

Title:

Balancing Acts: Exploring Well-Being in Academic Entrepreneurship

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Summary: Academic entrepreneurship allows academics to commercialize their research but requires navigating dual roles, impacting well-being. Balancing academic obligations with entrepreneurial demands presents unique challenges, yet research on academic entrepreneurs' well-being remains limited. This study examines how entrepreneurial endeavors affect well-being through interviews and longitudinal diaries. Findings show that intrinsically driven academics experience excitement and a sense of purpose, while those entering due to external factors often face hesitation and self-doubt, especially when lacking business-related skills. As they progress, stress and role conflicts emerge, making interpersonal dynamics and institutional support crucial in mitigating tensions. Academics who engage and succeed in identity work—integrating both roles—report greater resilience, satisfaction, and a stronger sense of identity. This study enriches entrepreneurship and identity research by highlighting the psychological impact of hybrid roles, offering valuable insights for universities and policymakers to better support academic entrepreneurs.

Word count of the main body: 4114

Plan for paper development prior to conference presentation:

To prepare for the upcoming conference, I will focus on developing the finding and discussion sections, creating a process model to explain the patterns emerging from the findings. This will ensure that the discussion comprehensively addresses the implications of the results and situates them within the broader context of existing research. These enhancements will provide a solid foundation for a thorough and engaging presentation at the conference.

Introduction

In recent decades, there has been a significant rise in academics transitioning from universities to the startup world. Traditionally, faculty members serve as educators and researchers, but universities are now seen as catalysts for economic growth and innovation (Etzkowitz, 2003). This shift has led to the concept of the ‘entrepreneurial university’ (Clark, 1998), aligning with the mission of contributing to economic development by translating research into practical applications. The surge in academic entrepreneurship involves the commercialization of university-based technologies (Siegel & Wright, 2015). However, academics often lack the necessary skills and resources for the high-risk entrepreneurial path (Hayter et al., 2018), making this transition challenging. Entrepreneurship, though often associated with autonomy and job satisfaction (Cardon et al., 2009; Fini et al., 2018), is also characterized by stress, uncertainty, and emotional strain (Stephan, 2018; Uy et al., 2013). Academic entrepreneurs face the added burden of balancing research, teaching, and commercialization responsibilities (Jain et al., 2009; Rasmussen & Wright, 2015). They often find themselves navigating an intricate and sometimes conflicting set of expectations, which involves a complex identity transformation. Caught in a tug-of-war between adhering to academic obligations, meeting research expectations, and pursuing entrepreneurial endeavors, scientists can experience internal role tensions when balancing scientific and commercialization-oriented goals, contributing to identity misalignments and psychological strain (Meek & Wood, 2016). As universities increasingly encourage their faculty to transfer their research to society, it becomes particularly timely to investigate the complex circumstances under which academic entrepreneurs form their entrepreneurial identities—and the emotional toll this identity work may entail. To address this gap, we ask: *How do academic entrepreneurs make sense of their dual identities (academic and entrepreneurial) over time?*

Drawing on role identity theory (Powell & Baker, 2017; Ibarra & Barbulescu, 2010) and entrepreneurial identity formation (Hoang & Gimeno, 2010; Murnieks et al., 2014; Hayter et al., 2021), we adopted an exploratory process-oriented qualitative research design (Langley, 1999) to gain in-depth insights into the lived experiences of academics engaging in entrepreneurial activities. We focused on exploring the entrepreneurial identity formation process in academic entrepreneurs and the psychological fluctuations dynamically tied to this journey. Data was gathered through semi-structured interviews and qualitative diaries with 12 participants from various STEM disciplines. The first round of interviews explored motivations, challenges, and well-being shifts during their entrepreneurial journey. Participants recorded diary entries every two weeks over six months to reduce retrospective bias (Pettigrew, 1990) and capture real-time, first-person insights into emotional responses to dual pressures. A final interview round clarified diary entries and emerging themes. We employed an inductive approach to identify key events and phases based on participants' narratives. This analysis mapped the well-being trajectory of participants within a broader process model. Focusing on how external factors (e.g., institutional pressures, workload) and internal dynamics (e.g., identity work, self-perception) shaped academic entrepreneurs' experiences, we illustrate how their well-being was intertwined with the development of their dual identity over time. Findings reveal that the journey of academic entrepreneurs typically begins with a trigger—either intrinsic or extrinsic. Those driven by intrinsic motivations, such as a passion for translating their research into societal impact, tend to approach entrepreneurship with excitement, curiosity, and optimism, mitigating uncertainties about the future, particularly in those with prior exposure to entrepreneurship or innovation ecosystems. Conversely, academics entering entrepreneurship due to extrinsic triggers, such as being invited to join a venture initiated by collaborators, often experience hesitation and self-doubt.

