

## **Hidden Stories and The Dark Side of Entrepreneurial Commitment**

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### **Abstract**

*Purpose:* Entrepreneurs are generally considered to be committed in order to strive for highly desirable goals, such as growth or commercial success. However, commitment is a multi-dimensional concept and may have asymmetric relationships with positive or negative entrepreneurial outcomes. This paper aims to provide a nuanced perspective to show under what conditions commitment may be detrimental for entrepreneurs and lead to overinvestment.

*Design/methodology/approach:* Using a sample of entrepreneurs from incubators in France (N=568), this study employs a configurational perspective, fuzzy-set qualitative comparative analysis (fsQCA), to identify which commitment profiles lead entrepreneurs to overinvest different resources in their entrepreneurial projects.

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*Findings:* The paper exposes combinations of conditions that lead to overinvestment and identifies four different commitment profiles: an “Affective profile”, a “Project committed profile”, a “Profession committed profile” and an “Affective project profile” (defined in Appendix 1).

*Originality:* The results show that affective commitment is a necessary condition for entrepreneurs to conduct overinvesting behaviors. This complements previous linear research on the interdependence between affect and commitment in fostering detrimental outcomes for nascent entrepreneurs.

**Keywords:** *commitment, nascent entrepreneurship, overinvestment, health, stress*

## INTRODUCTION

The burgeoning scholarly and practical interest in entrepreneurial commitment research is evidenced by a growing body of work (e.g., Caputo and Pellegrini, 2020; McDowell et al., 2019; Murnieks et al., 2020; Noack et al., 2018). This trend is partly driven by findings linking a commitment deficiency to the failure of business ventures (Kuratko et al., 2001). Recent studies are increasingly mapping the interconnections between entrepreneurial commitment and various facets of the entrepreneurial process. These include the association of commitment with entrepreneurial alertness (Tang, 2008), passion (Murnieks et al., 2020), persistence (Gabay-Mariani and Boissin, 2021), and the dedication of time both to nurturing professional relationships (Pollack et al., 2015) and to the venture itself (Davidsson and Gordon, 2016).

Assessing the consequences of entrepreneurial commitment presents complexities, as it embodies a multifaceted construct encompassing not only an affective commitment — the emotional attachment an individual associates with a specific goal (Adam and Fayolle, 2015, p. 42) — but also an instrumental commitment, which refers to an individual's consciousness of the financial, material, social, and emotional costs incurred during the pursuit of entrepreneurial endeavors. Previous research has shown that nascent entrepreneurs combine affective and instrumental commitment to improve their entrepreneurial process (Gabay-Mariani and Boissin, 2021). Additionally, entrepreneurs may be committed to multiple focal points in their venture or their entrepreneurial profession (Adam and Fayolle, 2015). Unraveling the layered nature of commitment is crucial, as it underpins the development of resilience (Li et al., 2023) and facilitates the pivotal shift from entrepreneurial intention to tangible action (van Gelderen, 2012).

However, *how* affective and instrumental commitment lead to different behaviors is still a matter of debate, and so is the question if these consequences are unquestionably positive for entrepreneurs (Markovitch *et al.*, 2014; Noack *et al.*, 2018). This is a relevant matter, given that commitment to risky career choices, as entrepreneurship is, can be driven by positive affect (Cardon *et al.*, 2012), but also by negative tendencies to be distressed, upset, nervous, or to have a negative self-view (Aly *et al.*, 2021). For example, venture founders relying on negative affectivity are likelier to pursue an entrepreneurial career (Nikolaev *et al.*, 2020). Furthermore, commitment may escalate and lead to darker, undesirable outcomes and biases, such as when entrepreneurs fall prey to the sunk cost fallacy and overinvest (“throwing good money after bad”; McMullen and Kier, 2016; Sleesman *et al.*, 2018). Nevertheless, research on how different forms of commitment may interact in this direction is still scarce (De Clercq *et al.*, 2009; Gabay-Mariani and Boissin, 2021).

While commitment is intricately linked with affective and behavioral factors, the intricacies of these relationships are multifaceted; they can simultaneously interact on both favorable (e.g. action) and unfavorable outcomes (e.g. overinvestment) for venture growth (Kuratko, 2021). Consequently, given that the relationship between commitment and entrepreneurial behavior is complex, this study calls for nuance to provide a more sophisticated, non-linear examination of commitment in an entrepreneurial context (Lawrence *et al.*, 2003; McMullen and Kier, 2016; Naimi *et al.*, 2022). Providing nuance is even more significant for entrepreneurs relatively new to the field, as they move on a largely unknown path that often contradicts initial motivations and challenges perseverance strategies (Li *et al.*, 2023) to keep on track with business creation goals without prior experience to deal with these challenges (Van Gelderen *et al.*, 2015).

Given that the dominant approach to empirically investigate commitment relationships has been primarily linear (e.g., Breugst *et al.*, 2012; Tasnim and Singh, 2016), recent studies point to configurational approaches that complement traditional linear data analysis to provide “richer explanations of entrepreneurial decision-making” (e.g., Douglas *et al.*, 2020, p. 14; Huarng and Yu, 2022; Santos *et al.*, 2021). The current study builds on this emerging literature to explain the heterogeneity and complexity via a fuzzy-set qualitative comparative analysis (fsQCA) associated with entrepreneurial commitment and its detrimental consequences for entrepreneurs (Naimi *et al.*, 2022).

In the domain of entrepreneurship research, fsQCA has emerged as a robust tool due to its ability to provide a more nuanced understanding of entrepreneurial dynamics (Douglas *et al.*, 2020; Kraus *et al.*, 2018; Santos *et al.*, 2021). The method is rapidly increasing its use for business and management studies, as it is better suited to capturing heterogeneity and complexity than traditional linear data analysis methods (Misangyi *et al.*, 2017). fsQCA manages the challenges posed by data asymmetry and acknowledges the intertwined nature of antecedent factors. It allows researchers to discern asymmetrical data connections to unveil multiple, equally viable routes, should such paths exist. Specifically, fsQCA delves into the intricate within-case relationships among the antecedent factors, termed 'conditions', and typifies instances based on specific combinations of these conditions, labeled as 'configurations', which correlate with the dependent variable or 'outcome'. By distinguishing the standard configuration to a designated outcome from alternative routes, fsQCA offers a methodological contribution to complement conventional symmetric methodologies richly.

In the context of this study, we apply fsQCA to a sample of French nascent entrepreneurs. In France, significant investments have been made to encourage and support entrepreneurial careers (Messeghem et al., 2022). Yet, recent national surveys in France revealed that the risk of burnout for entrepreneurs, defined as a “state of physical, emotional, and mental exhaustion caused by a long-term involvement in situations that are emotionally demanding” (Pines and Aronson, 1988: p. 9), has increased significantly (Torrès *et al.*, 2022).

As such, fsQCA fits best with our study aim because it can demonstrate if and which combinations of commitment forms lead nascent entrepreneurs to overinvest in their entrepreneurial venture (Capatina *et al.*, 2023; Santos *et al.*, 2021), revealing asymmetries that are otherwise hidden in the data (Douglas *et al.*, 2020). This is fundamental for entrepreneurship scholars, practitioners, and policymakers to comprehend the complexity between cognitive, emotional, and behavioral issues (Brundin and Gustafsson, 2013; Kurdoglu *et al.*, 2022; Williamson *et al.*, 2021), as it can enrich our understanding for both innovative theoretical formulations (Leppanen *et al.*, 2019) and practical implications, such as supporting entrepreneurs at the emotional and psychological level.

Overall, this paper offers several contributions. Theoretically, the study uncovers which combinations of conditions lead to overinvesting behavior. The results provide a theoretical contribution to the antecedents of over-investment, specifically for affective and instrumental commitment, targeting both the project and the profession. In particular, the findings allow us to identify four main commitment profiles that represent nascent entrepreneurs who overinvest in their venture: an “Affective profile”, a “Project committed profile”, a “Profession committed profile” and an “Affective project profile”. These profiles demonstrate that overinvestment is

driven by a complex combination of commitment forms among nascent entrepreneurs, with affective commitment standing as a necessary condition of overinvestment. From a methodological point of view, the study further confirms the suitability and promise of non-linear (asymmetric) research in entrepreneurship to advance the understanding of complex issues that may have a multiplicity of explanations (Capatina *et al.*, 2023; Huarng and Yu, 2022; Santos *et al.*, 2021). The study suggests that when high levels of complexity appear (i.e., the research is characterized by general asymmetry) a non-linear approach is the most versatile to adopt and investigate the aspects under examination. Through this approach, the derived complexity can be better understood to provide a more holistic research examination. From a practical perspective, this study opens recent debates for entrepreneurs to rethink their workload and how this relates to their peers.

## THEORETICAL FOUNDATIONS

### A multidimensional view of commitment

Commitment is a binding force to a course of action (Allen and Meyer, 1990; Meyer and Herscovitch, 2001). Early studies on commitment have highlighted the relative strength of individual involvement in organizations but overemphasized a mainly positive association between an individual and an organization as an ideal to reduce performance issues (Mowday *et al.*, 1982). These perspectives have been extended toward a more comprehensive perspective on individual commitment, underlying that individuals may stay employed even when personal and organizational values are inconsistent (Wiener, 1982). When individuals have strong internalized normative beliefs, they may develop a “blind loyalty” to their work, which may lead to exaggerating the investment of resources (such as time) while deprioritizing personal interests (e.g., Gustafsson, 2009; Ugboro, 1993). Commitment

may also be motivated by obtaining certain rewards to conform to social expectations or to avoid sunk costs when individuals maintain relationships without sharing similar values or goals (Mowday *et al.*, 1982; O'Reilly and Chatman, 1986). An overview of the main theoretical and empirical developments of commitment has been summarized in Appendix 2.

