personality traits (agreeableness, conscientiousness, extraversion, neuroticism, openness). The variable “hybrid intensity” was added to better examine changes in the transition of HE to full-time entrepreneurship and back to wage employment. “Hybrid entrepreneurs” are defined as individuals who simultaneously perform wage employment as the primary job and self-employment as the secondary job (Folta et al., 2010). The primary job refers to the job with the most hours. If the working hours were equal, the highest-wage job was considered as the primary one. Other employment situations refer to “full-time entrepreneurs” (single job holder), “full-time wage-employed” (single job holder), and “dual job holders” as individuals working in two wage-employed jobs. In total, six types of job switches are considered: (1) full-time wage-employed to HE; (2) hybrid entrepreneurs to full-time wage employment; (3) hybrid entrepreneurs to full-time entrepreneurship; (4) single (full-time) job holder to dual job holders; (5) dual job holders who

switched back to single job holder; and (6) direct transitions from full-time wage to full-time self-employment.

4.2.4 Results

The main finding of the AOD study is that the well-being of hybrid entrepreneurs is different in some dimensions from the comparison groups. The ANOVA results show that hybrid entrepreneurs perceive higher levels of mental strain compared to full-time wage employees, self-employed individuals, and dual job holders. Hybrid entrepreneurs and dual job holders have significantly lower levels of job satisfaction in comparison to self-employed individuals. Regarding life satisfaction, no differences are identified. The difference-in-difference regressions produce only significant results for the switch to self-employment on increased job satisfaction from hybrid status and wage employment. The switch to self-employment out of the hybrid status also shows an increase in life satisfaction. In contrast, the switch to HE is insignificant for all well-being measures. This is also observed for the other types of job switches (for an overview of the AOD results, see column 2 of Table 4.8; for the detailed results of the AOD study see Appendix Tables A.4.7 to A.4.12).

4.3 Replication (study 1)

4.3.1 Data and sample

We draw on data from the German Socio-Economic Panel (GSOEP), the largest wide-ranging representative panel study in Germany conducted annually with 30,000 respondents in approximately 10,000 households from the years 1984 to 2019. Our sample consists of 328,932 full-time wage-employed individuals, 36,516 self-employed individuals, 1,032 hybrid entrepreneurs and 19,593 dual wage job holders. Please note that compared to the AOD study, we use data with a broader time span (1984 to 2019).

4.3.2 Method

We applied the same matching approach and employed entropy balancing (Hainmueller, 2012) to mitigate self-selection effects (Huang et al., 2017). The received weighting factor allows us to make the individuals in the control and treatment groups comparable in terms of their characteristics (the matching variables). As we have several observations per individual, we collapsed our dataset to just one observation per individual to receive a weighting factor for all individuals. We then decided which of the collapsed values will be used for entropy balancing (Table 4.1). With the items of the single remaining observation for everyone, entropy balancing was then performed for the respective treatment groups. We then matched the obtained weighting factor per individual with the initial sample. In line with the AOD study, we then conducted longitudinal regression with fixed effects (panel individual), time effects (survey years), and clustered robust standard errors using Stata 17. Running fixed effects regression with year

dummies is computationally equivalent to performing difference-in-difference regressions for panel models (“`xtdidregress`”) for each treatment group, including the respective weighting factor of the entropy balancing (for more information: <https://www.stata.com/new-in-stata/difference-in-differences-DID-DDD/>). AOD pooled the data and applied ANOVA and Games Howell post hoc tests for some of their estimations. As pooling our longitudinal panel would introduce significant bias, we decided against these tests in our replication.

4.3.3 Variables and coding

4.3.3.1 Matching variables

In line with the AOD study entropy balancing procedure, we matched individuals based on the same variables (Table 4.1).

Table 4.1 Variables used in the matching analysis

Variable name	Value used for matching	Definition
Well-being		
Life satisfaction	Mean	Self-reported overall life satisfaction measured in an 11-point Likert scale (0= completely dissatisfied; 10= completely satisfied)
Job satisfaction	Mean	Self-reported satisfaction with current job measured in an 11-point Likert scale (0= completely dissatisfied; 10= completely satisfied)
Leisure time satisfaction	Mean	Self-reported satisfaction with leisure time measured in an 11-point Likert scale (0= completely dissatisfied; 10= completely satisfied)
Matching covariates		
Age	Latest	Respondents age
Age2	Latest	Respondents age squared
Gender	First	Dummy coded variable (1=male 0=female)
Married	Latest	Dummy coded variable (1=married 0=non-married)
Education	Latest	Number of years invested in education
Org. type	Latest	Dummy coded variable (1= public sector 0=private sector)
Hybrid intensity	Mean	Ratio of self-employment and wage employment income
Income gap	Mean	Income gap between income in t and t+1
Agreeableness	Latest	Mean of composite score from three 7-point Likert scales of self-reported measure on agreeableness
Conscientiousness	Latest	Mean of composite score from three 7-point Likert scales of self-reported measure on conscientiousness
Extraversion	Latest	Mean of composite score from three 7-point Likert scales of self-reported measure on extraversion
Openness	Latest	Mean of composite score from three 7-point Likert scales of self-reported measure on openness
Neuroticism	Latest	Mean of composite score from three 7-point Likert scales of self-reported measure on neuroticism

For some of the switches we were not able to use all matching variables (the algorithm did not converge within the specified tolerance, STATA reports an error term stating that the algorithm failed to adjust mean of the control and treatment group. For example, for the switch from HE to wage employment we had to neglect job satisfaction (Table A.4.4). Information on the individual's characteristics "BIG 5" (neuroticism, openness, extraversion, conscientiousness, agreeableness) in GSOEP are available for the years 2005, 2009 and 2013. To prevent losses of too many observations of the years before 2005, we assigned the values from these years to the other years. Since these variables capture psychological traits, they can be expected to remain relatively stable over shorter periods of time (Cobb-Clark and Schurer, 2012). Tables A.4.1 to A.4.6 report the balancing variables included in the respective switches.

Different to AOD, we use the absolute satisfaction values for matching (AOD measure the satisfaction change before/after the job switch). The reason for this is our longitudinal panel data that entails not only a before/after measure of satisfaction, but typically multiple before/after observations for the same individual.

4.3.3.2 Dependent variables

Aside general life satisfaction, we capture domain-specific satisfaction in form of job and leisure time using an eleven-point Likert scale ranging from 0 (lowest satisfaction) to 10 (highest satisfaction). The single item on general "life satisfaction" is used as the first proxy of well-being as a common and valid measure in the psychological and entrepreneurial literature (Diener and Lucas, 1999; Helliwell and Wang, 2012; Layard, 2010; OECD, 2013). General life satisfaction is regarded to be as valid as the more psychometrically customized "satisfaction with life scale" (Cheung and Lucas, 2014; Diener et al., 1985; Schimmack and Oishi, 2005). Using it as a proxy measure of well-being, our study is consistent with contemporary research (Abreu et al., 2019; Bhuiyan and Ivlevs, 2019; Van der Zwan et al., 2018).

The domain specific "job satisfaction" (Aguilar et al., 2013; Binder and Coad, 2016; Borjas, 1979) and "leisure time satisfaction" (Binder and Coad, 2016; Demoussis and Giannakopoulos, 2008; Van Praag et al., 2003) are surveyed in all years from 1984 onwards. A difference between GSOEP and UKHLS exists regarding the applied scale levels for measuring overall life and job satisfaction. UKHLS measures satisfaction levels in seven-point, whereas GSOEP uses a eleven-point Likert scale. This makes us able to detect effects in more nuanced way.

Another distinction refers to job satisfaction. In UKHLS, the measure for job satisfaction refers to satisfaction with their primary job only. In GSOEP, the job satisfaction question is placed at the very beginning of the questionnaire and refers to overall job satisfaction, including hybrid activity. Thus, the measure helps to depict hybrid entrepreneurs' satisfaction with both jobs and changes when they switch to full-time self-employment or wage employment. Also, we were not able to include mental strain as a proxy measure of well-being. In UKHLS,

respondents are asked whether they have recently felt constantly under strain. Unfortunately, in GSOEP, there is no such question and we used instead satisfaction with leisure time as a conventional measure of domain-specific satisfaction (Binder and Coad, 2016; Hyytinen and Ruuskanen, 2007; Van der Zwan et al., 2018).

4.3.3.3 Independent variables

Following Folta et al. (2010) and in line with AOD, we distinguished between wage employment, HE, and self-employment. We used information on the employment status, the occupational position of the primary job, and income from self-employment. The employment status variable distinguishes in their primary occupation employed from non-employed individuals. Our sample consists of full-time employed, regular part-time employed, or marginal, irregular part-time employed (“Mini-Jobs”, where the monthly income does not exceed EUR 450) as primary occupation. Regarding the occupational position, we defined wage-employed individuals as manual laborers, employees, and civil servants. The category self-employed contains freelancers, self-employed without employees, self-employed with employees. The income variable is the number of months income was received in year-1. To bypass the time-matching problem of having employment status and occupational position from the survey year but the income from the last year, we introduced the self-reported variable on income. We excluded zero values because of our focus on employed individuals. To deal with extreme outliers in terms of income, we executed the Winsor command (Cox, 1998).

Individuals were considered “hybrid entrepreneurs” if they, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being wage-employed, and (3) income from self-employment. Like in the AOD study, we also followed Folta et al. (2010) in the operationalization of HE. Apart from this condition, HE is a relatively inclusive term. It does not require any consideration of the criteria of time allocation between both jobs (Petrova, 2005, 2010a, 2010b, 2012) or the proportion of income generated from the entrepreneurial activity (Mungaray and Ramirez-Urquidy, 2011). Like AOD, we paid major attention to the hierarchy of both jobs when defining HE. However, while AOD used information on time allocation to operationalize the hierarchy of jobs within the hybrid status, we used information on income generated from entrepreneurial activity. Apart from this minor difference in the operationalization of hybrid entrepreneurs, our construct of HE is consistent with the one used in AOD.

“Self-employed” are those who, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being self-employed, and (3) income from self-employment. As “single job holders” are considered individuals that, in any given year, had (1) an employment status of being employed, (2) a main occupational position of being wage-employed or self-employed, and (3) no income from self-employment. We defined individuals as “dual job holders” if they, in any given year, had (1) an employment status of being employed,

(2) a main occupational position of being wage-employed, (3) no income from self-employment, and (4) income from secondary (wage) employment. We examined the same six types of job switches and the control groups for each sample are composed of individuals who remained in the initial job.

4.3.4 Results

In all our samples we consider two consecutive years (t and $t+1$) to compare individuals conducting a job switch with observations of those who did not switch (control group). In our first sample, we compare individuals who remain in wage employment to those observations of individuals who switched from wage employment to HE (job satisfaction $n = 232$; life satisfaction $n = 249$; leisure satisfaction $n = 253$, depending on the sample size of the models; Table 4.2; note that in the regression tables we always report the within R^2).

Table 4.2 Switching from full-time wage employment to HE

	(1) Job satisfaction b/se n=249	(2) Life satisfaction b/se n=253	(3) Leisure time satisfaction b/se n=232
Switching from full-time wage employment to HE	-.493*** (.126)	-.190** (.083)	.187 (.130)
CMCC			
Model1-Model2	= -.302**(.127)		
Model1-Model3	= -.680***(.168)		
Model2-Model3	= -.377***(.141)		
Observations	158,411	159,704	149,199
R^2	.031	.039	.012

*** $p < .01$, ** $p < .05$, * $p < .1$, includes dummies for survey years, clustered standard errors in parentheses.

Switching from wage employment to HE results in a highly significant reduction of job satisfaction (-.491). In the case of life satisfaction, the switch to HE also shows a substantial decrease (-.190), but no significant effects for satisfaction with leisure time. These effects differ from the results of the AOD study, as they do not find any significant results on job and life satisfaction triggered by the switch to HE although the sign of the coefficient is also negative—at least implying a negative tendency on job and life satisfaction. Concerning the negative impact of a switch to HE on life and job satisfaction, differences in measure constructs might be a reason for the deviating results compared to AOD.

Our second sample comprises all individuals who switch from wage employment to full-time self-employment and the corresponding control group ($n = 577$; $n = 585$; $n = 622$; Table 4.3).

Table 4.3 Switching from full-time wage employment to full-time entrepreneurship

	(4)	(5)	(6)
	Job satisfaction b/se	Life satisfaction b/se	Leisure time satisfaction b/se
	n=585	n=622	n=577
Switching from full-time wage employment to full-time entrepreneurship	.512*** (.097)	-.045 (.064)	-.136 (.112)
CMCC			
Model4-Model5 =.557***(.097)			
Model4-Model6=.648***(.138)			
Model5-Model6=.091 (.119)			
Observations	158,747	160,073	149,544
R ²	.022	.022	.012
*** p<.01, ** p<.05, * p<.1, includes dummies for survey years, clustered standard errors in parentheses.			

We find that the switch to self-employment positively affects the job satisfaction of individuals (+.512). The effects of switching to full-time entrepreneurship on life and leisure time satisfaction are insignificant. These results are in line with the AOD study and coherent with EWB literature (Binder and Coad, 2016; Parasuraman et al., 1996; Parasuraman and Simmers, 2001; Stephan, 2018; Stephan et al., 2023). This effect is explained by higher flexibility and procedural utility. Also, in coherence to many other studies our results do not indicate an effect of entrepreneurship on the overall life satisfaction of individuals (Van der Zwan et al., 2018).