Particularly pronounced in individuals who perceive themselves as lacking business-related skills, this amplifies anxiety and creates barriers to full engagement in entrepreneurial activities. Moreover, interpersonal dynamics play a significant role in shaping their well-being and entrepreneurial identity. Academics who share strong, trusting relationships with their entrepreneurial collaborators report feeling more motivated and secure in their ventures, even when entrepreneurship was not their initial goal. By contrast, those who lack prior familiarity with their collaborators or experience interpersonal tensions may find the transition more challenging. For them, doubts about their ability to contribute effectively to the entrepreneurial endeavor can further exacerbate stress. As academic entrepreneurs progress in their journey, they encounter the growing complexity of balancing academic and entrepreneurial responsibilities. Time management emerges as a critical challenge due to the sheer volume of work, leading to stress, exhaustion, and, in some cases, burnout. Nevertheless, this journey also presents opportunities for growth and resilience. Participants who engaged in deliberate identity work (actively integrating their academic and entrepreneurial roles) found ways to manage their dual responsibilities more effectively, which appears to mitigate stress and foster a sense of satisfaction. Others, instead, decide to scale back their entrepreneurial involvement, choosing to prioritize their academic roles. On the contrary, some decide to quit academia to fully transition to entrepreneurship. These decisions are often influenced by factors such as personal values, institutional support, and team dynamics, which highlight the importance of institutional and social support in shaping academic entrepreneurs' pathways.

By engaging with entrepreneurial identity formation literature (Ibarra & Barbulesco, 2010; Pratt et al., 2006), this study aims to advance understanding of how the transition from '*pure academic*' to '*academic entrepreneur*' influences well-being—and how well-being, in turn, shapes

identity development. While existing research has predominantly focused on economic outcomes of academic entrepreneurship, this study offers novel insights into psychological dimensions, particularly the role conflicts and identity tensions that emerge in the process of constructing and navigating a dual identity.

Theoretical background

In recent decades, universities have transformed from traditional education and research roles to key players in economic development and innovation. This shift has led to the concept of the entrepreneurial university (Clark, 1998), where institutions engage in activities like technology transfer, patents, research collaborations, and spin-off ventures (Etzkowitz & Leydesdorff, 2000; Lockett et al., 2005). Universities now contribute to innovation ecosystems, translating knowledge into commercial applications, and placing pressure on academics to engage in commercialization activities, leading to a rise in ‘academic entrepreneurship’ (Siegel & Wright, 2015). Academics now often create spin-offs to bring research-based innovations to market (Mathisen & Rasmussen, 2019), contributing to knowledge transfer and economic development while providing new career pathways. While academic entrepreneurship offers opportunities like societal impact and financial rewards, it also presents challenges. Some academics see it as a way to enhance their work's societal impact, while others struggle with securing funding and understanding market dynamics, leading to stress and uncertainty (Balven et al., 2018). While scholars have called for micro-level investigations into the experiences of academic entrepreneurs, focusing on decision-making, identity shifts, and psychological well-being (Balven et al., 2018), there remains a notable gap in understanding how these entrepreneurial pursuits impact faculty members' mental health.

The World Health Organization (WHO) defines mental health as “a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and

work well, and contribute to their community” (World Health Organization, 2022, p. 1). Mental health includes psychological, emotional, and social aspects, and needs to be understood as a continuum ranging from positive mental health (well-being) to negative mental health (ill-being).