Recently, an emerging body of research suggests that commitment could be applied to understand the entrepreneurial intention-action gap (Fayolle and Linan, 2014; Van Gelderen *et al.*, 2015), that is, what leads entrepreneurs to enact their entrepreneurial intentions and persist in the entrepreneurial process (Adam and Fayolle, 2015). For example, necessity entrepreneurs may be less committed to their venture as they have initiated due to a lack of alternative options on the job market and may be susceptible to leaving the venture as soon as paid employment is available (Bosma *et al.*, 2008; Noack *et al.*, 2018). At the same time, entrepreneurs may be overly committed to a venture goal, committing to a losing course of action regardless of whether events are positive or negative (McMullen and Kier, 2016; Sleesman *et al.*, 2018).

Commitment in entrepreneurship is generally considered to be relevant to determining venture emergence (Fayolle, 2007). Entrepreneurs with high levels of commitment experience high levels of job satisfaction due to experienced accomplishments and personal growth (McDowell *et al.*, 2019).

Two primary bases of commitment can be distinguished in an entrepreneurial context: affective (*value-based*) commitment, which refers to an emotional bond and a perceived congruence between the individual, their project, and to their entrepreneurial status, and, on the other side, instrumental (*exchange-based*) commitment, referring to a broad sense of perceived costs – financial, material, social

or affective (Gabay-Mariani, 2022; Meyer *et al.*, 2006)<sup>1</sup>. Entrepreneurs combining affective and instrumental commitments reach higher levels of advancement with their entrepreneurial venture and invest more personal resources (Gabay-Mariani and Boissin, 2021). Entrepreneurship, nevertheless, can be driven by a combination of positive affect (Cardon *et al.*, 2012) and stress at the same time (Aly *et al.*, 2021) in order to chase an entrepreneurial career (Nikolaev *et al.*, 2020), but how these factors interact with affective and instrumental commitment, and when this may become harmful behavior for entrepreneurs, is unresolved (De Clercq *et al.*, 2009; Markovitch *et al.*, 2014; Noack *et al.*, 2018).

Moreover, two focal points of commitment have been identified in the literature (Adam and Fayolle, 2015; Valéau, 2017): the entrepreneurial project and the entrepreneurial profession. The distinction between these two focal points is vital, as entrepreneurs can be ‘tied’ to a given project but also to the profession itself when they identify as ‘being an entrepreneur’ (Bruyat and Julien, 2001). For example, research suggests that entrepreneurs more committed to their profession switch quickly to a new entrepreneurial project (Gabay-Mariani, 2022).

Yet, negative feelings can arise through the entrepreneurial process. Entrepreneurs’ autonomy might be undermined by influential stakeholder demands (customers, employees, suppliers) or institutional constraints (e.g., taxes, corruption, regulations; Blank and Gabay-Mariani, 2021; Bruce and Mohsin, 2006). This harms entrepreneurs’ positive experiences and leads them to make choices detrimental to their well-being and mental health (Naimi *et al.*, 2022; Wiklund *et al.*, 2019). Other

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<sup>1</sup> An important theoretical development was brought by Meyer *et al.*, (2006). In this model, value-based commitment comprises affective commitment, including normative commitment reflecting moral duty (“I am doing it because I believe it is the right thing to do”), and exchange-based commitment, compromising commitment as an indebted obligation (“I do it because I will expose myself to social costs otherwise”).

factors, such as the consideration of the feared financial, material, social, or affective costs associated with stopping the entrepreneurial process, may also influence how entrepreneurs commit and invest in their business (McMullen and Kier, 2016).

Furthermore, commitment can turn into obsessive behavior, resulting in entrepreneurs having feelings of anxiety, burnout, or exhaustion. Emotions, such as the joy of obtaining certain rewards or anxiety about avoiding future punishments, may play a crucial role, even when the values and goals of the entrepreneurial venture are not shared anymore (Lechat and Torrès, 2016; Shepherd *et al.*, 2010; Wei *et al.*, 2015). Commitment may also give rise to cognitive biases in which entrepreneurs fall prey to overinvestment behaviors, where they continue to invest resources in a failing project despite evidence that it is unlikely to succeed (McMullen and Kier, 2016; Sleesman *et al.*, 2018). As a consequence, entrepreneurs, especially those new to the venture creation process, may show different behaviors depending on how much they rely on affective and/or instrumental commitment when they face cognitive biases. This is of concern to entrepreneurs since it may lead to different levels of personal investments (Gellatly *et al.*, 2006). Thus, commitment in an entrepreneurial context appears to be a “multi-dimensional concept” (Adam and Fayolle, 2015; p. 42) as entrepreneurs exhibit different commitment profiles based on a complex set of behavioral and emotional elements.

## **The entrepreneurial process and commitment from a chaordic perspective<sup>2</sup>**

The entrepreneurial process is highly path-dependent and idiosyncratic, as it is shaped by “the uniqueness of entrepreneurs and the opportunity they pursue” (Sarason

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<sup>2</sup> The concept of a ‘chaordic system’ derives from the strong relationship between chaos and complexity (Fitzgerald and Van-Eijnatten, 2002), and takes its name from the term ‘chaord’, which is an amalgamation of the words chaos and order (Van Eijnatten *et al.*, 2007). Such systems include a dynamic and complex connection set between elements that form a unified whole, with unpredictable (chaotic) behavior, whilst simultaneously including specific patterns (order) (Olmedo, 2011).

*et al.*, 2006, p. 287). To make sense of this process, entrepreneurs use their judgment to identify opportunities, select between different strategies, engage with stakeholders, and consequently launch and develop their ventures through purposeful actions (e.g. Alvarez *et al.*, 2020; Bastian and Zucchella, 2022; Foss and Lindenberg, 2013). Commitment to the entrepreneurial process is essential because it triggers alertness and persistence, which are crucial for venture continuation (Tang, 2008; Davidsson and Gordon, 2016). At the same time, understanding the decision-making process of committing resources to a newly established venture is complex and requires a sophisticated approach of inquiry. Under complex conditions, a linear analysis of the research question may not cover the full commitment story (Pappas, 2021).

A starting point to clarify a non-linear analysis can be explained by Complexity Theory, which has evolved from the Theory of Chaos (Levy, 1994; Pappas, 2021) and suggests that several aspects cannot be explained through cause-and-effect relationships. This is because specific effects may appear from random interactions when they lack any kind of deterministic cause (Kretzschmar, 2015).

According to Zahra and Ryan (2007, p.855), Complexity Theory focuses on researching complex aspects and characteristics and “deals with systems that have many interacting agents, and although hard to predict, these systems have structure and permit improvement.” Specifically, complexity can be examined by utilizing fuzzy-set Qualitative Comparative Analysis (fsQCA), a methodology “well-suited to the dealing with the complexity of entrepreneurial” (Douglas *et al.*, 2020, p. 4). In the subsequent section, we expound upon this methodology in greater depth.

## METHOD

### Sample

This research is based on a sample of nascent entrepreneurs operating in French academic incubators. Data were collected from individuals granted the French National Student Entrepreneur Status (NSES). Created by the French Ministry of Higher Education, Research and Innovation, the NSES is an official status granted to every student conducting an entrepreneurial project within higher education in France. It enables individuals to replace an academic curriculum with a full-time period working on an entrepreneurial project, get course-credit equivalencies, and access to one of the 33 academic incubators of the national network. The entrepreneurship status is granted after an assessment by a jury only upon objective proof that the individual was involved in an entrepreneurial project. Thus, it constitutes a relevant filter to target nascent entrepreneurs. The questionnaire was initially sent to more than 3,700 individuals who were granted the NSES during the 2018-2019 academic year. 568 persons replied to the questionnaire.

To identify nascent entrepreneurs, the authors followed Rotefoss and Kolvereid (2005) by crafting a list of entrepreneurial activities and asked if respondents had (1) planned but not initiated, (2) initiated but not achieved or (3) achieved (see below the measurement of “Advancement”). Participants who initiated less than one entrepreneurial activity were excluded from the sample. After excluding additional incomplete questionnaires, the final sample comprised 437 nascent entrepreneurs, of which 32.3% were female. According to Aaker and Day (1990), the sample size calculation is not determined by the total population size, as it defines the margin of error. Using Akis *et al.* (1996) guidelines, a 95% confidence level and a 5% statistical error were adopted, and a conservative 50/50 response assumption was made. For samples exceeding 20 individuals, the cumulative probability (Z) stands at

1.96 (Sekaran and Bougie, 2016). For our analysis, the sample size (437) exceeds the theoretical benchmark of 384.

## Measures

**Overinvestment** was measured using 4 items from Siegrist *et al.* (2009)'s stress scale: "I start thinking about my project's problems as soon as I get up in the morning", "People close to me say I sacrifice too much for my project", "If I put off something that needs to be done today, I'll have trouble sleeping at night" and "Work is usually still on my mind when I go to bed". Participants indicated to what extent they recognized themselves in these statements on a five-point scale (ranging from 1 = "Not at all" to 5 = "Completely"). Confirmatory factor analysis yielded a single factor, with all loadings higher than .67. The scale also showed good reliability (Dillon-Goldstein's rho<sup>3</sup> = .81) and convergent validity (AVE = .51).