Our third sample analyzes the switch out of the hybrid status to full-time entrepreneurship (Table 4.4).

Table 4.4 Switching from HE to full-time entrepreneurship

	(7)	(8)	(9)
	Job satisfaction b/se	Life satisfaction b/se	Leisure time satisfaction b/se
	n=217	n=222	n=204
Switching from HE to full-time entrepreneurship	-1.12 (.730)	-.08 (.336)	1.6 (.192)
CMCC			
Model7-Model8 =-1.04 (.682)			
Model7-Model9=-2.72***(.983)			
Model8-Model9=-1.68 (1.37)			
Observations	252	257	232
R ²	.085	.001	.095
*** p<.01, ** p<.05, * p<.1, clustered standard errors in parentheses.			

Given the limited number of observations of the control group (individuals remaining in HE) and the 204 to 222 observations (depending on the respective models), who switch from hybrid to full-time entrepreneurship, we receive insignificant F-Statistics for all three satisfaction dimensions (Model 7 to 9; according to recent studies, about 700,000 individuals in Germany switch to the hybrid status every year, but almost the same number leave the status as well (Butkowski et al., 2022)).

For the fourth sample, the fact that only a few individuals remain in hybrid status for more than one year has also affected our investigation of the switch from hybrid status back to full-time wage employment, where we also receive insignificant F-Statistics for all three models (Table 4.5).

Table 4.5 Switching from HE to full-time wage employment

	(10) Job satisfaction b/se n=124	(11) Life satisfaction b/se n=127	(12) Leisure time satisfaction b/se n=114
Switching from HE to full-time wage employment	.167 (.351)	.472 (.321)	-.35 (.783)
CMCC			
Model10-Model11=	-.306 (.432)		
Model10-Model12=	.517 (.879)		
Model11-Model12=	.822 (.607)		
Observations	159	162	142
R ²	.004	.016	.006

*** p<.01, ** p<.05, * p<.1, clustered standard errors in parentheses.

We had to neglect year dummies in Models 7 to 12 as job switches out of the hybrid status are not represented yearly. Tables A.4.3 and A.4.4 display all covariates used for entropy balancing for the switch out of hybrid status to self-employment and wage employment. Our fifth sample (n = 4,424; n = 4,617; n = 4,236) includes individuals that remain single job holders (exclusively only wage-employed or self-employed) and those moving from single to dual job holder (Table 4.6).

Table 4.6 Switching from full-time wage employment to dual job holding

	(13) Job satisfaction b/se n=4.424	(14) Life satisfaction b/se n=4.617	(15) Leisure time satisfaction b/se n=4.236
Switching from full-time wage employment to dual job holding	-.110*** (.031)	-.048** (.021)	.055* (.031)
CMCC			
Model13-Model14=	-.063** (.032)		
Model13-Model15=	-.166*** (.041)		
Model14-Model15=	-.103*** (.034)		
Observations	170,247	171,975	160,732
R ²	.008	.015	.005

*** p<.01, ** p<.05, * p<.1, includes dummies for survey years, clustered standard errors in parentheses.

The switch out of single job holding to dual job holding affects negatively both job satisfaction (-.110) and life satisfaction (-.048), while the effect on satisfaction with leisure time is positive (+.055). These effects are different to the ones documented in the AOD study, which does not show any significant results for the switch to dual job holding.

Finally, the sixth sample (Models 16 to 18; n = 5,710; n = 6,032; n = 5,609; Table 4.7) concerns individuals who remain in dual jobs and those who switch from dual jobs to single job holding.

Table 4.7 Switching from dual job holding to full-time wage employment

	(16) Job satisfaction b/se n=5.710	(17) Life satisfaction b/se n=6.032	(18) Leisure time satisfaction b/se n=5.609
Switching from dual job holding to full-time wage employment	.047 (.040)	.007 (.029)	.066* (.038)
CMCC			
Model16-Model17=	.041 (.042)		
Model16-Model18=	-.019 (.052)		
Model17-Model18=	-.059 (.043)		
Observations	10,175	10,751	9,986
R ²	.000	.000	.000

*** p<.01, ** p<.05, * p<.1, includes dummies for survey years, clustered standard errors in parentheses.

In line with the results of the AOD study, we receive no significant effects on life and job satisfaction for this switch, but a weak significant and positive effect on leisure time satisfaction. For an overview of a comparison between the results of the AOD study and study 1 of the replication see Table 4.8.

Table 4.8 Overview of results of AOD study and replication (study 1 and study 2)

Kind of job switch	Results of Ardianti et al. (2022)	Results of replication	Results of extension
<i>Switching from full-time wage employment to HE</i>			
Job satisfaction	n=710 (-) n.s. (-) n.s.	n=253, n=249, n=232 (-)*** (-)*** (+) n.s.	effect on job satisfaction significantly higher than effect on life and leisure time satisfaction
Life satisfaction	not included	not included	
Leisure time satisfaction	(+) n.s.		
Mental strain			
<i>Switching from full-time wage employment to full-time entrepreneurship</i>			
Job satisfaction	n=567 (+)*** (+) n.s.	n=622, n=585, n=577 (+)*** (-) n.s. (-) n.s.	effect on job satisfaction significantly higher than effect on life and leisure time satisfaction
Life satisfaction	not included	not included	
Leisure time satisfaction	(-) n.s.		
Mental strain			
<i>Switching from HE to full-time entrepreneurship</i>			
Job satisfaction	n=111 (+)*** (+)***	n=222, n=217, n=204 (-) n.s. (-) n.s. (+) n.s.	
Life satisfaction	not included	not included	
Leisure time satisfaction	(-) n.s.		
Mental strain			
<i>Switching from HE to full-time wage employment</i>			
Job satisfaction	n=878 (-) n.s. (-) n.s.	n=127, n=124, n=114 (+) n.s. (+) n.s. (-) n.s.	
Life satisfaction	not included	not included	
Leisure time satisfaction	(+) n.s.		
Mental strain			
<i>Switching from single job holding to dual job holding</i>			
Job satisfaction	n=925 (-) n.s. (-) n.s.	n=4,617, n=4,424, n=4,236 (-)*** (-)*** (+)***	effect on job satisfaction significantly higher than effect on life and leisure time satisfaction
Life satisfaction	not included	not included	
Leisure time satisfaction	(+) n.s.		
Mental strain			
<i>Switching from dual job holding to single job holding</i>			
Job satisfaction	n=1,427 (+) n.s. (-) n.s.	n=6,032, n=5,710, n=5,609 (+) n.s. (+) n.s. (+)***	
Life satisfaction	not included	not included	
Leisure time satisfaction	(+) n.s.		
Mental strain			

4.4 Extension (study 2)

4.4.1 Method

Does the switch from wage employment to HE has a stronger impact on life satisfaction than it has on job satisfaction? In study 2 we use cross-model coefficient comparison (CMCC) to compare the effects of different occupational movement behaviors on different types of well-being outcomes. Specifically, we are interested in finding differences in the effect strength of switching from wage employment to HE across different types of well-being outcomes.

This question entails comparing effect sizes, that in general should not be answered by simply comparing the coefficients but rely on a more formal Wald Test that also includes their standard errors and covariance (Mize et al., 2019). Yet, as both coefficients come from different estimations, they lack a joint covariance needed for this test. To address this issue, we use a stacked regression approach using Stata's "stackreg" command (Tauchmann and Oberfichtner, 2021). Based on this, we applied a linear comparison (using Stata's "lincom") of the coefficients of the treatment for the different satisfaction levels to test whether the coefficients are jointly zero. If they are not, the effects are truly significantly stronger or weaker and a ranking can be established. The statistical Wald Test is based on the following formular (exemplary for the coefficient comparison of job and life satisfaction):

$$z = \frac{\beta_{job\ satisfaction} - \beta_{life\ satisfaction}}{\sqrt{\sigma_{job\ satisfaction}^2 + \sigma_{life\ satisfaction}^2 - 2\sigma_{job\ satisfaction, life\ satisfaction}}}$$

4.4.2 Results

Comparing the coefficients by applying CMCC of the respective models of a job switch, we receive significant differences between the results for job and life satisfaction. Switching to HE out of wage employment has a significant higher impact on an individual's job satisfaction when compared to life satisfaction. As for the switch to HE, we receive the most substantial effect of the switch to full-time entrepreneurship for job satisfaction. The strongest effect on job satisfaction also holds to be valid for moving to dual job holding.

4.5 Discussion

In the following we provide explanations for our main findings and discuss their theoretical and practical implications. Our results suggest that switching from wage employment to HE relates negatively to job and life satisfaction but has no effect on leisure time satisfaction. For a switch from wage employment to full-time entrepreneurship, we find the reverse for job satisfaction resulting in a well-being surplus, but no effects on life and leisure time satisfaction.

4.5.1 Contribution to theory

On the one hand, the study at hand contributes to established work–family research, viz. compensation and spillover theory (Champoux, 1978; Evans and Bartolomé, 1984; Staines, 1980), and work–family enrichment perspectives (Greenhaus and Beutell, 1985; Greenhaus and Powell, 2006). By connecting our research on HE to work–family literature, our findings suggest that hybrid entrepreneurs experience negative spillovers between domains. We propose that this can be traced back to difficulties in meeting both work and family obligations (Jennings and McDougald, 2007). In contrast, compensation theory would expect that deficiencies in satisfaction in one domain (e.g., work) are compensated by a satisfaction surplus in another, such as family or leisure time (Champoux, 1978; Staines, 1980). However, our findings do not suggest such compensatory effects in HE. Arguing from the work–family enrichment perspective (Greenhaus and Beutell, 1985; Greenhaus and Powell, 2006), hybrid entrepreneurs seem to experience rather depleting than enrichment for example through negative spillovers into the wage employment domain resulting in role conflicts (Greenhaus and Beutell, 1985; Rothbard, 2001; Van Sell et al., 1981). Moreover, the novel results of our CMCC indicate that job satisfaction is the strongest predictor in relation to the switch to HE, full-time entrepreneurship and dual job holding, thereby strengthening the argument of role conflicts in the case that individuals simultaneously also work in wage employment. However, the question still remains somewhat open why the switch from wage employment to HE results in a negative effect on job and life satisfaction, while having no effect on leisure time satisfaction. Concerning job satisfaction, this might be reasoned in a perceived crisis of time- and resource allocation between wage employment and self-employment (Petrova, 2010b). Furthermore, the positively perceived high degree of autonomy and personal responsibility of self-employment (Benz and Frey, 2008b) can lead to a more negative perception of characteristics and conditions of wage employment. In line with this, Nikolova et al. (2023) for example show that self-employed having employees allows for delegating responsibility, experiencing more sense of control, meaning and well-being at work as compared to wage-employed managers or solo entrepreneurs (which is the case of most hybrid entrepreneurs). Alternatively, it can be argued that differences in coping strategies typically attributed to self-employed and wage employees can occur. Following such reasoning, Nikolaev et al. (2023) suggest that self-employed are more likely to engage in problem-focused coping to overcome challenges, complex and competing occupational demands, while wage-employed are

more likely to engage in emotion-focused coping. We therefore posit that hybrid entrepreneurs may still be more used to emotion-focused than problem-focused coping. Recent literature on EWB points in the same direction and highlights for example the role of recovery mechanisms to prevent entrepreneurial ill-being (Williamson et al., 2021; Wach et al., 2021). Wach et al. (2021), for example, argue that cognitive demands (challenge stressors) can lead to a positive effect on well-being, while emotional demands (hindrance stressors) are negatively related. Furthermore, having two jobs simultaneously might hinder detachment from work to recover as time spent for the second job comes at the expense of detachment emotionally and physically from the main occupation and vice versa (Boyd et al., 2016).

On the other hand, we also contribute to the emerging literature on EWB with implications not only for HE, but also entrepreneurship in general. For the direct switch to full-time entrepreneurship, we confirm the results of previous literature. Despite higher financial uncertainty, longer working hours and overall more stressful conditions (Binder and Coad, 2013; Carter, 2011; Ramón-Llorens et al., 2016; Wach et al., 2021), the self-employed report higher levels of well-being than wage-employed (Hessels et al., 2017; Nikolova, 2019; Stephan, 2018), particularly in the domain of job satisfaction (Loewe et al., 2015; Parasuraman and Simmers, 2001; Parasuraman et al., 1996; Stephan, 2018). Thus, our findings nuance existing theories of EWB, such as the procedural utility theory, which appears not to hold for hybrid entrepreneurs in our sample. Similarly, in the case of HE, we find little support for the work centrality literature (Loewe et al., 2015; Thompson et al., 1992) and some arguments of the work–family literature, that positive work experience spills over into other life domains (Andersson, 2008; Hessels et al., 2017; Van der Zwan et al., 2018).

