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Obsessive passion and the venture team: When co-founders join, and when they don't

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ABSTRACT

We investigate how potential co-founders' perceptions of a founder's obsessive passion (OP) influence the decision to join a venture team. Using a conjoint experiment with a primary sample of 116 founder-entrepreneurs and validating it with an additional sample of 59 founder entrepreneurs, we found that potential co-founders were more likely to join if they perceived that the founder had OP for developing ventures. Potential co-founders were less likely to join if they perceived OP for founding ventures. Further, we found significant interactions between perceived OPs, as well as interactions between perceived OP and potential co-founders' own OP.

Executive summary

An entrepreneur's passion plays a significant role in the entrepreneurial process. Research shows how passion influences entrepreneurial behaviors (Biraglia and Kadile, 2017) and venture creation processes (Baum et al., 2001), and how perceived passion influences stakeholders' decision-making (Chen et al., 2009; Mitteness et al., 2012; Shane et al., 2019). However, current research has two important limitations. First, our understanding of how perceived passion influences venture stakeholders' decision-making is focused almost exclusively on investors (Murnieks et al., 2016; Shane et al., 2019; Warnick et al., 2018), with only one exception for employees (Breugst et al., 2012). It largely ignores other significant venture stakeholders, such as co-founders, who also play a significant role in the establishment of a new venture (Klotz et al., 2014). Second, our understanding is limited regarding whether perceived obsessive passion (OP) has a positive or negative impact on venture stakeholders. Most outcomes of OP tend to be regarded as negative, both in daily life (Lalande et al., 2017; Murnieks et al., 2020; Vallerand et al., 2003) and in entrepreneurship (Ho and Pollack, 2014; Pollack et al., 2020). However, in the context of co-founder recruitment, it is also possible that the founder's OP provides emotional, cognitive, and behavioral cues that attract potential co-founders by conveying the founder's extreme tenacity and commitment to the venture (Murnieks et al., 2016; Warnick et al., 2018).

To address these limitations, we investigate the impact of perceived OP for three entrepreneurial activities—inventing, developing, and founding—on a potential co-founder's decision to join a venture team. We highlight the nature of OP as repeated, uncontrollable, and long-term activity commitment (Mageau et al., 2005; Thorgren and Wincent, 2015; Vallerand et al., 2003). Drawing on the two-dimensional model of interpersonal attraction (Chen et al., 2009; Montoya and Horton, 2014), we argue that potential co-founders are more (less) likely to join if they perceive the founder's OP as indicative of the founder's high (low) capacity and willingness to facilitate

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the co-founders' own personal goals and interests.

Through a conjoint experiment with 116 founder entrepreneurs, validated with an additional 59 founder entrepreneurs, we found that potential co-founders were more likely to join when they perceived that the founder had OP for developing ventures. Potential co-founders were less likely to join when they perceived the founder to have OP for founding ventures. Furthermore, perceived OP for founding ventures weakened the positive impact of OP for developing ventures. Finally, our results showed that the positive impact of perceived OP for inventing opportunities increases for potential co-founders with similarly high OP for inventing.

We contribute to entrepreneurship research first by offering novel insight on the role of passion in team member entry (Cardon et al., 2017). It is important to investigate the passion of the individual (such as the founder) who directly interacts early on with potential co-founders. Consequently, we introduce the role of the founder's OP in the team formation process and suggest that research should consider new member addition not only from the perspective of teams, but also from that of potential co-founders. Second, we show that a founder's (perceived) OP for the three entrepreneurial activities can have positive as well as negative impacts on potential co-founders' decisions to join a venture team. Thus, passions are not always positive when perceived by stakeholders, and OP does not always lead to negative outcomes for the affected entrepreneurs. Third, we offer a different perspective regarding the outcomes of OP for the psychology literature (Lalande et al., 2017; Vallerand et al., 2003). Although experiencing OP tends to cause negative outcomes for an individual, we describe the contexts in which OP might also favor the individual when it comes to others' perceptions.