### *Examined Conditions*

**Affective commitment to the project** was measured using 4 items from Gabay-Mariani (2022): "I believe in my project's relevance", "I recognize myself in my entrepreneurial project", "My entrepreneurial project means a great deal to me", and "I find fulfillment in my entrepreneurial project". Respondents indicated to what extent they recognized themselves in these statements on a five-point scale (ranging from 1 = "Not at all" to 5 = "Completely"). Confirmatory factor analysis yielded a single factor, with all loadings higher than .64. The scale also showed good reliability (Dillon-Goldstein's rho = .86) and convergent validity (AVE = .55).

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<sup>3</sup> The measurement model was assessed using a PLS-SEM approach. Therefore, following Chin (1998)'s recommendations, we used the Dillon Goldstein's rho as our main indicator of composite reliability. As suggested by Chin (1998), alpha tends to be a lower bound estimate of reliability than a composite reliability indicator.

**Affective commitment to the profession** was measured using Gabay-Mariani's (2022) 4 items: "I'm enthusiastic about being an entrepreneur", "I recognize myself when seeing other entrepreneurs facing problems", "I'm proud to be an entrepreneur", and "My values are largely in line with those of entrepreneurship". Respondents indicated to what extent they recognized themselves in these statements on a five-point scale (1 = "Not at all"; 5 = "Completely"). Confirmatory factor analysis yielded a single factor, with all loadings higher than .69. The scale also showed good reliability (Dillon-Goldstein's rho = .86) and convergent validity (AVE = .61).

**Instrumental commitment to the project** was measured using Gabay-Mariani's (2022) 4 items: "I have put too much—economically, socially and emotionally—into this project to stop it now", "It would be more costly to stop my project now than to continue it", "For me, stopping this project would have more disadvantages than advantages", and "I feel a responsibility to continue my entrepreneurial project". Again, respondents indicated to what extent they recognized themselves in these statements on a five-point scale (1 = "Not at all"; 5 = "Completely"). Confirmatory factor analysis yielded a single factor, with all loadings higher than .62. The scale also showed good reliability (Dillon-Goldstein's rho = .82) and convergent validity (AVE = .53).

**Instrumental commitment to the profession** was measured using 5 items from Gabay-Mariani (2022): "I don't think another situation will provide me with the same advantages as being an entrepreneur", "Too much of my life would be disrupted if I stopped being an entrepreneur now", "I don't know what I would do if I weren't an entrepreneur", "I would lose a lot going back to being an employee" and "I would feel guilty if I were to go back to being an employee". Respondents were indicated the

extent they recognized themselves in these statements on a five-point scale (ranging from 1 = “Not at all” to 5 = “Completely”). Confirmatory factor analysis yielded a single factor, with all loadings higher than .64. The scale also showed good reliability (Dillon-Goldstein’s rho = .86) and convergent validity (AVE = .55).

**Investment** was measured using three main resources: time, funds, and network. The authors relied on previous studies on the intention-behavior gap (Kautonen *et al.*, 2015) and made this choice according to Bruyat’s view of entrepreneurial process (2001), who considers “something achieved” when the entrepreneur devotes most of their time, energy and financial, intellectual, relational and emotional resources to their project. Participants were asked to rate on a scale between 0 and 100% what proportion of their personal financial resources they were dedicating, what proportion of time compared to their other activities they were devoting, and how much they were involving their network in their project. Items were worded such as follows: “Currently, how much time do you spend on your project, compared to other professional or academic activities?”. Considering the highly idiosyncratic nature of the entrepreneurial process, the authors computed this variable as a formative construct. Confirmatory factor analysis yielded a single factor, with all loadings higher than .58. The scale also showed good reliability (Dillon-Goldstein’s rho = .78) and convergent validity (AVE = .51).

**Advancement** was measured following Rotefoss and Kolvereid’s (2005) approach. The authors submitted a list of gestation activities taken from GEM and PSED questionnaires and asked participants if they had (1) Planned but not initiated (2) Initiated but not achieved or (3) Achieved them. Participants were asked to what extent they had: (1) prepared a business plan, (2) collected information on the market and on competitors, (3) discussed their ideas with potential clients, (4) developed a

product or a service, (5) bought facilities or equipment, (6) signed a contract or a partnership with another organization, (7) received public funding, (8) received private funding, (9) borrowed money, (10) made advertising investments, (11) applied for a license or patent, and (12) recruited employees. Answers were recoded as dummy variables capturing whether the activities had been initiated or not (0 = not initiated; 1 = initiated). The final variable was computed as the total sum of all initiated activities by each nascent entrepreneur.

Finally, two categorical variables were included: age and parent entrepreneur (“Has one of your parents already created a company?”), as these variables were previously found to influence nascent entrepreneurship (e.g. Lévesque and Minniti, 2011; Garcia-Rodriguez *et al.*, 2022)

### **fsQCA**

The complexity and the derived chaordic systems were examined using fuzzy-set Qualitative Comparative Analysis (fsQCA)<sup>4</sup>. This is a mixed method since it uses quantitative data and progresses to qualitative inductive reasoning (Longest and Vaisey, 2008). fsQCA is considered the most appropriate method for the evaluation of decision-making complexity (Pappas, 2021) and entrepreneurial phenomena (Douglas *et al.*, 2020), as it is “frequently better understood in terms of set-theoretic relations rather than correlations” (Fiss, 2011; p. 395). This is because fsQCA aims to identify so-called sufficient subset relationships connected with an outcome variable. In this way, fsQCA reveals data asymmetry, acknowledges the interdependence of antecedent variables, and shows multiple pathways to the outcome variable of interest.

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<sup>4</sup> Leppanen *et al.* (2019) provide an excellent guide on qualitative comparative analysis in entrepreneurship.

Following Woodside and Zhang (2013), the study estimated whether a specific condition was included or excluded and illustrated the absence of a simple condition by using “~” as a symbol. In addition, the study used Necessary Condition Analysis (NCA) to identify the existence of size effects. According to ERiM (2022), a sufficient configuration should include at least one simple condition, which is deemed necessary (appears to generate size effects).

It is vital to understand the configuration (represented as ‘Ci’ in Table 1) within these relationships with the help of ‘tenets’ (Pappas, 2021; Wu *et al.*, 2014). For this study, the summarized factors that influence the tenets (represented as ‘Ti’ in Table 1) are affective commitment to the project, affective commitment to the profession, instrumental commitment to the project, instrumental commitment to the profession, investment, advancement, age, and whether one of the parents is an entrepreneur.

Please insert **Table 1: Study of the tenets**

The use of fsQCA can only be employed when the study is characterized by general asymmetry, meaning that all the correlations of its simple conditions are lower than the .6 threshold (Skarmeas *et al.*, 2014). These correlations are presented in Table 2, showing general asymmetry. As a result, the study aims to identify asymmetric data relationships related to commitment profiles on overinvestment behaviors through the examination of the causal recipes of the following simple conditions: (i) affective project (ii) affective profession (iii) instrumental project (iv) instrumental profession (v) investment, and (vi) advancement. In doing so, we progressed to the complementary identification of necessary conditions (existence of size effects) for the examined antecedents through the employment of NCA and

finally determined the ability of the generated sufficient configurations that lead to the targeted outcome (overinvestment).

Please insert **Table 2: Correlation matrix**

### *Algorithms*

The research was calibrated by using 35 individual cases (Pappas, 2021), which were selected randomly. The examination of overinvestment ‘f\_o’ was held through the fuzzy-sets of: age ‘f\_age’; parent’s business ‘f\_b’; affective project ‘f\_ap’; affective profession ‘f\_apr’; instrumental project ‘f\_ip’; instrumental profession ‘f\_ipr’; investment ‘f\_i’; and advancement ‘f\_a’.

## RESULTS

### **Complex solutions**

The fsQCA analysis has generated five sufficient pathways, as they are presented in Table 3. The first one (S1: f\_age,f\_b,f\_ap,f\_apr,~f\_ip,~f\_ipr,f\_i,~f\_a), which was labeled as “**Affective profile**”, includes high outcome scores for both categorical variables (age; parent’s business), and for the simple conditions of affective commitment to the project and to the profession, and investment. This solution also generates the highest consistency (.86382) and unique coverage (.12389).

The second sufficient configuration (S2:~f\_age,~f\_b,f\_ap,~f\_apr,f\_ip,~f\_ipr,~f\_i,f\_a), which was labeled as “**Project committed profile**”, generates high scores of outcome for the antecedents of affective commitment to the project, instrumental commitment to the profession, and advancement. This solution has the lowest unique coverage (.09382).

The third pathway (S3: $\sim f\_age, f\_b, \sim f\_ap, f\_apr, \sim f\_ip, f\_ipr, \sim f\_i, \sim f\_a$ ), which was labeled as “**Profession committed profile**”, consists of the categorical variable of parent’s business, and the simple conditions of affective and instrumental commitments to the profession. This configuration has the lowest raw coverage (.39283).

Conversely, the fourth sufficient configuration

(S4: $f\_age, \sim f\_b, \sim f\_ap, \sim f\_apr, f\_ip, f\_ipr, \sim f\_i, \sim f\_a$ ), which was labeled as “**Instrumental profile**”, has the highest raw coverage (.42421), and includes age, and instrumental commitment to the project and to the profession.

Finally, the fifth sufficient solution (S5: $f\_age, \sim f\_b, f\_ap, \sim f\_apr, \sim f\_ip, \sim f\_ipr, f\_i, f\_a$ ), which was labeled as “**Project affective profile**”, generates high outcome scores for age, affective commitment to the project, investment, and advancement. This pathway has the lowest consistency (.78380).