In sum, our findings indicate that hybrid entrepreneurs appear to shoulder a double burden. They seem to be less able to rip fruits from the specific “high quality” working conditions conducive to (full-time) self-employment in the short run and simultaneously seem not be able to exploit and enjoy their leisure time because of the longer working hours and the necessity of having to meet obligations from both self-employment and wage employment. Therefore, they may experience little job satisfaction benefits as compared to wage employees switching to full-time self-employment, and less leisure time satisfaction due to high occupational demands. This joins recent debates in EWB literature about the importance of managing time and considering the necessity of recovery and detachment (Williamson et al., 2021; Wach et al., 2021). However, leisure time satisfaction is not exclusively driven by quantitative (reduced time) but also by qualitative components, for example a better perception or a more flexible use of the remaining leisure time. Furthermore, in HE the invested time in the self-employed activity might be perceived as a good investment in self-realization and personal development. Both negative and positive arguments, could result in a compensation effect leading to a non-significant result for leisure time satisfaction. However, further research is needed to identify the mechanisms at work.

4.5.2 Practical implications

Concerning practical implications, our results indicate that German HE appears to be only a short “pit stop” (see Table 4.9).

Table 4.9 Number of distinct individuals for different kind of job switches out of hybrid status in t0

Kind of job switch	t0-t1	
Remaining in HE	25	6.8%
Switch to full-time wage employment	126	34%
Switch to full-time entrepreneurship	218	59%
Number of all individuals	369	100%

We find high fluctuation and comparatively few individuals remain in HE for two consecutive years, implying that individuals in Germany seem to choose the hybrid path not as a desired state but rather as a transit zone on the path to full-time self-employment. Practically, this fluctuation can be explained by hybrid entrepreneurs being subject to the same bureaucratic regulations as full-time entrepreneurs (Butkowski et al., 2022). These regulations require strong personal and economic competencies of the individual involved. For hybrid entrepreneurs this means many additional strains besides the challenges to their wage employment. In literature, the decision on how long to stay in HE is argued to depend on how fast individuals can reduce uncertainty through learning about their entrepreneurial abilities within the hybrid state (Folta et al., 2010). The hybrid state is used as a specific way to assess conceived business potential, without risking too much (Wennberg et al., 2006). Within the hybrid status, this learning process determines time- and resource allocation between both jobs and the decision to either transition to full-time entrepreneurship, remain in hybrid status, or abandon business. For hybrid entrepreneurs, this could imply to balance a certain tradeoff between (desired) benefits from entrepreneurial learning and experiencing and the challenge of effectively managing time and resources. Hybrid entrepreneurs should be aware of the risk that in the short run their expectations of higher job satisfaction might not be fulfilled, and their leisure time affected by combining wage employment with self-employment.

4.5.3 Directions for future research

As our study is a replication of AOD (2022), we measure the effect of HE on the subjective well-being of individuals. However, well-being is a multifaceted term with many different dimensions (Ryan and Deci, 2001). Further research should therefore also address the effects of HE on other dimensions such as eudaimonic and physical well-being of individuals. Especially the effect on the eudaimonic well-being is of particular interest as it shows to be affected by self-employment (Nikolaev et al., 2023; Stephan et al., 2020). This also applies to the

effects of switching into HE on physical health, as evidence shows that switching to self-employment is found to have positive effects in this respect (Nikolova et al., 2021). In line with self-determination theory, the effect of HE on dimensions of psychological functioning (autonomy, competence, meaningfulness at work, etc.) could be more addressed by future research as these “basic needs” play a crucial determinant in driving EWB (Nikolaev et al., 2020; Shir et al., 2019; Stephan et al., 2020). Finally, future research could use time perspectives to better understand why individuals remain in HE and how their well-being evolves over time.

4.5.4 Limitations

As we use secondary data, we were not always able to include the same variables compared to the AOD study. For example, due to GSOEP data limitations, we could not use mental strain as a measure of well-being. However, it should be noted that in the AOD study none of the job switches displayed any significant effect on mental strain. Also, our measure of job satisfaction refers to overall job satisfaction, and we were not able to distinguish the satisfaction for the main occupation and the secondary occupation in the case of HE and dual job holding. For the same reason of unavailable data, in contrast to AOD, who used time allocation (hybrid intensity), we used information on income from self-employment to define hybrid entrepreneurs. While this measure has the advantage of being quite inclusive, it does not allow to fully account for the diversity and complexity of HE. Finally, as we were not able to distinguish the satisfaction for the main occupation and the secondary occupation, it may be that our job switches captured necessity entrepreneurs (individuals driven to enter HE due to dissatisfaction with their wage employment; Nikolaev et al., 2019). We addressed this issue through our panel data and could define occupational choice at some point during the period between $t-1$ and t and well-being measures at time t . This approach helped to track our variables’ causality, yet a weak reverse causality remains.

4.6 Conclusion

Overall, we conclude that the results of our study support the research conducted by AOD in showing that the switch to HE results in different effects on the well-being of individuals, especially in comparison to full-time entrepreneurship. By replicating and extending the research triggered by AOD, we present additional empirical evidence and new insights for further research on HE and a better understanding of its effect on well-being for individuals.

5 Summary and conclusion

5.1 Summary of research questions and responses

The dissertation has addressed the initial RQs by employing diverse methodologies across the three studies.

RQ 1.1: *What is the extent of consensus in the applied nomenclatures, criteria, and conceptions of HE?*

The analyzed research reveals a lack of consensus in how terminology, criteria, and conceptualization are applied to HE. Authors use different terminology to describe HE and have proposed criteria and conceptions that are not harmonized. These discrepancies may be attributed to a prevalent scholarly approach of relying on existing datasets from governmental or scientific institutions instead of collecting data independently (Demir et al., 2022). This practice introduces variations in samples, research designs, and contexts, posing challenges in consistently extracting hybrid entrepreneurs in alignment with the concept proposed by Folta et al. (2010).

RQ 1.2: *Is HE clearly distinguished from related concepts?*

The reviewed research stream indicates an absence of clear distinctions between HE and related concepts such as “part-time entrepreneurship” (Petrova, 2005, 2010a, 2010b, 2012). This lack of differentiation has likely contributed to scholars consistently misusing technical terms, criteria, and conceptualizations (see RQ 1.1), thereby leading to inaccuracies in categorizing their papers within specific research areas.

RQ 1.3: *What are conceptual and empirical findings of HE, as outlined by Folta et al. (2010)?*

At the time when the systematic literature review was conducted, three existing studies (see Chapter 2) had conceptually and empirically expanded on HE as defined by Folta et al. (2010). These studies found that hybrid entrepreneurs exhibit more innovative behaviors in their employee roles than do employees without secondary jobs in entrepreneurship (Marshall et al., 2019). Conditions that promote learning transfer between the entrepreneurial and employee roles include a work unit climate favoring innovation, higher learning goal orientation, and lower avoidance goal orientation (Marshall et al., 2019). Additionally, hybrid entrepreneurs tend to have better health compared to employees with only one job (Bouwhuis et al., 2017), and they experience higher earnings in their second jobs compared to dual job holders (Schulz et al., 2017).

Since then, numerous studies have built upon this foundation (e.g., Asante et al., 2022; Carr et al., 2022; Dvouletý and Bögenhold, 2023; Kuske et al., 2024; Maritz et al., 2023). This research emerged after the systematic literature review was conducted and published, but during the writing of this dissertation. For example, Dvouletý and Bögenhold (2023) reinforce the ideas that HE represents a distinct form of entrepreneurship and that hybrid entrepreneurs are unique from full-time entrepreneurs. Maritz et al. (2023) highlight the heterogeneity among hybrid entrepreneurs in terms of motivations, benefits, and challenges. Key motivations include income supplementation, social entrepreneurship, social recognition, passion, and non-financial incentives. Demographics also play a role, with hybrid entrepreneurs varying in age, education level, marital status, gender, and risk preferences. Asante et al. (2022) found that the stronger the transfer of skills and experience from wage employment to a side business, the stronger the relationship between ESE and entrepreneurial persistence. This suggests that when wage employment and side businesses require similar skills, hybrid entrepreneurs benefit in terms of both ESE and persistence. Carr et al. (2022) demonstrated that increasing startup effort over time increases work-to-venture role conflict, which in turn reduces job satisfaction and increases turnover intentions in wage employment. Kuske et al. (2024) found that external role demands—such as rigid working hours in wage employment and caregiving responsibilities—limit hybrid entrepreneurs’ ability to convert their experiences into skills that support well-being in full-time entrepreneurship. These constraints affect men and women differently, in that rigid job hours impact male hybrid entrepreneurs more while caregiving responsibilities have a greater effect on female hybrid entrepreneurs.

RQ 2.1: *Are there correlations between the existence and occupational choices of life partners and the likelihood of wage-employed individuals pursuing full-time entrepreneurship, through either direct or indirect entry?*

For direct transitions, when considering both genders together, the presence of a life partner does not significantly influence the likelihood of transitioning into entrepreneurship, suggesting that factors beyond household composition play more decisive roles. However, having a self-employed life partner seems to decrease an individual’s inclination to pursue entrepreneurship directly. This effect could stem from increased awareness of the challenges and uncertainties associated with self-employment, pointing to risk diversification behavior (e.g., Parker, 2008), negative role model effects (e.g., Bosma et al., 2012), and perceived work–family conflict (e.g., Werbel and Danes, 2010).

For indirect transitions, when considering both genders together, neither the presence nor the self-employment status of a life partner has a measurable effect on the probability of entering entrepreneurship. This suggests that social capital within partnerships does not provide

a meaningful advantage when individuals take a more gradual approach to entrepreneurship. This could be because indirect entry allows for a slower accumulation of experience and resources, making the presence or occupational choice of a life partner less critical in shaping the transition.

RQ 2.2: *Are there gender-related differences in terms of the existence and occupational choices of life partners on the direct and indirect entry into full-time entrepreneurship?*

For direct transitions, when considering men and women separately, neither the presence nor the self-employment status of a life partner significantly influences the likelihood of transitioning into entrepreneurship. Interestingly, the life partner's educational status negatively impacts men's tendency to directly transition to self-employment. No analogous effects were observed for women. This finding indicates that highly educated life partners encourage men to pursue more conventional career paths or serve as stabilizing influences, reducing the perceived need to take on entrepreneurial risks.

For indirect transitions via HE, when considering men and women separately, having a life partner has no effect for either women or men. However, women's likelihood of indirect transition via HE is positively associated with having a self-employed life partner. No analogous effects were observed for men. This result could be explained by the transfer of social capital from the self-employed life partner. Such social capital may be particularly influential for women, given that they tend to exhibit higher risk aversion than men (Caliendo et al., 2009; Jianakoplos and Bernasek, 1998; Sexton and Bowman-Upton, 1990). Thus, the support provided by a self-employed life partner may play a crucial role in reducing their perceived risk and facilitating their entrepreneurial entry.

RQ 3.1: *Do individuals in Germany experience well-being (measured via job, leisure time, and life satisfaction) changes when switching from HE to non-HE occupations, or vice versa?*

In line with the AOD study, we observed that changes in well-being induced by a switch from wage employment to HE differ from changes in well-being induced by other kinds of switches. In contrast to the AOD study, we found that switching from wage employment to HE relates negatively to job and life satisfaction but has no effect on leisure time satisfaction. For a switch from wage employment to full-time entrepreneurship, the reverse is found for job satisfaction, resulting in a well-being surplus but no effects on life and leisure time satisfaction.

RQ 3.2: *Do different occupational transitions exert varying degrees of effects on distinct well-being patterns (measured via job, leisure time, and life satisfaction)?*

CMCC analysis showed that the effect of switching from wage employment to HE is significantly higher for job satisfaction when compared to life and leisure time satisfaction. Similarly, when switching from wage employment to full-time entrepreneurship, job satisfaction was found to be the most significantly affected outcome. The strongest effect on job satisfaction also holds for moving to dual job holding.

Table 5.1 offers a concise summary of the key findings for each chapter. Where the table indicates a correlation, it signifies that the results are statistically significant at a 5% confidence level.