In the entrepreneurship context, these two aspects of mental health are closely intertwined, with research suggesting that entrepreneurs usually experience both greater well-being and more intense distress compared to conventional employment (Baron et al., 2016). On one hand, the stress and uncertainty associated with the demands of launching and running a business can negatively impact entrepreneurs’ well-being (Shepherd et al., 2009; Williamson et al., 2021). The workload associated with entrepreneurship can in fact be intense. Long working hours and the constant pressure to perform well can lead to physical exhaustion and mental strain, potentially leading to burnout (Stephan, 2018). Financial stress is another significant factor that can affect an entrepreneur’s well-being. The fear of losing personal funds, managing unpredictable income, dealing with investors, or facing potential failure can create significant stress. Entrepreneurs face also the possibility of business failure, which brings both financial and emotional burdens, impacting their overall mental health.

On the other hand, entrepreneurship can also contribute positively to an individual’s well-being. Entrepreneurs often pursue ventures that align with their passions, leading to high levels of engagement and satisfaction (Cardon et al., 2009). When successful, entrepreneurship can lead to significant financial rewards, providing a sense of security and stability. Many entrepreneurs also strive to make a positive impact on society through their ventures, and this sense of purpose can enrich their emotional well-being (Fini et al. 2018). Moreover, the autonomy and flexibility associated with entrepreneurship often allow for more control over work routines and schedules, contributing to a healthier work-life balance and a sense of empowerment and satisfaction (Benz

& Frey, 2008). Entrepreneurship can also provide opportunities for personal growth and learning. The same obstacles that threaten well-being, such as challenges and setbacks, can foster resilience and personal development over time, contributing to emotional well-being (Stephan, 2018).

Despite the surge of well-being studies in entrepreneurship literature, there is a noticeable research gap when it comes to academic entrepreneurship. Like other professionals, faculty members are already subject to significant job-related stress due to factors like time constraints, work overload, and work-life imbalance (Tytherleigh et al., 2005; Salimzadeh et al., 2017). This job-related stress might compromise both physical and psychological well-being and impair their productivity. Additionally, research has shown that faculty job satisfaction is affected by organizational factors such as leadership, relationships with colleagues, students, and administrators, and personal perceptions of the university culture (Eagan et al., 2015; Hagedorn, 2000; Moors et al., 2014). When academics take on the entrepreneurial role, both the existing distress and well-being resources get mixed with the new, complex set of well-being resources and stressors of entrepreneurship. As mentioned, entrepreneurship is often a fulfilling yet challenging journey, and this might be even more amplified in the context of academic entrepreneurship due to the dual pressures and opportunities coming from balancing academic responsibilities with entrepreneurial activities (Rasmussen & Wright, 2015). Academic entrepreneurs, in fact, operate at the intersection of two worlds – the academic world, characterized by the pursuit of knowledge and the pressure to publish, and the business world, characterized by the pursuit of profit and the pressure to innovate (Jain et al., 2009). Academics often lack business-related competencies and must learn entrepreneurial skills on the job, adding to the cognitive and emotional burden (Hayter et al., 2018). Given the dual demands and pressures, academic entrepreneurs often find themselves navigating a complex and sometimes conflicting set of expectations, involving a complex identity

transformation. Indeed, they must navigate complex commercialization processes while maintaining academic responsibilities (Shane, 2004; Hayter et al., 2018), posing identity-related challenges. The resulting ‘*hybridity*’ can lead to ill-being, role conflicts, and tensions, but it can also improve their satisfaction and provide novel opportunities for innovation beyond the traditional academic boundaries.

Hence, engaging in academic entrepreneurship involves more than a simple role shift. During their entrepreneurial endeavor, academics are required to adopt and possibly internalize a new identity as an entrepreneur. The concept of entrepreneurial identity formation is thus crucial for understanding how academic entrepreneurs navigate challenges. Entrepreneurial identity refers to how individuals define themselves as entrepreneurs and how this self-concept influences their behaviors, emotions, and decision-making (Hoang & Gimeno, 2010; Murnieks et al., 2014). For academic entrepreneurs, this identity formation is complex, as they must integrate a new entrepreneurial role into their existing academic identity (Jain et al., 2009). Identity formation is dynamic, involving phases of exploration, play, and incorporation (Hayter et al., 2021). Faculty who engage in deliberate identity work are more likely to balance their academic and entrepreneurial commitments. Some faculty embrace the entrepreneurial mindset easily, while others experience cognitive dissonance—a psychological tension from misaligned academic and commercial values (Meek & Wood, 2016). Academia values research impact and knowledge dissemination, while entrepreneurship prioritizes market viability and financial success (Jain et al., 2009). The pressure to publish, secure grants, and fulfill teaching responsibilities can clash with business demands, leading to identity tensions (Ambos et al., 2008; Meek & Wood, 2016). These contrasting priorities create role conflicts, where academics struggle to reconcile their identities as scientists and entrepreneurs.