Please insert **Table 3: Sufficient configurations**

Complementary, NCA has generated size effects in four of the examined simple conditions (affective commitment to the project and profession, investment, advancement). Following the relevant analysis, instrumental commitment to the project and to the profession did not generate size effects. Following Dul (2022), to establish that an element is necessary, apart from the existence of a size effect, the p-value should be lower than the .05 threshold. Table 4 presents the size effects and the p-values of the examined simple conditions. As highlighted above, a sufficient solution should have at least one necessary simple condition (defined by the generation of size effects). This means that the fourth pathway (S4) should be

excluded from further analysis since it only consists of the simple conditions of instrumental commitment to the project and the profession.

Please insert **Table 4: Size effects**

Please insert **Figure 1: NCA findings**

## DISCUSSION

The past two years, with ongoing health, political, and financial crises, have brought remarkable change and uncertainty in entrepreneurship (e.g., Kurdoglu *et al.*, 2022; Waehning *et al.*, 2023). In extending the scope of prior studies, which primarily focused on attitudinal forms of commitment and exposure to potential psychological risks (Gabay-Mariani and Boissin, 2021; Li *et al.*, 2023), our investigation reveals a more nuanced perspective in entrepreneurship. We demonstrate that the phenomenon of overinvestment is deeply intertwined with the historical actions of nascent entrepreneurs, and argue that such behaviors can only be adequately understood if situated within the broader context of the entrepreneurial journey.

Specifically, our study identified four main commitment profiles that lead entrepreneurs to overinvest in their projects. Although commitment has been explored widely in entrepreneurship (Noack *et al.*, 2018; Tang, 2008), assumptions about whether commitment permanently, and unquestionably, leads to positive entrepreneurial outcomes remain unresolved. The results go beyond existing literature, that detangled entrepreneurial commitment and focused on the “best” profiles associated with persistence or advancement (Gabay-Mariani and Boissin, 2021), but did not question to what extent these behaviors could be detrimental to individuals. In reality, entrepreneurs may be “too committed” and

expose themselves to physical, emotional, and mental exhaustion (Pines, 1988). They may also be obsessively committed (Stroe et al., 2018) and keep investing resources in losing courses of action (McMullen and Kier, 2016). This study brings novelty to these perspectives by exposing a potential dark side of affective and instrumental commitment.

The results point to the viral role of affect (Cardon *et al.*, 2012; Chen *et al.*, 2022) in developing an unbalanced relationship with entrepreneurial venturing. Two overinvestment scenarios were driven by affective commitment (S1 and S5), while two other scenarios (S2 and S3) demonstrated that affective commitment operated in combination with instrumental commitment. This implies that affective commitment strongly influences overinvestment, as it appears both as a sufficient and necessary condition. While supporting previous research about a positive association between affective commitment, advancement, and persistence in the entrepreneurial venture (Gabay-Mariani and Boissin, 2021), the findings complement these perspectives by showing that affective commitment additionally leads to negative consequences. These findings resonate with recent literature streams that distinguish harmonious and obsessive forms of passion (e.g. Chen *et al.*, 2022; Stroe *et al.*, 2018; Stroe *et al.*, 2020). While passion is an essential driver of the entrepreneurial process (Cardon *et al.*, 2009), a strong inclination for entrepreneurial activity can increasingly overwhelm entrepreneurs (Ho and Pollack, 2014). Similarly, affective commitment could be dual faced; as a positive relationship based on a sense of congruence with the entrepreneurial process, and, as an anchor that leads entrepreneurs to lose themselves. While research on commitment already pointed to the multidimensionality of instrumental forms of commitment (normative, e.g., Meyer and Parfyonova, 2010; continuance, e.g., Vandenberghe and Panaccio, 2012), our study could lead to a

reconceptualization of affective commitment as multidimensional. In the domain of organizational studies, affective commitment is traditionally viewed as a beneficial force driven by desire (Meyer and Herscovitch, 2001), which motivates employees' deep engagement with their organizations. However, our study highlights the nuanced nature of this desire (van Harreveld, Nohlen and Schneider, 2015) and the complexity of the emotional bonds that form the basis of affective commitment, suggesting that entrepreneurs may not always achieve their desired outcomes.

The results additionally show that, whether entrepreneurs are committed to their project or their profession, they anyhow tend to overinvest when relying on affective commitment. This is an interesting implication, as it implies that there might be two entries towards escalation: being emotionally attached to one's project, and, identifying strongly with being an entrepreneur, no matter what project entrepreneurs act upon. The analysis, therefore, confirms the relevance of distinguishing focal points in entrepreneurial commitment, going beyond previous studies that isolated projects from professions (Gabay-Mariani and Boissin, 2021; Valléau, 2017). Interestingly, in the "Profession focused profile", having a parent entrepreneur is also a sufficient condition. This pattern points out the vital role of family background in the development of a strong identity in the entrepreneurial profession (García-Rodríguez *et al.*, 2022; Nguyen, 2018) when nascent entrepreneurs overinvest (D'Angelo *et al.*, 2022). This implies that a strong self-identification as an entrepreneur coming from a family background may additionally impact overinvestment and calls for further studies to evaluate the role of family imprinting in entrepreneurial decisions.

On the other hand, instrumental commitment, whether targeted at the profession or at the project, is not a necessary condition of overinvestment. Instead,

instrumental commitment always acts *in combination with* affective commitment (S2 and S3). This suggests that instrumental commitment presumably contributes to overinvestment as it may, for example, increase the perception of sunk costs (Gabay-Mariani and Boissin, 2021) but is not sufficient to drive overinvestment by itself in the absence of affective commitment. Thus, without affective commitment, those who are committed but mainly instrumentally driven may be less keen to conduct overinvesting behavior.

Finally, the role of investment of personal resources in combination with affective commitment appears as a sufficient condition in two scenarios (S1 and S5). This supports previous conceptualizations of entrepreneurial commitment as the moment when entrepreneurs start devoting their key resources (time, money, relationships) to their projects (Fayolle *et al.*, 2011). It also echoes the behavioral approach of commitment, which posits that an individual's past behaviors constrain them into a consistent line of action, even if it means adjusting their initial beliefs and or motives or if it leads to a failing course of action (McMullen and Kier, 2016; Staw, 1981). Thus, our research goes beyond previous works that only included attitudinal forms of commitment (Gabay-Mariani and Boissin, 2021) by showing that overinvestment behaviors are intrinsically linked to nascent entrepreneurs' past actions and cannot be examined in isolation from the broader entrepreneurial process.

## **CONTRIBUTIONS AND CONCLUDING REMARKS**

This paper contributes theoretically by uncovering which combinations of commitment conditions lead to overinvestment. *First*, the study provides a better understanding of the potential antecedents of overinvestment in the form of affective and instrumental commitments. Notably, this study contributes by showing to what

extent affective and instrumental commitment is detrimental to nascent entrepreneurs.

*Second*, this study brings novelty to the entrepreneurial commitment literature by exposing that affective commitment is a necessary condition for overinvestment, while in contrast, instrumental commitment only leads to overinvestment in combination with affective commitment. While a rich amount of literature already exists on the dark side of commitment, this study provides novelty by highlighting under what conditions what form of commitment has detrimental consequences. This is a vital implication as it helps future entrepreneurship researchers distinguish the multiplicity of commitment (Huarng and Yu, 2022; Marzi *et al.*, 2023). *Third*, the finding that instrumental commitment is not sufficient by itself to drive overinvestment implies that those who are committed but mainly instrumentally driven are less exposed to overinvestment. In an unprecedented way, we show that a more calculated relationship with the entrepreneurial process could also contribute to the entrepreneur's well-being (Stephan, 2018). *Lastly*, this study contributes to entrepreneurs' commitment to the imagined opportunity. While previous studies (Valéau, 2017; Gabay-Mariani and Boissin, 2021) on overinvestment show that detrimental commitment is caused by ‘blind love’ of the entrepreneurial perceived opportunity, our findings highlight that this is incomplete, as nascent entrepreneurs may additionally fall in love with how they identify as an entrepreneur.

This paper also offers methodological contributions with the use of non-linear, configurational methods that allowed us to identify four commitment profiles that lead nascent entrepreneurs to overinvest in their venture, namely the “Affective profile”, the “Project committed profile”, the “Profession committed profile” and the “Affective project profile”. With the generation of these profiles, the study further confirmed the suitability of non-linear research in entrepreneurship, advancing the

understanding of complex issues that may have a multiplicity of explanations (Marzi *et al.*, 2023; Kraus *et al.*, 2018). In particular, it implies that the fsQCA method can expose richer explanations of entrepreneurial commitment, as with more linear approaches.

The results are also crucial for professionals, especially within academic incubators, where nascent entrepreneurship commonly takes place. Incubators may encourage nascent entrepreneurs to be aware of their commitment to prevent them from the risks of obsessive investment. For example, incubators could advise entrepreneurs to take a step back toward their projects once they detect a risk of exhaustion or burnout. Nascent entrepreneurs could also be helped with discussion perspectives of the consequences of quitting a project by showing that the process has enabled them to learn and to progress as individuals (Kurdoglu *et al.*, 2022) while emphasizing the impact this process may have had on their workload and to their peers. Incubators may intensify their access to resources and people who help nascent entrepreneurs overcome tasks they consider too demanding or challenging. Consequently, this study encourages policymakers and actors of the entrepreneurial ecosystem to adopt a critical perspective on entrepreneurship and to evaluate its potential positive or negative outcomes.