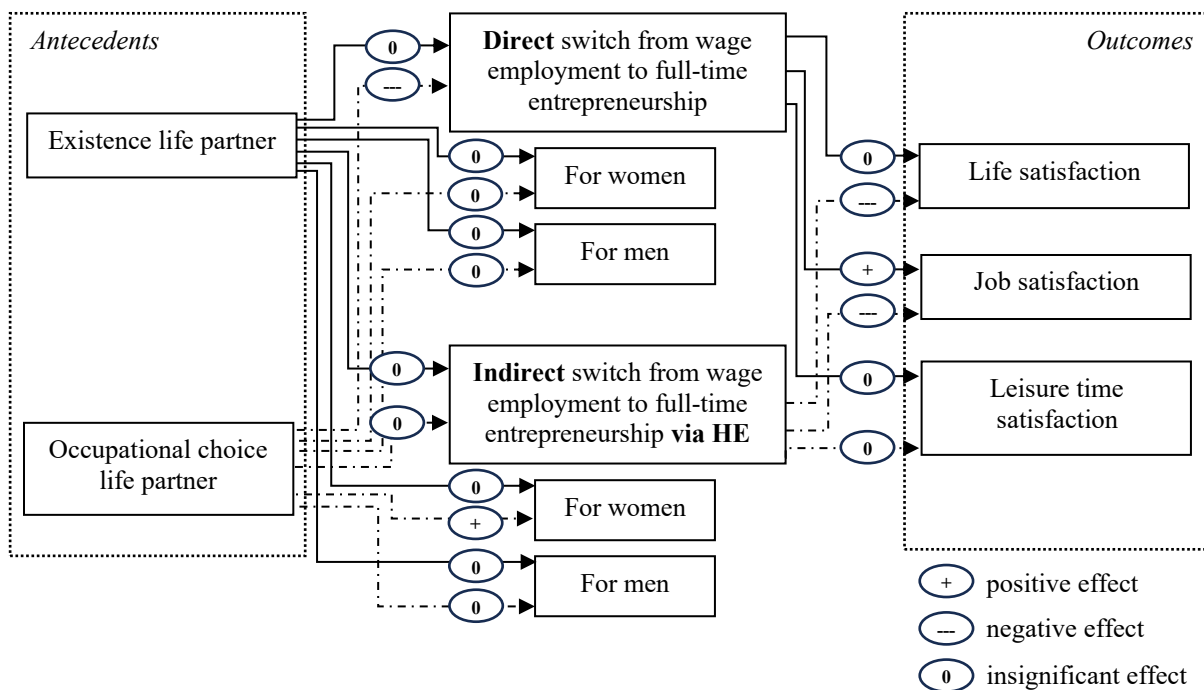
Table 5.1 Research questions and key findings of the dissertation

	Research question	Key findings
Chapter 2	RQ 1.1: <i>What is the extent of consensus in the applied nomenclatures, criteria, and conceptions of HE?</i>	<ul style="list-style-type: none"> No consensus in applied nomenclatures, criteria, and conception of HE
	RQ 1.2: <i>Is HE clearly distinguished from related concepts?</i>	<ul style="list-style-type: none"> No clear distinction between HE and related concepts
	RQ 1.3: <i>What are conceptual and empirical findings of HE, as outlined by Folta et al. (2010)?</i>	<ul style="list-style-type: none"> Hybrid entrepreneurs exhibit greater innovative behaviors in their employees role than employees without a secondary job in entrepreneurship (Marshall et al., 2019) Hybrid entrepreneurs have better health compared to employees with only one job (Bouwhuis et al., 2017) Hybrid entrepreneurs experience higher earnings in their second jobs compared to dual job holders (Schulz et al., 2017)
Chapter 3	RQ 2.1: <i>Are there correlations between the existence and occupational choices of life partners and the likelihood of wage-employed individuals pursuing full-time entrepreneurship, through either direct or indirect entry?</i>	<ul style="list-style-type: none"> No correlation between the existence of life partners and the likelihood of wage-employed individuals to pursue full-time entrepreneurship, through either direct or indirect entry Negative correlation between having a self-employed life partner and a direct switch to entrepreneurship No correlation between having a self-employed life partner and an indirect switch to entrepreneurship
	RQ 2.2: <i>Are there gender-related differences in terms of the existence and occupational choices of life partners on the direct and indirect entry into full-time entrepreneurship?</i>	<ul style="list-style-type: none"> No gender-related effects in the context of a direct switch to entrepreneurship Strong positive correlation between having a self-employed life partner and women's likelihood to enter entrepreneurship indirectly; no analogous effects for men
Chapter 4	RQ 3.1: <i>Do individuals in Germany experience well-being (measured via job, leisure time, and life satisfaction) changes when switching from HE to non-HE occupations, or vice versa?</i>	<ul style="list-style-type: none"> Changes in well-being induced by a switch from wage employment to HE differ from changes in well-being induced by other kinds of switches Switching from wage employment to HE relates negatively to job and life satisfaction but has no effect on leisure time satisfaction Switching from wage employment to full-time entrepreneurship relates positively to job satisfaction but has no effect on life and leisure time satisfaction
	RQ 3.2: <i>Do different occupational transitions exert varying degrees of effects on distinct well-being patterns (measured via job, leisure time, and life satisfaction)?</i>	<ul style="list-style-type: none"> The negative effect of switching from wage employment to HE is significantly higher for job satisfaction when compared to life and leisure time satisfaction

5.2 Implications for theory and practice

Even though the three studies within this dissertation addressed distinct aspects of HE, the implications of their findings can be synthesized to advance a more comprehensive understanding of the multifaceted nature of HE, offering valuable insights that can inform both theoretical frameworks and practical applications. Figure 5.1 summarizes the studies to create a holistic picture.

Figure 5.1 Summary of the examined variables



First, a crucial finding is that a clear and decisive approach to the use of nomenclature, criteria, and conceptualizations for HE and related concepts is needed. As shown in Chapter 2, authors use different terminology to describe HE, and they have also proposed criteria and conceptions that are not harmonized. These discrepancies likely stem from indistinct delineations between HE and related concepts such as “part-time entrepreneurship” (Petrova, 2005, 2010a, 2010b, 2012). In the context of this dissertation, the implications of this circumstance are evident in Chapters 3 and 4. In order to establish the theoretical framework and pursue empirical progress, it became necessary to integrate theories that address the incremental transition from wage employment to full-time entrepreneurship in a broader context. This expanded scope includes studies beyond those precisely aligned with the understanding and terminology of HE according to Folta et al. (2010). Without this broader inclusion, the theoretical framework would have relied solely on three studies (Demir et al., 2022). To circumvent makeshift solutions like relying on similar research fields for establishing theoretical frameworks, this dissertation emphasizes the importance of adopting a unified theoretical concept of HE.

Second, Chapter 3 of this dissertation demonstrates that when considering both genders together, the presence of a life partner does not significantly influence the likelihood of transitioning directly into entrepreneurship, suggesting that factors beyond household composition—such as financial resources—are more decisive. However, having a self-employed life partner seems to decrease an individual's inclination to pursue entrepreneurship directly. This negative effect may be driven by awareness of the risks and uncertainties associated with full-time entrepreneurship. Compared to wage employment, entrepreneurship involves longer working hours (Ajayi-obe and Parker, 2005; Hyytinen and Ruuskanen, 2007; Merz et al., 2009), higher uncertainty, greater variability in returns (Van Praag and Versloot, 2007), reduced monetary gains (Carrington et al., 1996; Hamilton, 2000), fewer fringe benefits (Storey, 1994), increased health costs and ill-being (Nikolova et al., 2021; Palmer et al., 2021; Williamson et al., 2021), and elevated levels of stress (Andersson, 2008; Parasuraman and Simmers, 2001; Schieman et al., 2006). Firsthand exposure to a life partner's entrepreneurial experience may therefore discourage individuals from pursuing the same path.

This trend underscores the need for a broader perspective on the antecedents of entrepreneurship within a social context—beyond social capital theory. Incorporating additional factors that can reveal both positive and negative dynamics shaping entrepreneurial decisions is particularly important. For instance, dynamics among couples related to risk diversification theory (Parker, 2008; Schiller and Crewson, 1997), role model theory (Bosma et al., 2012), and perceived work–family conflict theory (Werbel and Danes, 2010) may counterbalance the positive effects of social capital transfer. These factors can create a crowding-out effect in which concerns about financial security, perceived entrepreneurial challenges, and work–family conflicts discourage individuals from pursuing entrepreneurship despite the potential benefits of social capital transfer.

Interestingly, this finding contradicts the conclusions drawn by Özcan (2011) and Caputo and Dolinsky (1998), who found the presence and self-employment status of life partners to have positive impacts on the inclination toward direct entrepreneurial entry. These discrepancies in findings could stem from societal variances in uncertainty avoidance. In cultures with higher scores in uncertainty avoidance, individuals tend to prefer moderate risks, whereas those in cultures with lower scores tend to embrace risk-taking (Hofstede, 2001; Venaik and Brewer, 2010). Given the inherent risk and uncertainty of self-employment, societies with higher uncertainty avoidance may exhibit negative correlations with self-employment (Block et al., 2019). The study in Chapter 3 is based on German data, while Özcan (2011) and Caputo and Dolinsky (1998) rely on data from the USA. Past studies have found that Germany scores higher in uncertainty avoidance compared to the USA (Hofstede, 2001). Thus, this discrepancy in cultural orientation may contribute to variations in the observed effects.

Notably, when examining men and women separately, neither the presence nor the self-employment status of a life partner has a significant effect on the likelihood of a direct transition to entrepreneurship. The lack of gender-related differences suggests that men and women are influenced similarly by the presence and self-employment status of the life partner. This could indicate that, at least in this sample, traditional gender roles do not significantly shape how individuals perceive and respond to entrepreneurial risks within partnerships. Alternatively, this finding may reflect a shift toward more equal career expectations within dual-income households, in which entrepreneurial decision-making is less constrained by gender norms. However, the life partner's educational status negatively impacts men's tendency to directly transition to self-employment. No analogous effects were observed for women. This finding indicates that highly educated life partners encourage men to pursue more conventional career paths or serve as stabilizing influences, reducing the perceived need for men to take on entrepreneurial risks.

In terms of indirect transitions via HE, Chapter 3 demonstrates that when considering both genders together, neither the presence nor the self-employment status of a life partner has a measurable effect on the probability of entering entrepreneurship. This suggests that social capital within partnerships does not provide a meaningful advantage when individuals take more gradual approaches to entrepreneurship. Since HE serves as a lower-risk pathway into full-time self-employment (Raffiee and Feng, 2014), the presence or the self-employment status of a life partner may be less critical in shaping the decision-making process. The unverified impact of social capital transfer from life partners further supports the notion that direct and indirect entrants experience similar decision dynamics.

When analyzing genders separately, the presence of a life partner has no effect on indirect transition via HE for either gender. However, the probability of indirect transition is higher for women with self-employed life partners, an outcome not observed for men. This result could be explained by the transfer of social capital from the self-employed life partner. Such social capital may be particularly influential for women, given that they tend to exhibit higher risk aversion than men (Caliendo et al., 2009; Jianakoplos and Bernasek, 1998; Sexton and Bowman-Upton, 1990). Support from self-employed life partners may thus play a critical role in reducing perceived risks and facilitating women's entrepreneurial entry. Conversely, the absence of a similar effect for men suggests that traditional gender roles may moderate how a self-employed life partner influences men's entrepreneurial decisions.

In conclusion, the contrasting effects of the self-employment status of the life partner—negative for direct transition and positive for women's indirect transition via HE—underscore the necessity of adopting a more comprehensive perspective on the factors influencing entrepreneurship within a social context that extends beyond the framework of social capital theory. Our findings highlight the relevance of risk diversification theory (e.g., Parker, 2008; Schiller and Crewson, 1997), role model theory (e.g., Bosma et al., 2012), and perceived work–family conflict theory (e.g., Werbel and Danes, 2010). Additionally, our findings suggest that

societal attitudes toward uncertainty and risk may shape the impact of a self-employed life partner on entrepreneurial decisions. These findings align with research indicating that societies with higher uncertainty avoidance, such as Germany, discourage direct entry into full-time entrepreneurship but are less likely to dissuade engagement in HE (Block et al., 2019). In this context, HE may represent a culturally acceptable compromise, allowing individuals to explore entrepreneurial opportunities without fully relinquishing wage employment. Collecting comprehensive and theory-driven data would help in discerning the dynamics with greater nuance and in unraveling the complex interplay of factors, such as social capital transfer, risk diversification, role model effects, and perceived work–family conflict. Such data collection efforts would also aid in identifying country-specific differences arising from cultural contexts.

Third, Chapter 4 makes significant contributions to work–family theory, compensation theory (Champoux, 1978; Evans and Bartolomé, 1984; Staines, 1980), and work–family enrichment theory (Greenhaus and Beutell, 1985; Greenhaus and Powell, 2006) by demonstrating that hybrid entrepreneurs experience negative spillovers and lack compensatory effects between different well-being domains. This can be traced to difficulties in meeting both work and family commitments (Jennings and McDougald, 2007), as well as role conflicts between the jobs (Greenhaus and Beutell, 1985; Rothbard, 2001; Van Sell et al., 1981). Moreover, Chapter 4 highlights that theories of EWB, such as procedural utility theory, which find applicability among full-time entrepreneurs, do not appear to be relevant to German hybrid entrepreneurs. This emphasizes the notable distinctions between both groups of entrepreneurs.

The findings of Chapter 4 align with the implications derived in Chapter 3. The contrasting effects of a life partner's self-employment status highlight the need for a more comprehensive perspective on the factors influencing entrepreneurship within a social context that extends beyond the framework of social capital theory. Specifically, the findings of Chapter 4 support role model theory. This theory posits that occupational choices are either imitated or avoided based on the observed successes of others (Bosma et al., 2012). It becomes evident that an entrepreneur's well-being might influence their life partner's career decisions. If an entrepreneur shows signs of lower satisfaction and increased work–family conflict, these factors may discourage their life partner from following a similar career path. In other words, when self-employment is perceived as a source of strain rather than opportunity, it can deter life partners from pursuing entrepreneurial careers. This implication adds another dimension to the discussion and underscores the importance of factors such as well-being in shaping entrepreneurial decisions within households.