Role identity refers to the identification of the self in relation to specific roles and behaviors that others expect from the person. When individuals take on a role label, then the role itself becomes the identity for them (Powell & Baker, 2017). In the academic entrepreneurship context, the formation of an entrepreneurial identity requires not only the adoption of new entrepreneurial roles and responsibilities, but also continuously negotiating and balancing the existing academic identity (Jain et al., 2009). As one of the first studies examining the sensemaking process behind the academic's decision to engage in commercialization activities, Jain et al. (2009) conceptualize this process as a “*reconstruction*” (p.931) of the role identity of academics. They construct a *hybrid role identity* for themselves with the aim of preserving their (focal) academic role identity even as they participate in (secondary) commercialization activities. These findings align with the identity theory perspective by which a person's self-concept is comprised of a myriad of identities (Stryker and Burke, 2000). This is especially relevant in academic entrepreneurship, because academics are recognized as having potentially many roles – faculty member, researcher, teacher, inventor, and entrepreneur (Balven et al., 2018).

The tensions deriving from such hybrid identity formation can lead to both strain and resilience. As academics adapt to entrepreneurial roles, they engage in identity work to reconcile old goals with new demands, integrating their existing values and aspirations into the emerging entrepreneurial self (Ibarra & Barbulescu, 2010). In line with this, Hayter et al. (2021) describe the process of becoming an academic entrepreneur as one of identity evolution, progressing through stages of exploration, development, and enactment, where academics gradually incorporate the entrepreneurial role into their self-concept.

Further studies suggest that passion and social influences play a key role in this process. Huyghe and colleagues (2016) demonstrated that the passion related to the academics' (actual)

role identity and the passion related to the (possible) entrepreneurial identity jointly influence their entrepreneurial intentions. Along these lines, Wang et al. (2023) highlight that academics whose entrepreneurial identity is central to their self-concept are more likely to engage in entrepreneurial activities, particularly when supported by a university's entrepreneurial mission. In this sense, social influences play a significant role in shaping entrepreneurial identity. Positive reinforcement from mentors, investors, or collaborators helps academics persist in their ventures and internalize an entrepreneurial identity (Grimes, 2018). Conversely, institutional resistance or lack of support may cause role strain, leading to disengagement from commercialization efforts. Universities play a crucial role in facilitating entrepreneurial identity formation by providing resources, mentorship, and funding (Guo et al., 2019). However, institutions emphasizing traditional academic metrics may create barriers to entrepreneurial engagement.

In conclusion, while the hybrid role of academic entrepreneurs offers opportunities for knowledge transfer and innovation, it also introduces psychological complexities that require further exploration. Academic entrepreneurs must navigate identity tensions, institutional pressures, and well-being challenges, making it essential to examine the interplay between entrepreneurial identity formation and mental health.

Methodology

We adopted an exploratory process-oriented qualitative research design to gain in-depth insights into the lived experiences of academics engaging in entrepreneurial activities. This study focuses on exploring the entrepreneurial identity formation process in academic entrepreneurs and the psychological fluctuations dynamically tied to this journey. A process methodology is especially suited for studies where the temporal flow of experiences is crucial to understanding the

phenomenon under study, as in our case (Langley, 1999). Initially, the focus of our study was solely on investigating how their well-being fluctuates while juggling the academic and entrepreneurial roles. However, as data collection and analysis progressed, it became clear that entrepreneurial identity formation dynamics played a significant role in impacting academic entrepreneurs' well-being, and vice versa. We thus decided to incorporate the entrepreneurial identity formation literature at a later stage of our analysis, offering a valuable theoretical lens through which interpret and explain our findings through a processual narrative. To reduce problems of retrospective bias (Pettigrew, 1990) and capture real-time variations in well-being, we combined retrospective semi-structured interviews with longitudinal qualitative diaries (Barlett & Milligan, 2020) to collect rich data. This combination enabled participants to express their lived experiences and provided insights into how academic entrepreneurs' challenges and opportunities from juggling their dual role shaped and are shaped by their well-being over time.