This research is not without limitations. First, the study used Siegrist's (2009) work stress scale to investigate nascent entrepreneur's overinvestment. Despite being widely validated in several research domains (e.g., Kaluza *et al.*, 2020), it can be argued that the self-reported character of this measurement tool may not capture nascent entrepreneurs' mental or physical issues. However, the work stress scale enables one to identify an unbalanced relationship with professional life, which can be a signal of potential risks for the individual. The authors acknowledge that this design

does not enable the determination of whether entrepreneurial action leads to positive or negative results for the emerging organization, as the purpose of this study focused on the individual's psychological state. Thus, future studies may integrate more objective measures of overinvestment.

Second, this study could benefit from replication in other contexts. The sample mainly comprises students and young graduates operating within Pépite France's entrepreneurship centers. This could have an impact on the way commitment is experienced, as these young professionals are at the beginning of their professional life and have fewer resources to invest, but also less to lose, than older entrepreneurs. It could also be interesting to differentiate opportunity and necessity entrepreneurs, for instance, to determine if they are tied differently to the entrepreneurial process and whether one category or another is more subject to overinvestment and subsequent ill-being. Opportunity entrepreneurs experience greater well-being because of the alignment between internal motivation and outward activities and rewards. Yet, empirical research on nascent entrepreneurs has never tested this assumption by analyzing their commitment profile. Examining the effect of pro-social motivations on entrepreneurs' commitment profiles and subsequent well-being and investment behavior could also be an exciting avenue for future research, perhaps with the help of prospect theory, as it has explanatory power to explain the escalation of commitment. Our study has been conducted in the French context, which we argue is suitable for examining overinvestment behaviors, as national surveys report alarmingly high levels of burnout and exhaustion among founders (Torres *et al.*, 2022). However, replication studies in other national and cultural contexts would reinforce the generalizability of our results.

Finally, this study is exploratory and does not aim for generalizability; instead, it aims to challenge the dominant linear approaches to studying entrepreneurial commitment and opens the debate for different types of non-linear methodologies. Nevertheless, researchers must carefully address two limitations of the fsQCA method: specifying the frequency and consistency threshold and identifying the three anchors for calibration (Ragin, 2008; Santos *et al.*, 2021). The patterns and configurations of conditions that emerged from this study are unique and specific to the event studied. To address this, the researchers used theories from another field and non-linear data analysis methods to capture patterns in complexity. While the specific configurations of conditions may not be replicable in other samples, the findings are expected to be applicable to students and future entrepreneurs without prior knowledge or start-up experience. Examining the evolution of nascent entrepreneur's commitment profiles would reinforce the understanding of escalation and de-escalation processes and more precisely differentiate different stages in the entrepreneurial process.

## References

- Aaker, D.A., and Day, G.S. (1990), *Marketing Research*, Fourth Edition (4). New York: John Wiley & Sons.
- Adam, A. F., and Fayolle, A. (2015), “Bridging the entrepreneurial intention-behaviour gap: The role of commitment and implementation intention”, *International Journal of Entrepreneurship and Small Business*, Vol. 25 No. 1, pp. 36–54.
- Akis, S., Peristianis, N., and Warner, J. (1996), “Residents’ attitudes to tourism development: The case of Cyprus”. *Tourism Management*, Vol. 17 No. 7, pp. 481–494.
- Allen, N.J. and Meyer, J.P. (1990), “The measurement and antecedents of affective, continuance and normative commitment to the organization”, *Journal of Occupational Psychology*, Vol. 63 No. 1, pp. 1-18.
- Alvarez, S. A., Young, S. L., and Woolley, J. L. (2020), “Creating the World’s Deadliest Catch: The Process of Enrolling Stakeholders in an Uncertain Endeavor”, *Business and Society*, Vol 59 No. 2, pp. 287–321.

- Aly, M., Audretsch, D. B., and Grimm, H. (2021), “Emotional skills for entrepreneurial success: the promise of entrepreneurship education and policy”, *The Journal of Technology Transfer*, Vol 46 No. 5, pp. 1611-1629.
- Bastian, B., and Zucchella, A. (2022), “Entrepreneurial metacognition: A study on nascent entrepreneurs”, *International Entrepreneurship and Management Journal*, Vol. 18, pp. 1775–1805.
- Becker, T. E., Klein, H. J., Meyer, J. P., Klein, H. J., and Meyer, J. P. (2012), *Commitment in Organizations: Accumulated Wisdom and New Directions*. Routledge, New York.
- Bergen, C. V., and Bressler, M. S. (2018), “Confirmation Bias in Entrepreneurship”, *Journal of Management Policy and Practice*, Vol. 19 No. 3, pp. 74 – 84.
- Blank, T. H., & Gabay-Mariani, L. (2021), “From Dream to Reality: The Ambivalent Role of Nascent Entrepreneurs’ Motivation in the Intention-Action Gap”, *Entrepreneurship Research Journal*, (0), 20200474.
- Bosma, N., Acs, Z., Autio, E., Coduras, A. and Levie, J. (2008), “Global Entrepreneurship Research Consortium (GERA)”, Executive report, Global Entrepreneurship Monitor.
- Breugst, N., Domurath, A., Patzelt, H., & Klaukien, A. (2012), “Perceptions of entrepreneurial passion and employees’ commitment to entrepreneurial ventures”, *Entrepreneurship theory and practice*, Vol. 36 No. 1, pp. 171-192.
- Bruce, D., and Mohsin, M. (2006). Tax policy and entrepreneurship: New time series evidence. *Small business economics*, Vol. 26 No. 5, pp. 409-425.
- Brundin, E., and Gustafsson, V. (2013), “Entrepreneurs’ decision making under different levels of uncertainty: The role of emotions”, *International Journal of Entrepreneurial Behaviour & Research*, Vol. 19 No. 6, pp.568–591.
- Bruyat, C., & Julien, P. A. (2001), “Defining the field of research in entrepreneurship”, *Journal of business venturing*, Vol. 16 No. 2, pp. 165-180.
- Capatina, A., Cristea, D. S., Micu, A., Micu, A. E., Empoli, G., and Codignola, F. (2023), “Exploring causal recipes of startup acceptance into business incubators : a cross-country study incubators”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. ahead-of-print No. ahead-of-print.
- Caputo, A., & Pellegrini, M. M. (Eds.). (2020). *Entrepreneurial behaviour: Unveiling the cognitive and emotional aspects of entrepreneurship*. Emerald Group Publishing.
- Cardon, M. S., Wincent, J., Singh, J., and Drnovsek, M. (2009), “The nature and experience of entrepreneurial passion”, *Academy of management Review*, Vol. 34 No. 3, pp.511-532.
- Cardon, M. S., Foo, M. D., Shepherd, D., and Wiklund, J. (2012), “Exploring the heart: Entrepreneurial emotion is a hot topic”, *Entrepreneurship Theory and Practice*, Vol. 36 No. 1, pp.1-10.
- Chen, C., Zhang, J., Tian, H., & Bu, X. (2022), “The impact of entrepreneurial passion on entrepreneurial success and psychological well-being: a person-centered investigation”, *International Journal of Entrepreneurial Behaviour and Research*. Vol. ahead-of-print No. ahead-of-print.
- Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-358). Mahwah, NJ: Lawrence Erlbaum.
- D’Angelo, V., Amore, M. D., Minichilli, A., Chen, K. X., and Solarino, A. M. (2022), “Family agents”, *Journal of Family Business Strategy*, 100548.

- Davidsson, P., and Gordon, S. R. (2016), "Much ado about nothing? The surprising persistence of nascent entrepreneurs through macroeconomic crisis", *Entrepreneurship Theory and Practice*, Vol. 40, pp.915-941.
- De Clercq, D., Menzies, T. V., Diochon, M., and Gasse, Y. (2009), "Explaining nascent entrepreneurs' goal commitment: An exploratory study", *Journal of Small Business and Entrepreneurship*, Vol. 22 No. 2, pp.123 – 139.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. (2002), "The regulation of entry", *The quarterly Journal of economics*, Vol. 117 No. 1, pp. 1-37.
- Douglas, E.J., Shepherd, D.A. and Prentice, C. (2020), "Using fuzzy-set qualitative comparative analysis for a finer-grained understanding of entrepreneurship", *Journal of Business Venturing*, Vol. 35, No. 1.
- Dul, J. (2022), "Problematic applications of Necessary Condition Analysis (NCA) in tourism and hospitality research", *Tourism Management*, Vol. 93,104616.
- ERIM (2022). *What is NCA?* Erasmus University Rotterdam.
- Farazmand, A. (2003), "Chaos and transformation theories: a theoretical analysis with implications for organization theory and public management", *Public Organisation Review*, Vol. 3 No. 4, pp.339-372.
- Fayolle, A. (2007). *Entrepreneurship and New Value Creation*. New York: Cambridge University Press.
- Fayolle, A., Basso, O., and Tornikoski, E. T. (2011). Entrepreneurial commitment and new venture creation: a conceptual exploration. In *Handbook of research on new venture creation*. Edward Elgar Publishing.
- Fayolle, A., & Liñán, F. (2014), "The future of research on entrepreneurial intentions", *Journal of business research*, Vol. 67 No. 5, pp. 663-666.
- Fiss, P.C., (2011), "Building better causal theories: a fuzzy set approach to typologies in organization research", *Academy of Management Journal*, Vol. 54, pp.393–420.
- Fitzgerald, L.A., and Van-Eijnatten, F.M. (2002), "Reflections: chaos in organizational change", *Journal of Organizational Change Management*, Vol. 15 No. 4, pp.402-411.
- Foss, N. J., & Lindenberg, S. (2013), "Microfoundations for strategy: A goal-framing perspective on the drivers of value creation" *Academy of Management Perspectives*, Vol. 27 No. 2, pp. 85–102.
- Gabay-Mariani, L. and Boissin, J.-P. (2021), "Commitment profiles of nascent entrepreneurs: insights from an empirical taxonomy among French student entrepreneurs", *International Journal of Entrepreneurial Behavior & Research*, Vol. 27 No. 5, pp.1214-1240.
- Gabay-Mariani, L. (2022), "Measuring nascent entrepreneurs' commitment: The conceptualization, measurement and proposition of an integrative model", *Revue de l'Entrepreneuriat*, Vol. 21 No. 3, 47-78.
- García-Rodríguez, F.J., Gutiérrez-Taño, D. and Ruiz-Rosa, I. (2022), "Parents' support for children's entrepreneurial behavior: incentivizing the next generation of entrepreneurs", *International Journal of Entrepreneurial Behavior & Research*, Vol. ahead-of-print.
- Gellatly, I. R., Meyer, J. P., and Luchak, A. A. (2006), "Combined effects of the three commitment components on focal and discretionary behaviors: A test of Meyer and Herscovitch's propositions", *Journal of Vocational Behavior*, Vol. 69 No 2, pp.331-345.
- Gustafsson, V. (2009). Entrepreneurial Decision-Making: Thinking Under Uncertainty. In: Carsrud, A., Brännback, M. (eds) Understanding the Entrepreneurial Mind. International Studies in Entrepreneurship, vol 24. Springer, New York, NY.