This knowledge holds practical implications for policies aimed at promoting entrepreneurship and assisting aspiring entrepreneurs. Additionally, it provides valuable insights for individuals engaged in entrepreneurship, in terms of opportunities, limitations, and risks at the individual level. Firstly, the self-employment status of the life partner plays an important role in an individual's decision to pursue entrepreneurship. The study presented in Chapter 3 illustrates that having a self-employed life partner decreases an individual's inclination to directly pursue entrepreneurship, indicating a tendency toward risk diversification. This insight can inform policymakers in providing financial assistance, such as tax incentives or subsidies, for self-employed couples to address risk and uncertainty. Throughout and following the COVID-19 pandemic, small businesses and self-employed individuals facing financial challenges due to the crisis received one-time payments to ensure liquidity. These payments did not require repayment and were granted without large bureaucratic hurdles. Should similar support be extended in the future, it could further stimulate both full-time entrepreneurship and HE in Germany among couples. On an individual level, and if government intervention lowers financial uncertainty and risks, individuals may increasingly appreciate the benefits of having self-employed partners. For partners, sharing similar employment types can enhance the transfer of social capital, thereby positively influencing resource sharing and enhancing the success of both partners in the labor market, whether they are engaged in full-time entrepreneurship or HE.

Secondly, the study presented in Chapter 4 illustrates that there is a high turnover and relatively few individuals staying in HE for two consecutive years in Germany. HE seems to function as a transitional phase on the route to full-time entrepreneurship. This situation can be attributed to hybrids being subject to the same bureaucratic regulations on business startup, tax, insurance, and financing as full-time entrepreneurs in Germany (Butkowski et al., 2022). For example, initiating a business in Germany requires reporting to the tax office and obtaining special permissions based on the industry. Furthermore, accounting is mandatory for all entrepreneurs, regardless of revenue. Taxes represent another substantial consideration and encompass VAT, income tax, corporation tax, and trade tax; hybrid entrepreneurs confront an accumulation of these tax burdens on top of those from wage employment. Concerning insurance, hybrid entrepreneurs may choose company or business liability insurance, recognizing the importance of protecting their new self-employment status. Regarding financing, hybrid entrepreneurs often encounter difficulties obtaining loans from banks, and public funding opportunities are limited (IHK NRW, 2024).

Overall, the aforementioned circumstances and regulations in Germany demand a high degree of personal and economic competency and expertise from the individuals involved. For hybrid entrepreneurs, this brings additional strains beyond the challenges posed by wage employment. It appears reasonable that individuals in this process often lean toward either full-time entrepreneurship or full-time wage employment, with HE serving as a short-term work status. Policymakers can address these challenges by enacting tailored legal regulations and

designing simplifications specifically for hybrid entrepreneurs. Furthermore, employers can contribute significantly to easing the dual pressures faced by hybrid entrepreneurs. If employers recognize their employees' entrepreneurial pursuits as valuable assets and implement policies within the company that support self-employment, they can mitigate potential role conflicts and improve individuals' job satisfaction. Conversely, such policies can also benefit the employer by attracting skilled employees. Employers may even consider participating in their employees' ventures through shares or spin-offs. This collaborative approach creates a mutually beneficial situation for both the employer and the employee.

At an individual level, hybrid entrepreneurs should be aware of the potential dual burden associated with choosing this path. Opting for the hybrid route may yield fewer benefits related to the procedural utility of entrepreneurship, resulting in comparatively lower job satisfaction. Simultaneously, extended working hours and obligations to both self-employment and wage employment may compromise the ability to fully enjoy leisure time. In this context, the quantitative constraint of having less available time might offset qualitative factors such as the perception of leisure as more fulfilling due to more mindful use or greater flexibility. If the above-mentioned interventions from policymakers and employers were implemented, they may also have beneficial outcomes on EWB, potentially improving job satisfaction and thus enhancing leisure time and overall life satisfaction among hybrid entrepreneurs.

5.3 Limitations and future research avenues

Like any research endeavor, this dissertation has its limitations. First, in order to address the postulated RQs, it was necessary to contextualize them within theoretical frameworks. For Chapter 2, which presents an overview of peer-reviewed, replicable, and qualitative articles on HE, the methodology proposed by Tranfield et al. (2003) was adopted. This approach involved applying a journal quality threshold to select articles exclusively from peer-reviewed journals, thereby ensuring methodological rigor and eliminating methodological flaws, biases, or unreliable findings. Additionally, the Tranfield et al. methodology focused on English-language publications, aiming to enhance internationally accessible literature, increase visibility and impact, and ensure consistency in terminology and methodology, thereby reducing the risk of translation errors and misinterpretations. While the methodology proposed by Tranfield et al. (2003) ensured a clear methodology, it significantly reduced the number of relevant publications and led to the exclusion of potentially valuable research published in non-peer-reviewed journals or written in other languages.

In Chapters 3 and 4, theoretical frameworks were employed in a manner that involved omitting certain alternative theories capable of explaining the findings. This limitation is particularly apparent in Chapter 3, in which the anticipated impact of social capital could not be validated. A more expansive framework encompassing additional factors, such as risk diversification and risk pooling (Parker, 2008; Schiller and Crewson, 1997), might have proven

beneficial in this study. Drawing from the results of the studies in Chapters 2 to 4, future research could benefit from adopting a more comprehensive perspective to gain deeper insights into HE.

In addition to these theoretical limitations, the studies in this dissertation suffer from data-related limitations. While the systematic literature review described in Chapter 2 encompasses all noteworthy academic contributions up to the time of data collection, it may now be outdated due to the emergence of many crucial new papers since then. To address this limitation, future research should conduct literature reviews more frequently. Regularly synthesizing previous work facilitates the ongoing integration of new findings, fostering a deeper understanding of HE and establishing a robust knowledge foundation. This would advance the research stream of HE beyond its infancy into a mature and well-established field of study. The two subsequent studies, in Chapters 3 and 4, draw on data from GSOEP spanning the years 1984 to 2019. Relying on existing datasets from governmental or scientific institutions ensures the data's longitudinal validation, enhancing its credibility and reliability over time. However, this approach also introduces variations in samples, variables, research designs, and contexts, posing challenges for replicability and comparability across different datasets. This issue was evident in Chapter 4, in which the study could not incorporate the exact same variables as the AOD study it sought to replicate. Future research could significantly benefit from standardizing variables and research designs to improve replicability and comparability. At the same time, collecting theory-driven data on HE would further enhance the research stream. Many existing datasets are not explicitly designed to test theoretical frameworks relevant to HE. As a result, they may not adequately capture key psychological, social, and institutional mechanisms. To address this issue, future research could design longitudinal panel studies grounded in established theories such as the job demands–resources model, the theory of planned behavior, self-determination theory, social capital theory, and institutional theory, each of which could offer valuable insights into the context of HE.

Third, the studies in Chapters 3 and 4 rely on data from GSOEP and incorporate exclusively German data, thereby restricting the generalizability of the findings and implications beyond this specific region. The study in Chapter 4 attempts to overcome this limitation by replicating and expanding on UK-based results, examining potential differences in well-being between German and British hybrid entrepreneurs. Although this marks an initial effort to highlight regional distinctions, it remains confined to the comparison of only two countries. From past studies, we know that there can be variations in HE across different countries due to cultural, demographic, and labor market conditions (Baughn et al., 2010; Engle et al., 2011). For example, Block et al. (2019) conducted a multilevel analysis using data from 27 countries, revealing variations in the impact of societal factors on individual inclinations toward full-time entrepreneurship and HE. Cultures that are more risk-averse tend to discourage involvement in full-time entrepreneurship but do not seem to dissuade individuals from becoming hybrid entrepreneurs (Block et al., 2019). Furthermore, societies with a strong humane orientation exhibit

a higher probability of individuals engaging in HE (Block et al., 2019). Such societies promote altruism and a sense of responsibility for enhancing the well-being of others (Kabasakal and Bodur, 2004). Because HE allows individuals to hold a wage job and offers an avenue to pursue entrepreneurial endeavors that may not yield substantial revenues, it can contribute to non-monetary benefits, such as serving a social purpose (Austin et al., 2006; Korsgaard and Anderson, 2011; Thompson et al., 2000). Future research endeavors utilizing multinational datasets would enhance the exploration of the diverse factors influencing HE across different cultural and economic contexts.

Fourth, this thesis utilized panel data in order to examine the antecedents and outcomes of HE in Chapters 3 and 4, placing a specific emphasis on the timing of job transitions. Given that entrepreneurship is a prolonged journey, the outcomes of HE may change over time. For instance, concerning well-being, adaptation theory (Frey and Stutzer, 2002) posits that individuals tend to adjust back to their prior levels of satisfaction after a change has occurred. In this vein, Van der Zwan et al. (2018) empirically demonstrated that individuals transitioning from wage employment to full-time entrepreneurship, and subsequently experiencing increases in job satisfaction, tend to revert to pre-switch levels of job satisfaction over time. Future researchers could extend the temporal perspective, allowing for the examination of whether effects exhibit persistence or are only temporary.

In conclusion, as HE grows in significance across various countries, there is a critical need to identify and understand the dynamics associated with this entrepreneurial phenomenon. This dissertation will serve as a valuable resource for researchers and practitioners seeking insights into HE. At the individual level, particularly when compared to self-employed individuals, the dissertation sheds light on the intricate interplay of factors guiding hybrid entrepreneurs on their entrepreneurial journeys and explores its implications for their well-being. Despite its limitations, this research opens further avenues for exploration and contributes valuable insights by outlining the current state of knowledge and deepening our understanding of the antecedents and outcomes of HE. Consequently, it fosters a more nuanced understanding of the evolving landscape of entrepreneurship.

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Appendix

Appendix A.2.1 List of reviewed articles (Chapter 2)

No.	Authors	Year	Title	Source	Thomson Reuter	Journal
1	Block, J.; Landgraf, A.	2016	Transition from part-time entrepreneurship to full-time entrepreneurship: the role of financial and non-financial motives	International Entrepreneurship and Management Journal, 12(1), 259-282	2,406	B/C
2	Block, J.; Landgraf, A.; Semrau, T.	2019	The differential impact of societal cultural practices on part-time and full-time self-employment: a multi-level, multi-country study	International Small Business Journal, 37(1), 43-68	3,9	C
3	Bögenhold, D.	2018	From hybrid entrepreneurs to entrepreneurial billionaires: observations on the socioeconomic heterogeneity of self-employment	American Behavioral Scientist, 63(2), 129-146	1,749	---
4	Bögenhold, D.; Klinglmair, A.	2016	Independent work, modern organizations and entrepreneurial labor: diversity and hybridity of freelancers and self-employment	Journal of Management & Organization, 22(6), 843-858	1,189	---
5	Bögenhold, D.; Klinglmair, A.	2017	One-person enterprises and the phenomenon of hybrid self-employment: evidence from an empirical study	Empirica, 44, 383-404	0,706	---
6	Bögenhold, D.; Klinglmair, A.; Kandutsch, F.	2017	Solo-self-employment, human capital and hybrid labour in the gig economy	Foresight and STI Governance, 11(4), 23-32 (Journal of the National Research University Higher School of Economics)	---	---
7	Bouwuis, S.; De Wind, A.; De Kruif, A.; Geuskens, G.A.; Van der Beek, A.J.; Bongers, P.M.; Boot, C.R.L.	2018	Experiences with multiple job holding: a qualitative study among Dutch older worker	BMC Public Health, 18(1), 1054	2,42	---
8	Bouwuis, S.; Garde, A.H.; Geuskens, G.A.; Boot, C.R.L.; Bongers, P.M.; Van der Beek, A.J.	2017	The longitudinal association between multiple job holding and long-term sickness absence among Danish employees: an explorative study using register-based data	International Archives of Occupational and Environmental Health, 90(8), 799-807	2,148	---
9	Brodie, S.; Stanworth, J.	1998	Independent contractors in direct selling: self-employed but missing from official records	International Small Business Journal, 16(3), 95-101	3,9	C
10	Burneister-Lamp, K.; Lévesque, M.; Schade, C.	2012	Are entrepreneurs influenced by risk attitude, regulatory focus or both? An experiment on entrepreneurs' time allocation	Journal of Business Venturing, 27(4), 456-476	6	A
11	Davies, I.A.; Chambers, L.	2018	Integrating hybridity and business model theory in sustainable entrepreneurship	Journal of Cleaner Production, 177, 378-386	5,651	B
12	Doutriaux, J.	1987	Growth pattern of academic entrepreneurial firms	Journal of Business Venturing, 2(4), 285-297	6	A

(continued)