Research context and Data Selection

Our study took place at the Technical University of Denmark (DTU). Being recently ranked as best technical university in Europe for its research-driven innovation and commercialization success (EngiRank, 2023), DTU bases its research work primarily on innovation aimed at reaching social utility. Commercialization of DTU scientific results has led to over 1,200 commercialization projects (EngiRank, 2023). This achievement was possible also thanks to the Danish 1999 legislation 'Act on inventions at public research institutions'. The act aimed at strengthening the commercialization of publicly funded research by transferring IP rights from the individual researcher to the university, creating a fertile ground for academic entrepreneurship. Despite difficulties in obtaining funding due to the lack of specialized venture funds and investors, Danish

researchers and universities produce world-class groundbreaking results and discoveries, especially from STEM disciplines, making DTU a fruitful context for our study.

We invited 76 academic entrepreneurs from various STEM disciplines at DTU to take part in the longitudinal study. Out of the invited pool of academic entrepreneurs, 14 agreed to participate, though two participants later withdrew due to scheduling conflicts. The final sample consisted thus of 12 academic entrepreneurs (Table 1), which provided a quite diverse perspective on their entrepreneurial experiences. All participants agreed to GDPR regulations at the beginning of the first interview, and confidentiality and anonymity were assured.

Table 1: List of informants and background details.

	Gender	Academic role	Academic domain	Startup role	Previously created startups
Case 1	Male	PhD	Entrepreneurship	CEO	1
Case 2	Male	Senior Researcher	Photonics	Technical advisor	0
Case 3	Female	Full Professor	Chemical Engineering	Chief Scientific Officer	0
Case 4	Male	Postdoc	Photonics	CEO	0
Case 5	Male	Postdoc	Photonics	Chief Product Officer	0
Case 6	Male	Senior Researcher	Health Tech	CEO	1
Case 7	Male	Full Professor	Management Engineering	Modeling Lead	1
Case 8	Male	Full Professor	Physics	Technical advisor	0
Case 9	Male	Senior Researcher	Biological Engineering	Chief Scientific Officer	0
Case 10	Male	Associate Professor	Computer Science	Chief Research Officer	1
Case 11	Male	Full Professor	Energy	CEO	0
Case 12	Male	Full Professor	Chemistry	Technical advisor	2

Data collection

Our data collection consisted of a combination of two main approaches – i.e. semi-structured interviews and qualitative diaries – spanning June 2023 to April 2024. The first round of data collection involved semi-structured interviews designed to retrospectively explore participants' decisions to pursue entrepreneurship, the opportunities and challenges they encountered, and the effects on their well-being since the beginning of their entrepreneurial endeavor. Interviews were conducted in person between June and September 2023, lasting approximately one hour each. The interview guide included open-ended questions to allow participants to narrate their entrepreneurial stories freely. Each interview was then recorded and transcribed using the online transcription software Otter.ai.

To longitudinally follow real-time variations in the academic entrepreneurs' well-being, the second round of data collection required the use of qualitative diaries (Barlett & Milligan, 2015). Diary entries can in fact provide valuable first-person accounts of experiences and emotions, offering researchers insights into participants' private perceptions and lived realities (Bolger et al., 2003). However, using diaries in a qualitative study entails risks that need to be considered to not undermine the validity and reliability of the research. In that sense, choosing the right time interval for sending the diaries is a sensitive matter. A too long interval might generate recall biases in the participants. At the same time, there might be a high risk of respondent burden if the chosen interval is too short, especially in qualitative studies. To mitigate the respondent burden without incurring recall biases, we decided to send the diaries every other week over a period of 6 months.

To further counter the respondent burden, participants were asked to reflect on work-related events by answering one broad, open-ended question. Using only one broad question was

thought to ensure flexibility to the participant in terms of time and commitment. At the same time, this choice helped spark self-reflection and capture real-time emotional responses to specific experiences or events regarding, for example, the work dynamics from parallelly handling tasks from both jobs, tensions arising in the workplace, or milestones achieved in the previous two weeks. Overall, this approach helped mitigate recall biases and allowed us to gather first-person accounts of how participants navigated the dual opportunities and pressures of academia and entrepreneurship over time.