- Herscovitch, L. and Meyer, J.P. (2002), "Commitment to organizational change: extension of a three component model", *Journal of Applied Psychology*, Vol. 87 No. 3, pp.474 - 487.
- Ho, V. T., and Pollack, J. M. (2014), "Passion isn't always a good thing: Examining entrepreneurs' network centrality and financial performance with a dualistic model of passion", *Journal of Management Studies*, Vol. 51 No. 3, pp.433-459.
- Huarng, K. H., and Yu, T. H. K. (2022), "Holistic configural models for sustainable entrepreneurs", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 28 No. 1, pp.67–82.
- Kaluza, A. J., Boer, D., Buengeler, C., & van Dick, R. (2020). Leadership behaviour and leader self-reported well-being: A review, integration and meta-analytic examination. *Work & Stress*, 34(1), 34-56.
- Kautonen, T., Van Gelderen, M., & Fink, M. (2015), "Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions", *Entrepreneurship theory and practice*, Vol. 39 No. 3, pp. 655-674.
- Kraus, S., Ribeiro-Soriano, D., and Schüssler, M. (2018), "Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research – the rise of a method", *International Entrepreneurship and Management Journal*, Vol. 14 No. 1, pp.15–33.
- Kretzschmar Jr., W.A. (2015). *Language and Complex Systems*. Cambridge: Cambridge University Press.
- Kuratko, D.F., Ireland, R.D. and Hornsby, J.S. (2001), "Improving firm performance through entrepreneurial actions: Acordia's corporate entrepreneurship strategy", *The Academy of Management Executive*, Vol. 15 No. 4, pp.60-71.
- Kuratko, D.F., Fisher, G. & David B. Audretsch, D.B. (2021), "Unraveling the entrepreneurial mindset", *Small Business Economics*, Springer, vol. 57(4), 1681-1691.
- Kurdoglu, R. S., Ates, N. Y., and Lerner, D. A. (2022), "Decision-making under extreme uncertainty: eristic rather than heuristic", *International Journal of Entrepreneurial Behaviour and Research*, pp.1355 – 2554. Vol. ahead-of-print No. ahead-of-print.
- Lawrence, W.L., Feng, Y.L., and Huang, Y.C. (2003), "Diagnosis of Freeway traffic incidents with chaos theory", *Journal of the Eastern Asia Society for Transportation Studies*, Vol. 5, pp.2025-2038.
- Lechat, T., and Torrès, O. (2016), "Les risques psychosociaux du dirigeant de PME: Typologie et échelle de mesure des stresseurs professionnels », *Revue internationale P.M.E.*, Vol. 29 No. 3–4, pp.135–159.
- Leppanen, P.T., McKenny, A.F., Short, J.C., 2019. Qualitative comparative analysis in entrepreneurship: exploring the technique and noting opportunities for the future. In: Boyd, B., Crook, T.R., Le, J.K., Smith, A.D. (Eds.), *Standing on the Shoulders of Giants: Traditions and Innovations in Research Methodology*. Emerald Publishing Ltd.
- Lévesque, M., & Minniti, M. (2011), "Age matters: How demographics influence aggregate entrepreneurship", *Strategic Entrepreneurship Journal*, Vol. 5 No. 3, pp. 269-284.
- Levy, D. (1994), "Chaos theory and strategy: theory, application and managerial implications", *Strategic Management Journal*, Vol. 15 No. 2, pp. 167-178.
- Li, C.-R., Yang, Y., Liu, J. and Lee, A. (2023), "Wimp out or take off? Temporal dynamics in new venture effort after exposure to entrepreneurial

- obstacles", *International Journal of Entrepreneurial Behavior & Research*, Vol. ahead-of-print No. ahead-of-print.
- Longest, K., and Vaisey, S. (2008), "Fuzzy: A Program for performing Qualitative Comparative Analyses (QCA) in STATA", *The STATA Journal*, Vol. 8 No. 1, pp. 79-104.
- Markovitch, D. G., Huang, D., Peters, L., Phani, B. V., Philip, D., and Tracy, W. (2014), "Escalation of commitment in entrepreneurship-minded groups", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 20 No. 4, pp. 302–323.
- Marzi, G., Manesh, M. F., Caputo, A., Pellegrini, M. M., & Vlačić, B. (2023), "Do or do not. Cognitive configurations affecting open innovation adoption in SMEs", *Technovation*, Vol. 119, 102585.
- McDowell, W. C., Matthews, L. M., Matthews, R. L., Aaron, J. R., Edmondson, D. R., and Ward, C. B. (2019), "The price of success: balancing the effects of entrepreneurial commitment, work-family conflict and emotional exhaustion on job satisfaction", *International Entrepreneurship and Management Journal*, Vol. 15 No. 4, pp.1179–1192.
- McMullen, J. S., and Kier, A. S. (2016), "Trapped by the entrepreneurial mindset: Opportunity seeking and escalation of commitment in the Mount Everest disaster", *Journal of Business Venturing*, Vol. 31 No.6, pp.663–686.
- Messeghem, K., Lasch, F., Valette, J., Casanova, S., Courrent, J. (2022). Situation de l'activité entrepreneuriale en France : Rapport 2021 du Global Entrepreneurship Monitor. Labex entreprendre.
- Meyer, J.P. and Herscovitch, L. (2001), "Commitment in the workplace: toward a general model", *Human Resource Management Review*, Vol. 11 No. 3, pp.299-326.
- Meyer, J.P., Becker, T.E. and Van Dick, R. (2006), "Social identities and commitments at work: toward an integrative model", *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, Vol. 27 No. 5, pp.665-683
- Meyer, J. P., & Parfyonova, N. M. (2010), "Normative commitment in the workplace: A theoretical analysis and re-conceptualization", *Human resource management review*, Vol. 20 No. 4, pp. 283-294.
- Misangyi, V.F., Greckhamer, T., Furnari, S., Fiss, P.C., Crilly, D., Aguilera, R. (2017), "Embracing causal complexity: the emergence of a neo-configurational perspective", *Journal of Management*, Vol. 43 No. 1, pp. 255–282.
- Mowday, R., Porter, L. and Steers, R. (1982). Employee—Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover. Academic Press, New York.
- Murnieks, C. Y., Cardon, M. S., and Haynie, J. M. (2020), "Fueling the fire: Examining identity centrality, affective interpersonal commitment and gender as drivers of entrepreneurial passion", *Journal of Business Venturing*, Vol. 35 No. 1, 105909.
- Naimi, A., Arenas, D., Kickul, J., & Awan, S. (2022), "Too emotional to succeed: entrepreneurial narratives in a prosocial setting". *International Journal of Entrepreneurial Behaviour and Research*. Vol. ahead-of-print No. ahead-of-print.
- Nguyen, C. (2018), "Demographic factors, family background and prior self-employment on entrepreneurial intention-Vietnamese business students are different: why?", *Journal of Global Entrepreneurship Research*, Vol. 8 No. 1, pp. 1-10.
- Nikolaev, B., Shir, N., and Wiklund, J. (2020), "Dispositional positive and negative affect and self-employment transitions: The mediating role of job satisfaction", *Entrepreneurship Theory and Practice*, Vol. 44 No. 3, pp.451-474.