1. Introduction

Entrepreneurs are often passionate individuals (Cardon et al., 2013; Gielnik et al., 2015). The uncertain nature of entrepreneurial journeys (McMullen and Shepherd, 2006) demands passion, defined as a strong inclination toward an activity that someone likes, finds important, and in which they invest time and energy (Pollack et al., 2020; Vallerand et al., 2003). Research shows how passion influences entrepreneurial behaviors (Biraglia and Kadile, 2017) and venture creation processes (Baum et al., 2001), and how perceived passion influences stakeholders' decision-making (Chen et al., 2009; Mitteness et al., 2012; Shane et al., 2019). Given these contributions, an important limitation in the current research motivates our work. We know little about how the perception of a founder's obsessive passion (OP)—defined as a type of passion inducing uncontrollable engagement with an activity (Vallerand et al., 2003)—influences the decision-making of key stakeholders, such as co-founders', to join a team or not.

First, co-founders are important because entrepreneurial teams are a popular and important way to organize new ventures, especially those high in innovation (Klotz et al., 2014; Lazar et al., 2020). Who will join a venture team and why they are more likely to do so has long-lasting implications for team composition and performance (Patzelt et al., 2020). Research on how perceived passion influences venture stakeholders' decision-making focuses almost exclusively on investors (Murnieks et al., 2016; Shane et al., 2019; Warnick et al., 2018), with only one exception for employees (Breugst et al., 2012). Present research has largely ignored other significant venture stakeholders, including co-founders, who also play a significant role in new ventures. Research suggests important links between team member entry and team collective passion (Cardon et al., 2017), but little research has investigated how the perceived passion of the founder influences co-founders' behaviors, such as their decision to join a venture team. The mechanisms that unite founders and lead to team formation thus remain poorly understood (Lazar et al., 2020).

Second, current research emphasizes that perceived passion can communicate positive signs of an entrepreneur's capability and willingness to achieve venture success (Murnieks et al., 2016; Warnick et al., 2018). However, our theoretical understanding is still limited regarding whether perceived OP has a positive or negative impact on venture stakeholders. Most outcomes of OP tend to be regarded as negative, both in daily life (Lalande et al., 2017; Murnieks et al., 2020; Vallerand et al., 2003) and in entrepreneurship (Ho and Pollack, 2014; Pollack et al., 2020). However, in the context of co-founder recruitment, it is also possible that the founder's OP provides emotional, cognitive, and behavioral cues that attract potential co-founders by conveying the founder's extreme tenacity and commitment to the venture (Murnieks et al., 2016; Warnick et al., 2018). We still lack both theoretical development and empirical evidence on this question.

To address this knowledge gap, we use a conjoint experiment with a primary sample of 116 real founder entrepreneurs. We also conduct a validation test with an additional 59 founder entrepreneurs. We investigate OP for three entrepreneurial activities—inventing, developing, and founding—highlighting the nature of OP as repeated, uncontrollable, and long-term activity engagement (Mageau et al., 2005; Thorgren and Wincent, 2015; Vallerand et al., 2003).

Based on interpersonal attraction theory (Byrne and Griffitt, 1973; Montoya and Horton, 2013, 2020; Montoya et al., 2018), we developed our hypotheses regarding potential co-founders' decisions to join a team. Interpersonal attraction primarily refers to an individual's positive affective evaluation of another individual (Byrne and Griffitt, 1973). Based on the two-dimensional model of interpersonal attraction (Chen et al., 2009; Montoya and Horton, 2014), we argue that potential co-founders are more (less) likely to join when they perceive the founder's OP as indicative of the founder's high (low) capacity and willingness to facilitate the co-founders' own personal goals and interests. Furthermore, according to research on similarity attraction (Montoya and Horton, 2013, 2014), individuals who perceive similarity between themselves and a target tend to offer the target more favorable evaluations of capacity and willingness. We argue this applies analogically to perceived OP. Thus, we argue that co-founders' own OPs are important individual-level moderators.

We make three contributions. First, we find that the passion of the individual (such as the founder) who directly interacts with potential co-founders even before the team is formed can have a strong impact on potential co-founders' decisions to join. Furthermore, our study also indicates that research on venture team formation should consider not only the preferences of the team (Cardon et al., 2017; Forbes et al., 2006; Ruef et al., 2003) but potential co-founders' perceptions as well.