Appendix A.2.1 Continued

No.	Authors	Year	Title	Source	Thomson Reuter	Jourqual
13	Dufays, F.; Huybrechts, B.	2016	Where do hybrids come from? Entrepreneurial team heterogeneity as an avenue for the emergence of hybrid organizations	International Small Business Journal, 34(6), 777-796	3,9	C
14	Fini, R.; Perkmann, M.; Ross, J.M.	2017	Knowledge creation in research organizations: the impact of hybrid entrepreneurship on individual performance	Academy of Management Proceedings, (1)	---	---
15	Folta, T.B.; Delmar, F.; Wennberg, K.	2010	Hybrid entrepreneurship	Management Science, 56(2), 253- 269	3,544	A+
16	Fuller, V.; Mason, B.	1977	Farm labor	Annals of the American Academy of Political and Social Science, (429), 63-80	2,401	---
17	Gregson, N.; Simonsen, K.; Vatou, D.	1999	The meaning of work: some arguments for the importance of culture within formulations of work in Europe	European Urban and Regional Studies, 6(3), 197-214	2,28	---
18	Hahn, R.; Ince, I.	2016	Constituents and characteristics of hybrid businesses: a qualitative, empirical framework	Special Issue: Entrepreneurship from Orientation to Innovation, 54(S1), 33-52	---	---
19	Markman, G.D.; Gianiodis, P.T.; Phan, P.H.	2008	Full-time faculty or part-time entrepreneurs	IEEE Transactions on Engineering Management, 55(1), 29-36	1,416	B
20	Marshall, D.R.; Davis, W.D.; Dibrell, C.; Ammeter, A.P.	2019	Learning off the job: examining part-time entrepreneurs as innovative employees	Journal of Management, 45(8)	8,08	A
21	Meoli, M.; Vismara, S.	2016	University support and the creation of technology and non-technology academic spin-offs	Small Business Economics, 47, 345-362	2,852	B
22	Mungaray, A.; Ramirez-Urquidy, M.R.	2011	Full and part-time entrepreneurship and the supply of entrepreneurial effort: evidence from Mexican microenterprises	Journal of Developmental Entrepreneurship, 16(4), 441-458	---	C
23	Nordström, C.; Sirén, C.A.; Thorgren, S.; Wincent, J.	2016	Passion in hybrid entrepreneurship: the impact of entrepreneurial teams and tenure	Baltic Journal of Management, 11(2), 167-186	1,149	C
24	Oo, P.P.; Rahman, Z.; Kim, N.	2015	Understanding the determinants of hybrid entrepreneurship (summary)	Frontiers of Entrepreneurship Research, 35(3), Article 16	---	C
25	Petrova, K.	2012	Part-time entrepreneurship and financial constraints: evidence from the Panel Study of Entrepreneurial Dynamics	Small Business Economics, 39(2), 473-493	2,852	B
26	Petrova, K.	2010	Part-time entrepreneurship, learning and ability	Journal of Management Policy and Practice, 12(1), 64-75	---	---
27	Petrova, K.	2010	Part-time entrepreneurship: theory and evidence	Atlantic Economic Journal, 38(4), 463-464	---	---
28	Petrova, K.	2005	Part-time entrepreneurship and wealth effects: new evidence from the Panel Study of Entrepreneurial Dynamics	Microeconomics 0510006. Munich: University Library of Munich.	---	---
29	Raffee, J.; Feng, J.	2014	Should I quit my day job? A hybrid path to entrepreneurship	Academy of Management Journal, 57(4), 936-963	6,7	A+
30	Schölin, T.; Broomé, P.; Ohlsson, H.	2016	Self-employment: the significance of families for professional intentions and choice of company type	International Journal of Entrepreneurial Behavior & Research, 22(3), 329-345	1,863	C

(continued)

Appendix A.2.1 Continued

No.	Authors	Year	Title	Source	Thomson Reuter	Jourqual
31	Schulz, M.; Urbig, D.; Procher, V.	2016	Hybrid entrepreneurship and public policy: the case of firm entry deregulation	Journal of Business Venturing, 31(3), 272-286	6	A
32	Schulz, M.; Urbig, D.; Procher, V.	2015	The impact of firm entry deregulation on hybrid entrepreneurship	Academy of Management Proceedings, (1)	---	---
33	Schulz, M.; Urbig, D.; Procher, V.	2017	The role of hybrid entrepreneurship in explaining multiple job holders' earnings structure	Journal of Business Venturing Insights, 7, 9-14	---	---
34	Skrzek Lubasińska, M.; Szaban, J.M.	2018	Nomenclature and harmonised criteria for the self-employment categorisation. An approach pursuant to a systematic review of the literature	European Management Journal, 37(3), pp. 376-386	2,369	B
35	Solesvik, M.Z.	2017	Hybrid entrepreneurship: how and why entrepreneurs combine employment with self-employment	Technology Innovation Management Review, 7(3), 33-41	---	---
36	Thorgren, S.; Nordström, C.; Wincent, J.	2014	Hybrid entrepreneurship: the importance of passion	Baltic Journal of Management, 9(3), 314-329	1,149	C
37	Thorgren, S.; Sirén, C.A.; Nordström, C.; Wincent, J.	2016	Hybrid entrepreneurs' second-step choice: the nonlinear relationship between age and intention to enter full-time entrepreneurship	Journal of Business Venturing Insights, 5, 14-18	---	---
38	Viljamaa, A.; Varamäki, E.	2015	Do persistent and transitory hybrid entrepreneurs differ?	World Academy of Science, Engineering and Technology International Journal of Economics and Management Engineering, 9(3), 936-940.	---	---
39	Viljamaa, A.; Varamäki, E.; Joensuu-Salo, S.	2017	Best of both worlds? Persistent hybrid entrepreneurship	Journal of Enterprising Culture, 25(4), 339-359	---	C
40	Wall, S.	2015	Dimensions of precariousness in an emerging sector of self-employment: a study of self-employed nurses	Gender, Work and Organisation, 22(3), 221-236	1,88	B
41	Wennberg, K.; Folta, T.B.; Delmar, F.	2006	A real options model of stepwise entry into self-employment	Frontiers of Entrepreneurship Research, 26(6,3), 1-13	---	C
42	Xi, G.; Block, J.; Lasch, F.; Robert, R.; Thurik, R.	2018	Mode of entry into hybrid entrepreneurship: new venture start up versus business takeover	International Review of Entrepreneurship (IRE), 16(2)	---	---
43	Zhang, T.; Acs, Z.	2018	Age and entrepreneurship: nuances from entrepreneur types and generation effects	Small Business Economics, (51), 773-809	2,852	B

Appendix A.2.2 Content analysis of HE (Chapter 2)

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
1	Block, J.; Landgraf, A. (2016)	(1) Transition behavior	(1) Motive of - supplementing wage - financial success - innovation - independence - recognition - role models - self-realization	Quantitative	481 part-time entrepreneurs	Germany	(1) Supplementing income or seeking social recognition is negatively linked to transition behavior. (2) Striving for independence or self-realization is positively linked to transition behavior. (3) Following a role model, pursuing financial success, or embracing innovation is not significantly linked to transition behavior.
2	Block, J.; Landgraf, A.; Semrau, T. (2019)	(1) Performance orientation (2) Future orientation (3) Uncertainty avoidance (4) Institutional collectivism	(1) Occupation: - Full-time self-employed - Part-time self-employed - Not self-employed	Quantitative	28,157 individuals	27 countries	(1) Societal-level uncertainty avoidance, institutional collectivism, performance orientation, and future orientation vary in their impact on individuals' inclination toward full- or part-time self-employment.
3	Bögenhold, D. (2018)	---	---	Conceptual	---	---	(1) Patterns of self-employment: - Self-employment can lead to either precarious conditions or serve as a means to generate wealth, creating jobs and fostering economic growth. - Hybrid employment models are becoming more prevalent among individuals. - Globally, women outnumber men in solo self-employment. - Variations exist within solo self-employment levels.
4	Bögenhold, D.; Klinglmair, A. (2016)	---	---	Quantitative	626 one-person enterprises	Austria	(1) Hybrid self-employed differ significantly from traditional entrepreneurs in socio-demographic, professional, and company-specific factors. (2) Entrepreneurship in social and economic dynamics must adopt a processual perspective, considering it as instances of biographical or episodic processes.
5	Bögenhold, D.; Klinglmair, A. (2017)	(1) Socio-demographic characteristics (2) Occupation-related variables (3) Attitudinal values (4) Others	(1) Hybridity in self-employment	Quantitative	626 one-person enterprises	Austria	(1) Micro enterprises arise from motives such as self-realization and a desire to work without hierarchies but are also influenced by limited opportunities in the labor market. (2) Hybrid self-employment is evident as nearly 20% of one-person enterprises are involved in dependent work. (3) Hybrid employment status is predominantly influenced by factors like age, education level, the circumstances of enterprise inception, its duration, and the underlying motives for self-employment.

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
6	Bögenhold, D.; Klinglmair, A.; Kandutsch, F. (2017)	(1) Volume of the dependent employment (2) Monthly net income from the dependent employment (3) Yearly turnover of the one-person enterprise (4) Monthly net income from the one-person enterprise (5) Weekly working hours for the one-person enterprise ---	(1) Hybrid forms of one-person enterprises	Quantitative	626 one-person enterprises	Austria	(1) Hybrid entrepreneurs differ in income (from both dependent and self-employment), working hours, and the primary workplace.
7	Bouwhuis, S.; De Wind, A.; De Kruif, A.; Geuskens, G.A.; Van der Beek, A.J.; Bongers, P.M.; Boot, C.R.L. (2018)	---	---	Qualitative	15 multiple job holders	Netherlands	(1) Those with both employee and self-employed roles find income security in their wage employment. (2) Self-employment is seen as both an insecurity and a source of flexibility by different respondents.
8	Bouwhuis, S.; Garde, A.H.; Geuskens, G.A.; Boot, C.R.L.; Bongers, P.M.; Van der Beek, A.J. (2017)	(1) Multiple job holding (MJH) in general (2) Combination MJH (i.e. second job as employee) (3) Hybrid MJH (i.e. self-employed in second job)	(1) Long-term sickness absence (LTSA)	Quantitative	9,868 wage-employed individuals	Denmark	(1) No significant link between LTSA and hybrid MJH. (2) Similar likelihood of LTSA between combination MJH and hybrid MJH, but variations may exist in other subgroups (e.g., multiple job holders working longer hours). (3) Individuals with a second self-employed job exhibit better health than single-job employees. However, the analyses do not determine if a health worker effect among multiple job holders is present or stronger than the healthy worker effect among single-job holders. It is suggested that good health may be a prerequisite for having multiple jobs and working long hours (healthy worker effect).
9	Brodie, S.; Stanworth, J. (1998)	---	---	Qualitative	82 direct sellers	UK	(1) Direct selling is frequently carried out by self-employed contractors, often part-time and predominantly female. This model of business may involve HE.

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
10	Burneister-Lamp, K.; Lévesque, M.; Schade, C. (2012)	---	---	Quantitative	- 25 entrepreneurs - 29 undergraduate business and economics students	Germany	(1) Risk attitude is a more accurate predictor of students' time allocations than entrepreneurs'. Above a certain threshold, entrepreneurs' time allocations remain unaffected by their risk attitude. Below the threshold, highly risk-averse entrepreneurs allocate fewer hours to the enterprise. (2) Entrepreneurs' time allocation decisions are better explained by their regulatory focus than their risk attitude. Entrepreneurs with a strong promotion focus allocate more hours when each additional hour involves greater risk, and fewer hours when it involves less risk. (3) Prevention-focused entrepreneurs allocate fewer hours when each additional hour entails more risk and more hours when it entails less risk.
11	Davies, L.A.; Chambers, L. (2018)	---	---	Qualitative	10 sustainable entrepreneurs	- UK - France - Belgium - Switzerland	(1) Business models and innovations are instrumental in addressing hybrid tension areas. (2) All case entrepreneurs employed business models that facilitated the alignment of value creation and simplified decision-making, particularly in situations where conflicting values were possible. (3) Sustainable entrepreneurs identified external interactions, such as those with customers and retailers, as the primary source of hybrid tensions.
12	Doutriaux, J. (1987)	---	---	Qualitative	- 38 young firms originally created by entrepreneurs while at various universities - 8 high-technology companies	Canada	(1) Part-time entrepreneurship among university members benefits the institution in various ways: - It retains creative individuals in the laboratory. - It enhances the efficient use of university resources. - It promotes increased interactions between faculty, students, and the business world. (2) Manufacturing firms led by part-time entrepreneurs may lack the aggressiveness and growth orientation of independent firms. University professors seeking commercialization of an invention may need to explore licensing or consider resigning to fully commit to the development process. (3) Universities investing in new academic firms to commercialize inventions should be cautious about retaining academic entrepreneurs in the new company's management.

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
13	Dufays, F.; Huybrechts, B. (2016)	---	---	Conceptual	Social enterprises as hybrid organizations	---	(1) A four-stage process-based model: 1. Presence of distinct logics among team members. 2. Entrepreneurial opportunity emerges from distinct logics. 3. Hybridity manifests in the entrepreneurial process. 4. Hybrid organizations emerge.
14	Fini, R.; Perkmann, M.; Ross, J.M. (2017)	(1) Exploration (2) HE (3) Mean scientific quality (4) Distant learning	(1) Top research performance	Quantitative	2,198 wage-employed individuals in a research university	UK	(1) HE boosts the likelihood of top research performance. (2) This is facilitated by exploring new scientific domains and improving overall scientific quality. (3) An entrepreneur's established interpersonal relationships within the research organization limit the mediating impact of exploration and amplify the effect of mean scientific quality on achieving top research performance. Socialization within the organization thus acts as a boundary condition for the performance-enhancing effect of HE.
15	Folta, T.B.; Delmar, F.; Wernberg, K. (2010)	(1) Individuals' financial situation (2) Individuals' family situation (3) Opportunity costs (4) Entrepreneurial experience (5) Switching costs	(1) Prevalence of HE	- Conceptual - Quantitative	44,613 men	Sweden	Conceptual: (1) Hybrid entry influences self-employment entry through learning, positive signals inspire transition, and negative signals may lead to abandonment. (2) Factors influencing hybrid entry differ systematically from those for self-employment or wage work. Quantitative: (3) HE constitutes a significant portion of overall entrepreneurial activity. (4) Hybrid entry influences self-employment but does not determine it; financial payoffs in hybrid status determine transition likelihood, emphasizing the role of learning and reducing uncertainty. (5) Unique determinants of hybrid entry include switching costs, uncertainty, and human capital quality, reflecting a preference influenced by explicit intent, seeking nonmonetary benefits, or income supplementation.