- Noack, D., Miller, D. R., and Guidice, R. M. (2018), “One foot in Babylon, the other in a startup: The influence of job and employment alternatives on joiner commitment”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. 24 No. 5, pp.1036–1060.
- Olmedo, E. (2011), “Is there chaos in the Spanish labour market?” *Chaos, Solitons and Fractals*, Vol. 44 No. 12, pp.1045-1053.
- O'Reilly, C. A., and Chatman, J. (1986), “Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behaviour”. *Journal of Applied Psychology*, Vol. 71 No. 3, pp.492–499.
- Pappas, N. (2021), “COVID19: Holiday intentions during a pandemic”, *Tourism Management*, Vol. 84, 104287.
- Pines, A., & Aronson, E. (1988). *Career burnout: Causes and cures*. Free Press.
- Pollack, J. M., Coy, A. E., Green, J. D., and Davis, J. L. (2015), “Satisfaction, investment, and alternatives predict entrepreneurs' networking group commitment and subsequent revenue generation”, *Entrepreneurship Theory and Practice*, Vol. 39, pp.817-837.
- Rachmawan, A., Lizar, & Mangundjaya, W. L. (2015), “The role of parent's influence and self-efficacy on entrepreneurial intention”, *The journal of developing areas*, pp. 417-430.
- Ragin, C.C. (2008). *Redesigning Social Inquiry: Fuzzy Set and beyond*, University of Chicago Press, Chicago, IL.
- Rotefoss, B. and Kolvereid, L. (2005), “Aspiring, Nascent and Fledgling Entrepreneurs: An Investigation of the Business Start-Up Process”, *Entrepreneurship & Regional Development*, Vol. 17, pp.109-127.
- Sahabuddin, R. (2018), “Effect of Entrepreneurship Commitment to Self-Efficacy through Intention of Entrepreneurship and Competence”, *International Journal of Business and Management Science*, Vol. 8 No. 1, pp.67-81.
- Santos, S. C., Nikou, S., Brännback, M., & Liguori, E. W. (2021), “Are social and traditional entrepreneurial intentions really that different?”, *International Journal of Entrepreneurial Behavior & Research*, Vol. 27 No. 7, pp. 1891-1911.
- Sarason, Y., Dean, T., and Dillard, J. F. (2006), “Entrepreneurship as the nexus of individual and opportunity: A structuration view”, *Journal of Business Venturing*, Vol. 21 No. 3, pp.286-305.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. London: John Wiley & Sons.
- Shepherd, C. D., Marchisio, G., Morrish, S. C., Deacon, J. H., and Miles, M. P. (2010), “Entrepreneurial burnout: Exploring antecedents, dimensions and outcomes”, *Journal of Research in Marketing and Entrepreneurship*, Vol. 12 No. 1, pp.71 – 79.
- Shepherd, D. A., Wennberg, K., Suddaby, R., and Wiklund, J. (2019), “What are we explaining? A review and agenda on initiating, engaging, performing, and contextualizing entrepreneurship”, *Journal of Management*, Vol. 45, No. 1, pp. 159-196.
- Siegrist, J., Wege, N., Puhlhofer, F. and Wahrendorf, M. (2009), “A short generic measure of work stress in the era of globalization: effort–reward imbalance”, *International Archives of Occupational and Environmental Health*, Vol. 82 No. 8, pp.1005–1013
- Skarmeas, D., Leonidou, C.N., and Saridakis, C. (2014), “Examining the role of CSR skepticism using fuzzy-set qualitative comparative analysis”, *Journal of Business Research*, Vol. 67, pp.1796-1805.

- Sleesman, D. J., Lennard, A. C., McNamara, G., and Conlon, D. E. (2018), "Putting escalation of commitment in context: A multilevel review and analysis", *The Academy of Management Annals*, Vol. 12 No. 1, pp.178–207.
- Stanley, L., Vandenberghe, C., Vandenberg, R., & Bentein, K. (2013), "Commitment profiles and employee turnover", *Journal of Vocational Behavior*, Vol. 82 No. 3, pp. 176-187.
- Staw, B. M. (1981), "The escalation of commitment to a course of action", *Academy of management Review*, Vol. 6 No. 4, pp.577-587.
- Stephan, Ute. (2018), "Entrepreneurs' Mental Health and Well-Being: A Review and Research Agenda", *Academy of Management Executive*, Vol. 32, pp.290–322.
- Stinglhamber, F., Bentein, K. and Vandenberghe, C. (2002), "Extension of the three-component model of commitment to five foci: development of measures and substantive test", *European Journal of Psychological Assessment*, Vol. 18 No. 2, p. 123 - 138.
- Stroe, S., Wincent, J., and Parida, V. (2018), "Untangling intense engagement in entrepreneurship: Role overload and obsessive passion in early-stage entrepreneurs", *Journal of Business Research*, Vol. 90, pp.59-66.
- Stroe, S., Sirén, C., Shepherd, D., and Wincent, J. (2020), "The dualistic regulatory effect of passion on the relationship between fear of failure and negative affect: Insights from facial expression analysis", *Journal of Business Venturing*, Vol. 35 No. 4, 105948.
- Taing, M. U., Granger, B. P., Groff, K. W., Jackson, E. M., & Johnson, R. E. (2011), "The multidimensional nature of continuance commitment: Commitment owing to economic exchanges versus lack of employment alternatives", *Journal of Business and Psychology*, Vol. 26, pp. 269-284.
- Tang, J. (2008), "Environmental munificence for entrepreneurs: Entrepreneurial alertness and commitment", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 14 No.3, pp.128–151.
- Tasnim, R., & Singh, H. (2016). " What, Exactly, is Entrepreneurial Commitment?": Modeling the Commitment of Successful Entrepreneurs. *Journal of Applied Management and Entrepreneurship*, 21(3), 6.
- Torrès, O., Benzari, A., Fisch, C., Mukerjee, J., Swalhi, A., & Thurik, R. (2022), "Risk of burnout in French entrepreneurs during the COVID-19 crisis", *Small Business Economics*, pp. 1-23.
- Ugboro, I.O. (1993), "Loyalty, Value Congruency, and Affective Organizational Commitment: An Empirical Study", *American Journal of Business*, Vol. 8 No. 2, pp. 29-36.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M. and Marsolais, J. (2003), "Les passions de l'ame: on obsessive and harmonious passion", *Journal of personality and social psychology*, Vol. 85 No. 4, pp.756 - 767.
- Valleau, P. (2017), "Les effets de l'engagement affectif, continu et normatif sur l'intention de rester dans le métier d'entrepreneur", *Revue de L'Entrepreneuriat*, Vol. 16 No. 3, pp. 83-106.
- Vandenberghe, C., Bentein, K., & Stinglhamber, F. (2004), "Affective commitment to the organization, supervisor, and work group: Antecedents and outcomes", *Journal of vocational behavior*, Vol. 64 No. 1, pp. 47-71.
- Vandenberghe, C., & Panaccio, A. (2012), "Perceived sacrifice and few alternatives commitments: The motivational underpinnings of continuance commitment's subdimensions", *Journal of Vocational Behavior*, Vol. 81 No. 1, pp. 59-72.

- Van-Eijnatten, F.M., Putnik, G.T., and Sluga, A. (2007), “Chaordic systems thinking for novelty in contemporary manufacturing”, *CIRP Annals - Manufacturing Technology*, Vol. 56 No. 1, pp.447-450.
- Van Gelderen, M. (2012), “Perseverance strategies of enterprising individuals”, *International Journal of Entrepreneurial Behaviour & Research*, Vol. 18 No. 6, pp.630–648.
- Van Gelderen, M., Kautonen, T., and Fink, M. (2015), “From entrepreneurial intentions to actions: Self-control and action-related doubt, fear, and aversion”, *Journal of Business Venturing*, Vol. 30 No. 5, pp.655–673.
- van Harreveld, F., Nohlen, H. U., & Schneider, I. K. (2015). You shall not always get what you want: The consequences of ambivalence toward desires. In W. Hofmann & L. F. Nordgren (Eds.), *The psychology of desire* (pp. 267–285). The Guilford Press.
- Waehning, N., Bosworth, G., Cabras, I., Shakina, E., and Sohns, F. (2023), “Resilient SMEs and entrepreneurs: evidence from the UK craft brewing sector”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. ahead-of-print No. ahead-of-print.
- Wei, X., Cang, S., and Hisrich, R. D. (2015), “Entrepreneurial Stressors as Predictors of Entrepreneurial Burnout”, *Psychological Reports*, Vol. 116 No. 1, pp. 74–88.
- Wiener, Y. (1982), “Commitment in Organization: A Normative View”, *Academy of Management Review*, Vol. 7, pp.418-428.
- Wiklund, J., Nikolaev, B., Shir, N., Foo, M. D., and Bradley, S. (2019), “Entrepreneurship and well-being: Past, present, and future”, *Journal of Business Venturing*, Vol. 34 No. 4, pp. 579-588.
- Williamson, A. J., Gish, J. J., & Stephan, U. (2021), “Let’s Focus on Solutions to Entrepreneurial Ill-Being! Recovery Interventions to Enhance Entrepreneurial Well-Being”, *Entrepreneurship: Theory and Practice*, Vol. 45 No. 6, pp. 1307–1338.
- Woodside, A.G., and Zhang, M. (2013), “Cultural diversity and marketing transactions: Are market integration, large community size, and world religions necessary for fairness in ephemeral exchanges?” *Psychology and Marketing*, Vol. 30 No. 3, pp.263-276.
- Wu, P. L., Yeh, S. S., & Woodside, A. G. (2014), “Applying complexity theory to deepen service dominant logic: Configural analysis of customer experience-and-outcome assessments of professional services for personal transformations”, *Journal of business research*, Vol. 67 No. 8, pp. 1647-1670.
- Zahra, A., & Ryan. C. (2007). “From chaos to cohesion - Complexity in tourism structures: An analysis of New Zealand’s regional tourism organizations”, *Tourism Management*, Vol. 28 No.3, pp.854-862.