Second, we find that the co-founders' perception of a founder's OP can have positive as well as negative impacts on their decision to

join a venture team. The impact of perceived OPs on potential co-founders' decisions depends on the target activities of OP. These results allow us to advance the existing literature on passion in entrepreneurship that hitherto 1) overwhelmingly emphasizes the positive impact of perceived passion (Mitteness et al., 2012; Murnieks et al., 2016; Warnick et al., 2018), and 2) typically describes OP as a negative characteristic of entrepreneurs (Ho and Pollack, 2014).

Third, we contribute to the literature on passion in psychology (Lalande et al., 2017; Vallerand et al., 2003), which has until now also emphasized negative outcomes for individuals experiencing OP. We offer a different view, where the perception of OP by others might favor those individuals with OP and lead to positive results in specific contexts, despite the fact that OP often causes negative outcomes for individuals. Concretely, our findings indicate that the perception of OPs for inventing and developing can lead to interpersonal attraction in the venture context.

2. The targets of perceived obsessive passion

To set the stage, we clarify the nature and targets of the OP under investigation. Consistent with the existing theoretical framework about entrepreneurial passion (Cardon et al., 2009), we focus on perceived OP for 1) inventing (exploring) opportunities, 2) developing ventures—i.e., engaging in activities related to market development and financial growth—and 3) founding ventures.

We focus on OP rather than harmonious passion (HP), a more balanced form of passion (Vallerand et al., 2003), or general passion. HP derives from an *autonomous* internalization of an activity into a person's identity, while OP develops from a *controlled* internalization of the activity into one's identity (Vallerand et al., 2003, p. 757). The key distinction between HP and OP is whether the urge to engage in the activity remains under the individual's control (Sirén et al., 2016). Individuals with high OP for an activity (Lalande et al., 2017; Warnick et al., 2018) cannot control their internal urge to engage in it. Previous conceptualizations of OP offer clear guidance that individuals with OP "*cannot help but to engage in the passionate activity*" (Vallerand et al., 2003: 757). A typical example are people who have OP for gambling (Mageau et al., 2005), as they are unable to control their desire to place bets.

Further, we focus on OPs for inventing, developing, and founding activities. These OPs are, by nature and definition, engaged in 'uncontrollably' by the founder. That is, if a person is passionate about an activity (e.g., playing football, reading, jogging), repeated engagement is more reflective of passion than a single engagement, because passion indicates a strong urge to re-engage in the activity (Vallerand et al., 2003). This is consistent with existing findings indicating that passion has a long-term nature—i.e., it remains stable for a long period of time (Cardon et al., 2013).

3. Team formation and interpersonal attraction

Our focus is on the decision of potential co-founders to join a new venture team. A team continues to be a team when it is able to 1) perform its specific tasks, 2) adapt to changing task contexts, and 3) satisfy team members' individual needs (Mathieu et al., 2008). In the context of venture teams, the primary goals and interests of a co-founder typically are to achieve venture success (e.g., high growth and profitability) and satisfy personal gains and interests (Forbes et al., 2006; Klotz et al., 2014). Furthermore, given the inherent uncertainty in entrepreneurship, achieving venture success often requires the team to adapt to changing tasks, explore new innovations, and continuously develop the venture (Shepherd et al., 2017).

Existing research regarding team formation and new member addition focuses mostly on the perspective of the team (Forbes et al., 2006; Lazar et al., 2020; Lazar et al., 2021). Here the dyadic interaction between the potential co-founder and leading figures on the team—i.e., the founder—becomes central. Hence, from the perspective of co-founders, we argue that perceived OP connects with the interpersonal attraction process that influences potential co-founders' decision-making through the perception of the founder's characteristics.