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
16	Fuller, V.; Mason, B. (1977)	---	---	Quantitative	Labor market of farming	USA	(1) The farming labor market is primarily characterized by self-employment, with a common practice of individuals holding multiple jobs.
17	Gregson, N.; Simonsen, K.; Vaio, D. (1999)	---	---	Qualitative	- Greece - Denmark - UK	- Greece - Denmark - UK	(1) The types of employment are deeply rooted in the context and culture of each of the three member states, shaped by culturally specific meanings. (2) Various approaches exist for defining and classifying the diversity of work forms in Europe: - Part-time employment is categorized based on hours and time distribution. - Self-employment is classified according to the social relations of work. - MJH is categorized based on the regulatory regime.
18	Hahn, R.; Ince, I. (2016)	---	---	Qualitative	18 hybrid businesses	Germany	(1) The findings reveal organizational structures characterized by active participation and a focus on sharing knowledge related to sustainability. (2) Profit and growth goals often serve as a means to achieve sustainability objectives.
19	Markman, G.D.; Gianiodis, P.T.; Phan, P.H. (2008)	(1) Institutional factors (2) Agency factors (3) Resource factors	(1) Extent to which faculty members bypass their universities. Level of analysis is the university, not the scientist.	Quantitative	23,394 faculty members	USA	(3) Entrepreneurs are primarily driven by non-material motives. (1) Universities conducting research and employing autonomous technology licensing offices (TLOs) tend to experience reduced bypassing. However, institutions with medical schools and extensive patent portfolios are more susceptible to bypassing. (2) The implementation of royalty sharing, including contingent pay schemes for faculty departments, helps mitigate bypassing. (3) Resource factors, as indicated by patent citations, show a positive correlation with bypassing activity. (4) Increased entrepreneurial activity on campus is positively associated with bypassing.

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Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
20	Marshall, D.R.; Davis, W.D.; D'Irell, C.; Ammeter, A.P. (2019)	(1) Engagement in part-time entrepreneurship	(1) Innovative behavior (in employee roles) (2) Goal orientation (3) Work-unit innovative climate	- Conceptual - Quantitative	1,221 wage-employed individuals	USA	(1) Engaging in part-time entrepreneurship offers individuals the chance to develop skills and knowledge that enhance innovative behaviors as employees, with the influence of goal orientations and work-unit climates for innovation. (2) Part-time entrepreneurs uniquely leverage their entrepreneurial knowledge and skills within their primary employing organizations. (3) Employees who run side businesses demonstrate higher levels of innovative behaviors in their employee roles compared to those who do not. (4) Conditions at both the individual and work-unit levels that foster learning transfer between roles are explored. Higher learning goal orientations and work-unit climates for innovation, along with lower avoidance goal orientations, enhance the relationship between part-time entrepreneurship and innovation in employee roles.
21	Meoli, M.; Vismara, S. (2016)	(1) Level of administrative support offered by the non-academic staff in a university, including both administrative and technical staff	(1) Total number of spin-offs per university per year or the number of technology or non-technology spin-offs	Quantitative	559 academic spin-offs	Italy	(1) While enhanced administrative support from the parent university encourages academics to create more technology spin-offs, a U-shaped relationship emerges concerning the number of administrative staff and the rate of non-technology spin-off establishment. When the level of administrative staff deviates from the fitted amount based on various university-level factors, academic staff responds by establishing firms to optimize cash and human resource management.
22	Mungaray, A.; Ramirez-Urquidy, M.R. (2011)	---	---	- Conceptual - Quantitative	603 households running microenterprises either as unique activities or as complementary with paid jobs	Mexico	(1) Part-time micro entrepreneurs prioritize non-pecuniary aspects when making life choices, often diverging from a focus on profit maximization. (2) In contrast, full-time micro entrepreneurs are more influenced by pecuniary factors, aligning their choices with utility maximization that is more compatible with profit maximization.
23	Nordström, C.; Sirén, C.A.; Thorgren, S.; Wincent, J. (2016)	(1) Entrepreneurial tenure (2) Entrepreneurial team involvement	(1) Passion	Quantitative	262 hybrid entrepreneurs	Sweden	(1) Relationship between entrepreneurial tenure and passion for: - As the individual's side business tenure increases, the likelihood of passion being the primary motive for entrepreneurship decreases. - Passion is less likely to be the main driving force behind entrepreneurship for those who are part of an entrepreneurial team. - Participation in an entrepreneurial team intensifies the negative correlation between entrepreneurial tenure and passion for entrepreneurship.

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Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
24	Oo, P.P.; Rahman, Z.; Kim, N. (2015)	(1) Established measures used by prior entrepreneurial studies that used the same dataset	(1) Prevalence of HE versus full-time entrepreneurship	Quantitative	777 nascent entrepreneurs	USA	(1) Those with a higher educational level, limited prior entrepreneurial experience, a strong commitment to new ventures, and lower household net worth are more inclined to become hybrid entrepreneurs than full-time entrepreneurs. (2) The occurrence of an inverted U-shaped relationship between age and HE is notable. (1) Part-time entrepreneurs are not affected by financial constraints.
25	Petrova, K. (2012)	(1) Wealth (household net worth)	(1) Indicator of choice among wage job, part-time and full-time entrepreneurship ---	- Conceptual - Quantitative	1,049 individuals	USA	
26	Petrova, K. (2010)	---	---	- Conceptual - Quantitative	1,049 individuals	USA	(1) Individuals engage in part-time entrepreneurship due to uncertainty about their entrepreneurial ability. (2) Initially, they prefer spending only a fraction of time in entrepreneurship to mitigate the risk of financial instability if their ability is low. (3) After a period as part-time entrepreneurs, individuals must decide whether to develop a full-time business or return to a traditional job.
27	Petrova, K. (2010)	---	---	---	---	---	Summary of Petrova, K. (2010): Part-time entrepreneurship, learning and ability
28	Petrova, K. (2005)	(1) Wealth (household net worth)	(1) Indicator of either being an entrepreneur or being a wage worker	- Conceptual - Quantitative	1,052 individuals	USA	(1) Part-time entrepreneurs do not show evident constraints. While not ruling out credit constraints for some entrepreneurs, the prevalence of part-time business owners in less capital-intensive sectors highlights the significance of the marginal entrepreneur. The observation is rooted in the role of wealth, suggesting that if credit constraints were substantial, wealthier entrepreneurs would allocate more time to their businesses due to relaxed constraints. (1) Individuals with risk aversion and low core self-evaluation are more inclined to choose HE over full-time self-employment. (2) Hybrid entrepreneurs transitioning to full-time self-employment experience significantly higher survival rates compared to those entering full-time self-employment directly from paid employment. (3) The reduction in exit hazard is more pronounced for individuals with prior entrepreneurial experience, supporting the theory that the survival advantage stems from a learning effect acquired during HE.
29	Raffee, J.; Feng, J. (2014)	(1) Risk aversion (2) Core self-evaluation (3) Staged entry dummy (4) Stage entry duration (5) Cognitive ability (6) No. of full self-employment experience (7) No. of hybrid self-employment experience (8) Duration full self-employment experience (9) Duration hybrid self-employment experience	(1) Survival of wage job (2) Survival of self-employment job	Quantitative	- 5,299 wage-employed individuals - 1,093 full-time self-employed individuals	USA	

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
30	Schölin, T.; Broomé, P.; Ohlsson, H. (2016)	(1) Influence of family	Type of self-employment: - All self-employed - Owners of limited liability companies - Sole traders - Hybrids	Quantitative	1,204,436 men 1,349,904 women	Sweden	(1) Family factors significantly shape an individual's choice of company type, with variations based on transmitted intentions within the family. (2) The family effect on an individual's inclination for self-employment is strong. (3) Family influence differs by company type, being more pronounced for limited liability company entrepreneurs, than for sole traders or hybrids.
31	Schulz, M.; Urbig, D.; Procher, V. (2016)	(1) System for rapid opening of enterprises (SARE)	(1) Individual's classification as - Hybrid - Full-time entrepreneur - Not being an entrepreneur	Quantitative	212,523 individuals	Mexico	(1) Hybrid entrepreneurs exhibit greater responsiveness to changes in entry regulation compared to full-time entrepreneurs. The impact of the reform is evident across education levels, but it is most pronounced among highly educated hybrid entrepreneurs. (2) The results reveal a smaller yet positive impact of the reform on part-time entrepreneurship. (3) Unlike hybrid entrepreneurs, part-time entrepreneurs seem to have lower levels of education.
32	Schulz, M.; Urbig, D.; Procher, V. (2015)	---	---	---	---	---	Preliminary draft of Schulz, M.; Urbig, D.; Procher, V. (2016): Hybrid entrepreneurship and public policy: the case of firm entry deregulation
33	Schulz, M.; Urbig, D.; Procher, V. (2017)	(1) Desire to work more (2) Desire to work less (3) Desire to start a business	(1) Job transition	Quantitative	47,820 wage-employed individuals	UK	(1) Having self-employment as a second job significantly increases the likelihood of higher average earnings in this second job compared to having wage employment in both occupations. (2) MJH with second jobs yielding higher average earnings than the main job can be partly explained by HE. (3) While the long-term earnings structures of males and females in MJH may be similar, there are short-term differences when entering MJH. (4) Replicating Paxson and Sicherman's (1996) study confirms a link between desires to work more and taking a second job with lower average earnings for men, but not for women. (5) There are no significant differences in the impact of HE on multiple job holders' earnings based on household composition variables, although gender and household composition combined may still play a role.

(continued)

Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
34	Skrzek Lubasińska, M.; Szaban, J.M. (2018)	---	---	Qualitative	253 publications	---	(1) The self-employed population can be effectively categorized into five groups, each distinguished by its most prominent characteristics: freelancers (ipros), innovators, traditional small business owners (including farmers), dependent self-employed, and hybrid self-employed. (2) Hybrid self-employment falls under the terminology of dependent self-employment, which includes terms like dependent, bogus, false, fake, spurious, quasi, involuntary self-employed, dependent contractors, "in-between" workers, and "dependent outsourcing".
35	Solesvik, M.Z. (2017)	---	---	Qualitative	2 hybrid entrepreneurs	- Norway - Germany	Part 1: Literature Review (1) Literature on HE reveals inconsistency in definitions. Part 2: Case Study (2) Hybrid entrepreneurs are not a uniform group; some may remain in waged jobs, while others transition to full-time entrepreneurship. (3) HE offers a lower-risk and organic path for individuals pursuing entrepreneurial ambitions. (4) The studied hybrid entrepreneurs have enough free time to engage in business alongside their day jobs. (5) The case study entrepreneurs are not more risk-averse than full-time entrepreneurs, demonstrating a realistic understanding of the pros and cons of entrepreneurship. (6) One hybrid entrepreneur uses the combination of waged job and self-employment to overcome the liability of newness and smallness while building a customer base and reputation. (7) Secure incomes from waged jobs are crucial for the survival of new ventures; without them, sustaining the new ventures would be challenging or even impossible.

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Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
36	Thorgrén, S.; Nordström, C.; Wincent, J. (2014)	(1) Entrepreneurs' age (2) Time spent weekly on the business	(1) Passion	Quantitative	262 hybrid entrepreneurs	Sweden	(1) The primary motive for engaging in a side business alongside employment is the opportunity to work with something one is passionate about. (2) Passion tends to be a more significant motivator for the hybrid form among individuals who start their businesses at an older age. (3) Passion is less likely to be the main motive for the hybrid form among individuals who dedicate more time to their business.
37	Thorgrén, S.; Sirén, C.A.; Nordström, C.; Wincent, J. (2016)	(1) Entrepreneurs' age	(1) Intention to transition from HE to full-time entrepreneurship	Quantitative	103 hybrid entrepreneurs	Sweden	(1) A U-shaped relationship exists between age and the intention to transition into full-time entrepreneurship, with younger and older hybrid entrepreneurs finding it most attractive to leave wage employment for full-time entrepreneurship. (2) There may be opposing effects of age on the first-step and second-step entrepreneurial choices. (1) THEs and PHEs share similar backgrounds. (2) THEs prioritize increasing turnover more than PHEs. However, they also highlight self-fulfilment as a motive for entrepreneurship more than PHEs.
38	Viljamaa, A.; Varamäki, E. (2015)	---	---	Quantitative	249 hybrid entrepreneurs	Finland	(3) The most notable distinctions between THEs and PHEs lie in their perceptions of the support from their immediate circle for full-time entrepreneurship and their views on their own entrepreneurial abilities and the market potential of their firm. (1) Only a small minority envisions full self-employment in the near future. (2) The most significant motive for entrepreneurial activities is self-fulfilment. (3) Personal profiles of academic hybrid entrepreneurs align largely with expectations from prior research.
39	Viljamaa, A.; Varamäki, E.; Joensuu-Salo, S. (2017)	---	---	Quantitative	848 academic hybrid entrepreneurs	Finland	(4) Two distinct types of hybrid entrepreneurs: - Those focused on self-fulfilment without growth orientation or intent to become full-time entrepreneurs. - Those with high goals, a strong growth orientation, and engaged in part-time entrepreneurship to test their business ideas.