**Table 1. Study of the tenets**

Tenets	Configuration
T1: The same attribute (factor) can determine a different commitment profile depending on its configurational structure/interaction with the others.	C1. All six of the examined simple conditions should appear at least in one sufficient configurational solution, i.e. generated solution.
T2: Recipe principle: If two or more simple attributes create a complex configuration, higher scores will be consistently assigned to this generated solution.	C2. At least two out of the six simple attributes should appear in each generated solution.
T3: Complex interactions/configurations may affect entrepreneurs' overinvestment.	C3. Each sufficient generated solution should provide a different interaction among simple attributes.
T4: Within different combinations, the simple attributes can either positively or negatively influence entrepreneurs' overinvestment.	C4. None of the simple attributes should appear in all generated solutions.
T5: Equifinality principle: A sufficient configurational solution, thus the presence of overinvestment, is not necessary the result of higher outcome scores for the simple conditions.	C5. fsQCA should provide a minimum of two generated solutions for describing the commitment profiles to overinvest.
T6: Although the outcomes scores are high, such a given recipe is not relevant for all cases, thus it cannot lead to overinvestment in all cases.	C6. There should be no generated solutions that have a coverage in all cases.

**Table 2. Correlation matrix**

	1	2	3	4	5	6	7
1 Affective commitment project	1						
2 Affective commitment profession	.578	1					
3 Instrumental commitment project	.396	.366	1				
4 Instrumental commitment profession	.369	.415	.591	1			
5 Investment	.355	.318	.319	.221	1		
6 Overinvestment	.253	.271	.355	.233	.344	1	
7 Advancement	.248	.216	.268	.191	.570	.367	1

In all correlations p<.01

**Table 3. Sufficient configurations**

Complex Solution	Raw Coverage	Unique Coverage	Consistency
Model: f_o=f(f_age,f_b,f_ap,f_apr,f_ip,f_ipr,f_i,f_a)			
S1: f_age,f_b,f_ap,f_apr,~f_ip,~f_ipr,f_i,~f_a	.40928	.12389	.86382
S2: ~f_age,~f_b,f_ap,~f_apr,f_ip,~f_ipr,~f_i,f_a	.41093	.09382	.85038
S3: ~f_age,f_b,~f_ap,f_apr,~f_ip,f_ipr,~f_i,~f_a	.39283	.10383	.81273
S4: f_age,~f_b,~f_ap,~f_apr,f_ip,f_ipr,~f_i,~f_a	.42421	.11937	.79984
S5: f_age,~f_b,f_ap,~f_apr,~f_ip,~f_ipr,f_i,f_a	.40822	.10905	.78380
<i>Solution Coverage:</i> .40892		<i>Solution Consistency:</i> .82036	

### Algorithms

Age: f\_age  
Affective Com<sup>5</sup> Profession: f\_apr  
Investment: f\_i

Parent's Business: f\_b  
Instrumental Com Project: f\_ip  
Advancement: f\_a

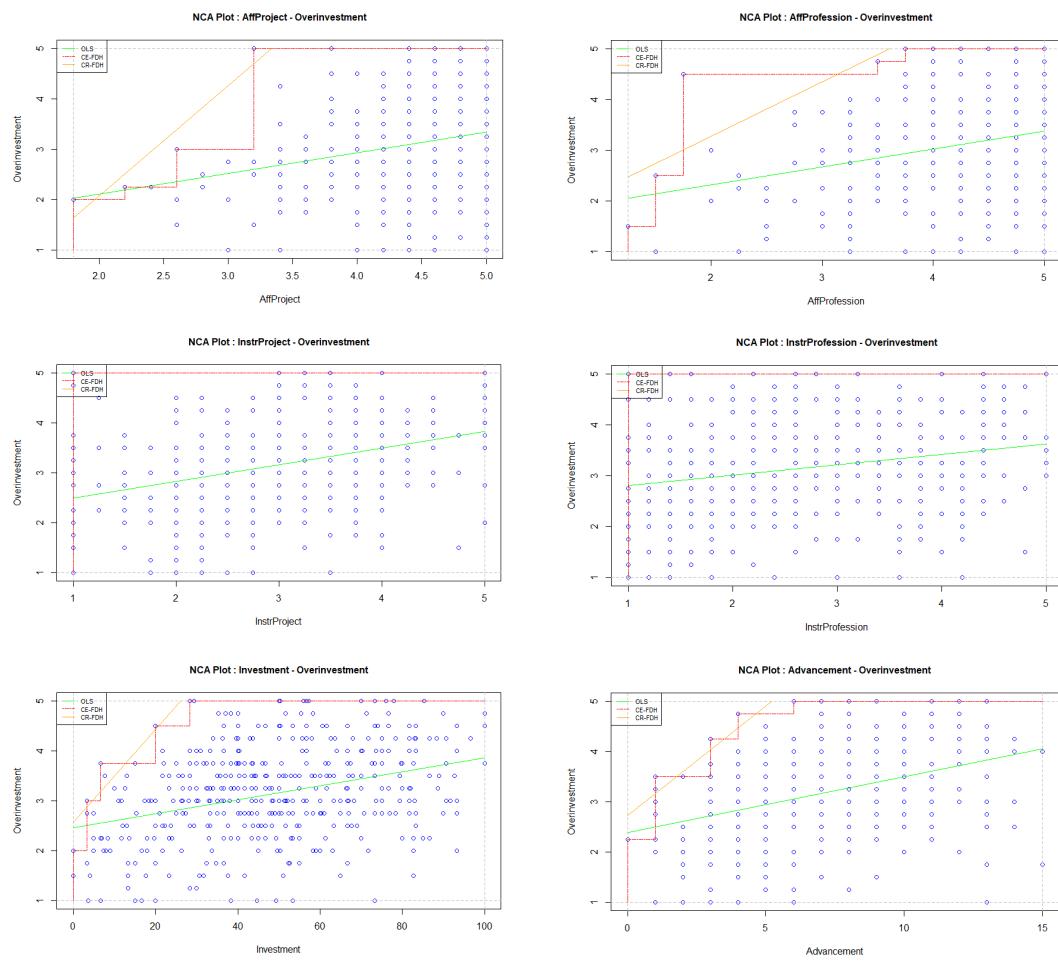
Affective Com Project: f\_ap  
Instrumental Com Profession: f\_ipr  
Overinvestment: f\_o

**Table 4. Size effects**

	ce_fdh	cr_fdh	p-value
1 Affective Com Project - Overinvestment	.273	.202	.029
2 Affective Com Profession - Overinvestment	.163	.199	.005
3 Instrumental Com Project - Overinvestment	.000	.000	1
4 Instrumental Com Profession - Overinvestment	.000	.000	1
5 Investment - Overinvestment	.094	.080	.000
6 Advancement - Overinvestment	.117	.099	.000

<sup>5</sup> ‘Com’ represents Commitment in Table 3 and Table 4.

**Figure 1. NCA findings**



## Appendix

### Appendix 1 – Definitions of the four profiles of the study

<b>Profile</b>	<b>Definition</b>
Affective profile	Entrepreneur affectively committed to the project and to the profession
Project committed profile	Entrepreneur completely (affectively and instrumentally) committed to the project
Profession committed profile	Entrepreneur completely (affectively and instrumentally) committed to the project
Affective project profile	Entrepreneur affectively committed to the project

### Appendix 2 – From organizational to entrepreneurial commitment: an historical perspective.

<b>Reference</b>	<b>Foci</b>	<b>Contribution</b>
Allen and Meyer, 1990	Organization	First scale of the three-component model of commitment
Meyer, Allen and Smith, 1993	Organization Profession	First empirical extension of the model to the profession
Meyer and Herscovitch, 2001	Organization (belonging) Organization (performance) Organization Goals Organizational Change	Distinction between <i>focal</i> behaviour and <i>discretionary behaviour</i> , proposed extension to non-social targets
Herscovitch and Meyer, 2002	Organizational Change	First empirical extension of the model towards organizational change
Wasti, 2002	Organization	Model adapted to Turkish culture (collectivist society)
Stinglhamber, Bentein, and Vandenberghe, 2002	Organization Profession Manager Work-group Clients	Empirical extension of the model to include managers, work-groups and clients

Bentein, Vandenberghe, and Dulac, 2004	Organization	The concept of continuance commitment split in two dimensions: perceived sacrifices and perceived lack of alternative (French version)
Powell <i>et al.</i> , 2004	Organization	Revision of the continuance commitment scale, distinguishing few perceived alternatives from perceived high sacrifices
Meyer <i>et al.</i> , 2006	Social and non-social	Proposition of a two-component model distinguishing value-based and exchange-based commitment
Jaros, 2007	Organization	Criticism of the 1990's model and new items propositions
Dawson <i>et al.</i> , 2014	Family enterprises	Empirical study using the model measures heirs' commitment to family businesses
Mignonac <i>et al.</i> , 2015	Franchise organization	Empirical study using the model measures franchisees' commitment to franchise organizations
Adam and Fayolle, 2015	Entrepreneurial project	First propositions adapting the scale to the entrepreneurial context
Tasnim and Singh, 2016	Entrepreneurial behaviour	Empirical extension of the model to entrepreneurial behaviour with second-order factors, using a sample of successful entrepreneurs
Valéau, 2017	Entrepreneurial profession	First empirical extension of the model to the entrepreneurial profession, using sample business owners (MEDEF) (French version)
Gabay-Mariani, 2022	Entrepreneurial project and Entrepreneurial Profession	First scale of entrepreneurial commitment (French version), distinguishing affective and instrumental commitments

Gabay-Mariani Boissin, 2021	and Entrepreneurial project and Entrepreneurial Profession	First empirical test of commitment profiles among nascent entrepreneurs
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