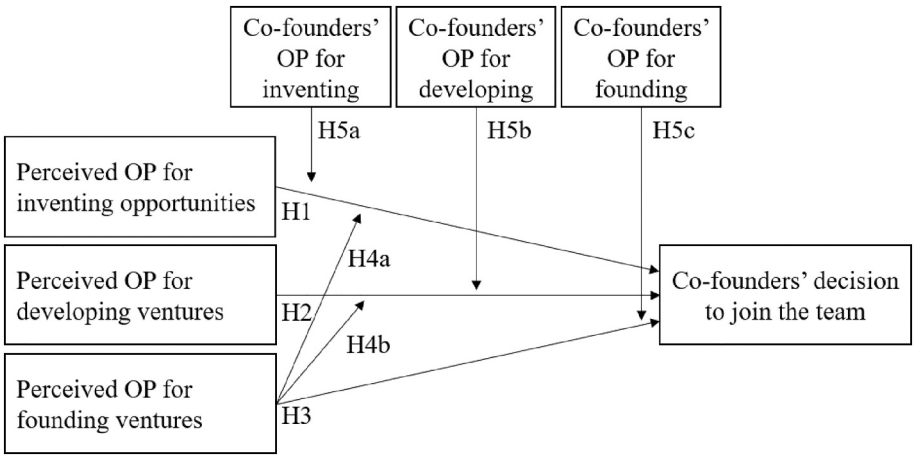

Fig. 1. Research model.

While extensive studies emphasize the process of similarity attraction (Montoya and Horton, 2013), Montoya and Horton (2014) extended the previous understanding and propose a two-dimensional model of interpersonal attraction. This model suggests that dyadic interpersonal attraction is determined by one individual's perception of another's 1) capacity and 2) willingness to facilitate the perceiver's needs/goals. Accordingly, we study the decision to join a team based on the OP of the "lead" founder and argue that potential co-founders assess the founder's capacity and willingness to facilitate their own goals and interests. Perceived OP serves as an important information cue for such an assessment, as it presents (perceived) evidence regarding the founder's emotions and thoughts and the actions the founder has taken (Chen et al., 2009).

Based on previous empirical evidence, Montoya and Horton (2014) indicated that similarity in individual characteristics actually increases attraction because of a perceiver's positive assessment of the target's capacity and willingness. This suggests that similarities in OPs between founder and potential co-founders might lead to a positive appraisal of the perception of the founder's OP. Thus, we argue that co-founders are more likely to join if they and the founder share the same OP.

We propose the research model shown in Fig. 1 and elaborate on our arguments in the following sections.

4. Hypothesis development

4.1. Perceived OP for inventing opportunities

We argue that the perception of a founder's OP for inventing opportunities helps attract potential co-founders and positively influences the decision to join the venture team. Perceived OP conveys information about the founder's capacity and willingness to perform as an inventor. Inventing is an activity that is not only important at the beginning of the venture creation process, but also necessary throughout the venture's life. To be attractive to a potential co-founder—i.e., to deliver on the team's continuing promise to perform, adapt, and satisfy—the founder would need to signal the ability and willingness to invent and innovate continuously to reach and maintain high performance by adapting to change (Johnson et al., 2014; Wang et al., 2019; West and Anderson, 1996).

Shepherd and Gruber (2020) indicate that, as an initial step in venture success, entrepreneurs need to explore a variety of opportunities. Though costly, it is still necessary because many initially identified opportunities turn out to be unworkable, and most ventures have to pivot and change their targets to more promising markets or products (Tal-Itzkovitch et al., 2012). Rather than focusing directly on one opportunity for development, it is necessary first to explore widely and then prioritize opportunities (Clark et al., 2019), thus optimizing long-term potential (Christensen et al., 2015). Even after this initial stage, exploration of opportunities is still necessary for firms to achieve sustainable competitiveness (March, 1991). Environmental changes continuously emerge, regardless of entrepreneurs' expectations (McMullen and Shepherd, 2006; Milliken, 1987). To stay competitive, entrepreneurs need to pay attention to important environmental changes and (re-)invent their business to take advantage of new opportunities and adapt to new realities (like a pandemic) and changed contexts (Shepherd et al., 2017). Therefore, considering the potential of the venture as well as personal gain, potential co-founders are likely to seek signs of the founder's capacity and willingness to take advantage of inventing opportunities.

Thus, potential co-founders are likely to be attracted by the founder's OP for inventing opportunities. Such an OP compels the founder to engage in the exploration and invention processes uncontrollably (Vallerand et al., 2003). OP for inventing opportunities is likely to create internal pressure for the founder to invest considerable personal effort in inventing opportunities continuously (Seguin-Levesque et al., 2003). As a result, potential co-founders would perceive the founder as having the motivation, energy, and possible experience in place—i.e., showing the willingness and capability to excel at "connecting the dots" in terms of current events and trends to generate new or re-invent existing opportunities (Baron, 2006). It also signals willingness and capability to conduct radical venture inventions for high growth (Strese et al., 2018). These characteristics signal high chances of interpersonal attraction because the co-founder's own interests and goals are more likely to be met.