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Appendix A.2.2 Continued

No.	Authors (year)	Antecedents	Outcomes	Method	Unit of analysis	Geographical scope	Key findings
40	Wall, S. (2015)	---	---	Qualitative	20 self-employed nurses	Canada	(1) Some nurses maintained concurrent nursing employment while starting their businesses, considering it a necessary step to provide financial stability. (2) Despite aspirations for self-employment, some nurses pursued "bread and butter work" (part-time jobs, undesirable contracts) to ensure income, limiting their ability to build businesses and pursue desired work.
41	Wennberg, K.; Folta, T.B.; Delmar, F. (2006)	(1) Uncertainty (2) Irreversibility	(1) Part-time (versus full-time entry)	Quantitative	236,045 wage-employed individuals	Sweden	(1) Entrepreneurs use part-time entry as a strategy to test their business opportunity's value without jeopardizing their full income. (2) The hypothesis proposing entrepreneurs use a real options heuristic influenced by uncertainty and irreversibility received mixed support: Exogenous industry-level uncertainty and individual-level irreversibility had a negative effect on the probability of entry, as expected, but industry-level irreversibility did not show the same effect.
42	Xi, G.; Block, J.; Lasch, F.; Robert, R.; Thurik, R. (2018)	(1) Work experience (2) Educational attainment (3) Socio-demographic status (4) Support for the hybrid entrepreneur (5) Firm's financial structure	(1) HE	Quantitative	9,032 hybrid entrepreneurs	France	(1) Educational attainment and management experience are linked to new venture start-ups. (2) Conversely, being female, having work experience, and receiving social benefits are associated with business takeovers.
43	Zhang, T.; Acs, Z. (2018)	(1) Age (2) Generation: - Traditionalists - Boomers - Gen-Xers - Millennials	(1) Propensity to be an entrepreneur, novice, opportunity, full-time and incorporated entrepreneurs. (versus employee, non-novice, necessity, part-time and unincorporated entrepreneurs)	Quantitative	1,645,949 entrepreneurs	USA	(1) Entrepreneurial propensity increases with age until around 80. (2) The propensity of novice (versus non-novice) and unincorporated (versus incorporated) entrepreneurs exhibits a U-shaped age trend, dipping around age 60. In contrast, the propensity of full-time (versus part-time) entrepreneurs declines from the 30s. (3) The propensity of incorporated (versus unincorporated) entrepreneurs declines for Gen-Xers from ages 44-51 but not for Boomers. Additionally, this propensity declines faster for Boomers than for Traditionalists from ages 63-70.

Appendix A.4.1 Switching from full-time wage employment to HE (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching			After matching		
	Treated		Control	Treated		Control
	Mean	Variance	Mean	Variance	Mean	Variance
Life satisfaction	7.331	1.201	7.444	1.348	7.331	1.471
Job satisfaction	7.383	1.494	7.187	1.897	7.383	1.673
Leisure time satisfaction	6.206	2.577	6.709	2.574	6.206	3.015
Age	50.06	109.5	46.49	130.4	50.06	109.3
Age2	2615	1130999	2292	1119847	2615	1063721
Gender	.7097	.2068	.505	.25	.7097	.2062
Married	.4731	.2502	.5463	.2479	.4731	.2493
Education	14.11	9.912	12.72	7.602	14.11	9.428
Organization type	.2294	.1774	.2565	.1907	.2294	.1768
Income gap	.04646	.04538	.09012	.1113	.04646	.07815
Agreeableness	4.802	.5056	4.787	.523	4.802	.5129
Conscientiousness	4.858	.3765	4.853	.3647	4.858	.3509
Extraversion	4.928	.6543	4.909	.5773	4.928	.5855
Openness	4.928	1.335	4.592	1.347	4.928	1.252
Neuroticism	4.153	.6808	4.19	.7276	4.153	.6978

Note: As shown in the matching columns, those individuals who switched to HE (treated) display higher levels of age and lower satisfaction with leisure time and a higher ratio of male individuals. Concerning the personality traits, individuals of the treatment group show higher openness scores.

Appendix A.4.2 Switching from full-time wage employment to self-employment (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching			After matching		
	Treated		Control	Treated		Control
	Mean	Variance	Mean	Variance	Mean	Variance
Life satisfaction	7.255	1.299	7.447	1.349	7.255	1.554
Job satisfaction	7.154	1.51	7.189	1.905	7.154	1.933
Leisure time satisfaction	6.243	2.626	6.715	2.57	6.243	2.999
Age	48.99	133.2	46.48	130.2	48.99	133
Age2	2533	1348869	2290	1116341	2533	1244780
Gender	.5598	.2468	.5062	.25	.5598	.2464
Married	.4983	.2504	.547	.2478	.4983	.25
Education	13.35	8.357	12.72	7.626	13.35	8.762
Organization type	.186	.1517	.2579	.1914	.186	.1515
Income gap	.07596	.1489	.08977	.1104	.07596	.09675
Agreeableness	4.8	.5402	4.787	.5221	4.8	.5198
Conscientiousness	4.834	.3318	4.853	.3652	4.834	.3605
Extraversion	4.935	.593	4.909	.5774	4.935	.5848
Openness	4.943	1.338	4.59	1.345	4.943	1.268
Neuroticism	4.218	.6966	4.189	.7281	4.218	.7181

Note: As shown in the matching columns, those individuals who switched to full-time entrepreneurship (treated) display a higher age and lower life satisfaction and leisure time satisfaction. Moreover, the ratio of public service employees is lower for the treatment group. Concerning the personality traits, individuals of the treatment group show higher openness scores.

Appendix A.4.3 Switching from HE to full-time entrepreneurship (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching			After matching		
	Treated		Control	Treated		Control
	Mean	Variance	Mean	Variance	Mean	Variance
Life satisfaction	7.161	1.317	7.587	1.147	7.161	1.935
Job satisfaction	7.195	1.563	7.722	1.641	7.195	2.86
Leisure time satisfaction	5.854	3.059	6.358	2.769	5.854	3.531
Age	48.31	122.8	51.14	123.2	48.31	125.5
Age2	2456	1200858	2736	1211125	2456	1157032
Gender	.7033	.2091	.7143	.2091	.7033	.2138
Married	.4989	.2505	.6667	.2276	.4989	.2561
Education	13.74	9.525	15.01	9.445	13.74	9.924
Income gap	.09533	.1206	.1072	.02853	.09533	.01958
Hybrid intensity	.1503	.07168	.09403	.01101	.1503	.01758

Note: As shown in the matching columns, those individuals who switched to full-time entrepreneurship out of HE (treated) are younger and display a lower life, job, and leisure time satisfaction. Moreover, the treatment group displays less years invested in education and a higher hybrid intensity (higher ratio of income out of self-employment vs. wage-employed income). Also, the proportion of married individuals is lower in the treatment group.

Appendix A.4.4 Switching from HE to full-time wage employment (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching						After matching					
	Treated			Control			Treated			Control		
	Mean	Variance		Mean	Variance		Mean	Variance		Mean	Variance	
Life satisfaction	7.259	1.223		7.26	1.302		7.259	1.223		7.258	1.114	
Leisure time satisfaction	6.343	2.475		6.156	2.379		6.343	2.475		6.343	2.358	
Age	49.16	118.6		54.75	94.51		49.16	118.6		49.18	124.1	
Age2	2535	1132978		3087	988860		2535	1132978		2537	1175233	
Gender	.756	.1856		.7	.2211		.756	.1856		.7558	.1943	
Married	.5119	.2514		.55	.2605		.5119	.2514		.5117	.263	
Education	14.71	8.863		15.45	8.734		14.71	8.863		14.71	8.468	
Income gap	.1297	.07366		.08829	.03959		.1297	.07366		.1297	.05381	
Hybrid intensity	.05425	.009375		.056	.002497		.05425	.009375		.05427	.002182	
Conscientiousness	4.792	.5172		4.867	.4491		4.792	.5172		4.791	.2397	
Extraversion	4.859	.5888		4.867	.7766		4.859	.5888		4.858	.7127	
Openness	4.737	1.201		4.7	1.168		4.737	1.201		4.737	1.04	
Neuroticism	4.157	.6227		4.2	.2386		4.157	.6227		4.157	.2213	

Note: As shown in the matching columns, those individuals who switched to full-time wage employment out of HE (treated) are younger. Moreover, the treatment group displays less years invested in education and a higher income gap.

Appendix A.4.5 Switching from single job holding to dual job holding (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching			After matching		
	Treated		Control	Treated		Control
	Mean	Variance	Mean	Variance	Mean	Variance
Life satisfaction	7.348	1.345	7.462	1.365	7.348	1.482
Job satisfaction	7.169	1.723	7.212	1.947	7.169	1.982
Leisure time						
satisfaction	6.666	2.426	6.681	2.727	6.666	2.748
Age	48.86	127.6	46.48	133.8	48.86	127.6
Age2	2515	1241169	2294	1156339	2515	1174060
Gender	.4496	.2475	.5266	.2493	.4496	.2475
Married	.5234	.2495	.5577	.2467	.5234	.2495
Education	12.96	8.254	12.79	7.74	12.96	7.927
Organization type	.2807	.202	.2391	.1819	.2807	.2019
Income gap	-.03263	.1936	.1024	.1048	-.03263	.2461
Agreeableness	4.802	.5234	4.784	.5237	4.802	.53
Conscientiousness	4.831	.3783	4.854	.3611	4.831	.3613
Extraversion	4.914	.5544	4.909	.582	4.914	.588
Openness	4.658	1.372	4.618	1.352	4.658	1.379
Neuroticism	4.219	.7299	4.181	.7287	4.219	.7238

Note: As shown in the matching columns, those individuals who switched to dual job holding (treated) are younger and display a higher proportion of female individuals. Moreover, the treatment group displays a lower and negative income gap.

Appendix A.4.6 Switching from dual job holding to single job holding (Descriptive statistics before and after matching; Chapter 4)

Variable	Before matching				After matching			
	Treated		Control		Treated		Control	
	Mean	Variance	Mean	Variance	Mean	Variance	Mean	Variance
Job satisfaction	7.159	2.004	7.26	2.973	7.159	2.004	7.159	2.448
Leisure time								
satisfaction	6.68	2.771	6.186	2.863	6.68	2.771	6.68	2.903
Gender	.4384	.2462	.7308	.2046	.4384	.2462	.4385	.2561
Married	.5178	.2497	.5769	.2538	.5178	.2497	.518	.2597
Organization type	.2608	.1928	.1923	.1615	.2608	.1928	.2607	.2005

Note: As shown in the matching columns, those individuals who switched back to single job holding (treated) display higher leisure time satisfaction and a higher proportion of female individuals. Moreover, the treatment group displays a higher proportion of civil servant employees.

Appendix A.4.7 Results of Ardianti et al. (2022): Switching from full-time wage employment to HE (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from full-time wage employment to HE	-.094 (.065)	-.060 (.067)
R^2	.000	.000

Note: Includes dummies for survey years, standard errors in parentheses.

Appendix A.4.8 Results of Ardianti et al. (2022): Switching from full-time wage employment to full-time entrepreneurship (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from full-time wage employment to full-time entrepreneurship	.728*** (.105)	.065 (.089)
R^2	.042	.000

Note: Includes dummies for survey years, standard errors in parentheses.

Appendix A.4.9 Results of Ardianti et al. (2022): Switching from HE to full-time entrepreneurship (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from HE to full-time entrepreneurship	.996*** (.225)	.403* (.231)
R^2	.084	.017

Note: Includes dummies for survey years, standard errors in parentheses.

Appendix A.4.10 Results of Ardianti et al. (2022): Switching from HE to full-time wage employment (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from HE to full-time wage employment	-.001 (.107)	-.043 (.122)
R^2	.000	.000

Note: Includes dummies for survey years, standard errors in parentheses.

Appendix A.4.11 Results of Ardianti et al. (2022): Switching from full-time wage employment to dual job (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from full-time wage employment to dual job holding	-.059 (.063)	-.091 (.065)
R^2	.000	.000

Note: Includes dummies for survey years, standard errors in parentheses.

Appendix A.4.12 Results of Ardianti et al. (2022): Switching from dual job holding to full-time wage employment (Chapter 4)

	Job satisfaction b/se	Life satisfaction b/se
Switching from dual job holding to full-time wage employment	.080 (.075)	-.028 (.076)
R^2	.000	.000

Note: Includes dummies for survey years, standard errors in parentheses.