After the diary period ended, a second round of semi-structured interviews was conducted, averaging 40 minutes per interview. These interviews served mainly to clarify events reported in the diaries. Moreover, because of the flexibility they had in answering the diaries, the interview was crucial in gaining additional insights, particularly from participants who had provided less details in their diary entries.

Data analysis

Following the process methodology (Langley, 1999), our analysis examined how academic entrepreneurs' well-being evolved through different stages of their entrepreneurial journey. We employed an inductive approach to identify key phases based on participants' narratives. Three recurring stages emerged: (1) Engaging in entrepreneurship, (2) Navigating dual demands, and (3) Deciding on the path. We incorporated entrepreneurial identity formation literature to interpret the interplay between identity and well-being across these stages. The literature helped contextualize identity shifts, with Engaging in entrepreneurship corresponding to 'identity exploration', Navigating dual demands aligning with 'identity play', and Deciding on the path reflecting 'identity incorporation and enactment'. Finally, we examined patterns of well-being fluctuations within each stage, focusing on how external factors (e.g., institutional pressures, workload) and

internal dynamics (e.g., identity work, self-perception) shaped academic entrepreneurs' experiences. This analysis mapped the well-being trajectory of participants within a broader process model, illustrating how their well-being was intertwined with the development and reconciliation of their dual identity over time.

Preliminary findings

This study finds that the journey of academic entrepreneurs typically begins with a trigger—either intrinsic or extrinsic. Those driven by intrinsic motivations, such as a passion for translating their research into societal impact, tend to approach entrepreneurship with excitement, curiosity, and optimism. This enthusiasm often mitigates uncertainties about the future, particularly in those with prior exposure to entrepreneurship or innovation ecosystems. Conversely, academics entering entrepreneurship due to extrinsic triggers, such as being invited to join a venture initiated by collaborators, often experience hesitation and self-doubt. These feelings are particularly pronounced in individuals who perceive themselves as lacking business-related skills, which can amplify anxiety and create barriers to full engagement in entrepreneurial activities.

Moreover, this study finds that interpersonal dynamics play a significant role in shaping well-being. Academics who share strong, trusting relationships with their entrepreneurial collaborators report feeling more motivated and secure in their ventures, even when entrepreneurship was not their initial goal. By contrast, those who lack prior familiarity with their collaborators or experience interpersonal tensions may find the transition more challenging. For these individuals, doubts about their ability to contribute effectively to the entrepreneurial endeavor can further exacerbate stress.

As academic entrepreneurs progress in their journey, they encounter the growing complexity of balancing academic and entrepreneurial responsibilities, feeling stretched between the dual expectations of publishing, teaching, and managing their startup. Time management emerges as a critical challenge due to the sheer volume of work, leading to stress, exhaustion, and, in some cases, burnout. These experiences highlight the emotional toll of navigating two demanding roles simultaneously. However, this journey also presents opportunities for growth and resilience. Participants who engaged in deliberate identity work—actively integrating their academic and entrepreneurial roles—found ways to manage their dual responsibilities more effectively, which appears to mitigate stress and foster a sense of satisfaction. Others, instead, decide to scale back their entrepreneurial involvement, choosing to prioritize their academic roles. These decisions are often influenced by factors such as institutional support, team dynamics, and personal values, which highlights the importance of institutional and social support in shaping academic entrepreneurs' pathways. Universities that provide resources, mentorship, and flexibility can play a pivotal role in helping academics navigate these critical junctures.

Contributions

This study enhances the theoretical understanding of well-being in academic entrepreneurship, offering practical insights for academic entrepreneurs and policymakers. It explores how academics transition from *'pure academic'* to *'academic entrepreneur'*, highlighting opportunities and challenges. By examining the psychological effects of this identity shift, the study provides support directions for academic entrepreneurs' well-being. It also offers novel insights into entrepreneurial identity construction and its impact on well-being, addressing role conflicts and identity tensions. Additionally, the study extends the understanding of hybrid entrepreneurship,

where individuals balance entrepreneurial activities with a primary occupation, and how this hybrid identity development affects well-being.

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