Hypothesis 1. *Potential co-founders' likelihood of joining the venture team is positively associated with the perception of the founder's OP for inventing opportunities.*

4.2. Perceived OP for developing ventures

Similar to inventing activities, developing activities also need to continue throughout the life of the venture (Nuscheler et al., 2019; Patzelt et al., 2020). Perceived OP for developing ventures conveys some important advantages, such as the founder's extreme dedication to developing activities, as if the founder were addicted to them (Wang and Chu, 2007). With such an OP, the founder would pursue developmental activities, even if they demanded substantial effort (Dalla Rosa and Vianello, 2020). Potential co-founders would perceive such OP as indicative of the founder's strong capacity and willingness to achieve venture growth. It is also likely to be essential for the co-founders' achievement of their own personal goals and gains.

Perceived OP for developing conveys to potential co-founders that performance and adaptability are important to the founder, making this perception relevant for joining a new venture team. Performance and adaptability are two core pillars of any professional venture development strategy (Mathieu et al., 2019; Salas et al., 2017). Potential co-founders would expect the founder to show strong desires for seeking venture development, because a venture that is struggling for survival and underperforming is unlikely to satisfy co-founders. Indeed, OP for developing is perceivable through clear dedication to improvement of team member capabilities and engagement in business improvements. Potential co-founders are attracted because it shows the founder's willingness and capability to continuously improve the venture, and, as a logical consequence, fulfill the expectations and personal aspirations of potential co-

founders.

OP for developing can be perceived as positive by potential co-founders because it allows them to determine the founder's willingness and capability as well as their understanding of the importance of nurturing, growing, and expanding the venture in the face of risk and uncertainty (Cardon et al., 2009; McMullen and Shepherd, 2006). The specific context of the entrepreneurial journey reinforces these advantages, as entrepreneurship is full of uncertainty and challenges, requiring entrepreneurs to be persistent and determined in facing challenges and adapting to new situations (Brockhaus Sr, 1980; Burke et al., 2008; McMullen and Shepherd, 2006).

Hypothesis 2. *Potential co-founders' likelihood of joining the venture team is positively associated with the perception of the founder's OP for developing ventures.*

4.3. Perceived OP for founding ventures

Perceived OP for founding conveys some important drawbacks, as founding differs in two important ways from inventing and developing; this then fuels our next arguments. First, unlike inventing and developing, which are always important to a venture's sustainable performance, the founding activity is a delimited phase of the venture creation process focusing on the earliest activities for the new venture to get established (Delmar and Shane, 2006; Fisher et al., 2016). Founders with an OP for founding might therefore focus on this phase and be less interested in activities beyond the founding stage. The founder's OP for the activities associated with the initial stage of the ventures could then cast reasonable doubt on the long-term capacity and willingness of the founder to maintain performance and adaptability beyond this initial stage. A founder with OP for founding might be less interested and active in later venturing stages, so the founder is less likely to satisfy the co-founder's long-term objectives for the venture and personal goals. The founder might resist attempts to professionalize roles, establish routines, increase the formal structure of the organization, or accept such responsibilities. Empirical evidence in this regard also suggests that the perception of the founder's passion for founding reduces the positive affect of employees at work, because employees perceive that the founder is motivated to create the next firm instead of making the current venture successful in the long run (Breugst et al., 2012). This relates directly to our second argument.

Second, unlike inventing and developing, which enable consistent engagement by the founder with the focal venture, OP for founding activities makes it likely that the founder gets involved in ventures other than the focal one. Thus, the founder's capacity and willingness to engage in founding activities is valuable during early venturing days, and reengaging in that activity (possibly for other ventures) might be distracting to the development of the focal venture in later stages. Even if it is still uncertain whether the founder would eventually start ventures other than the focal one, the perceived OP for founding conveys this potential risk. Different ventures are likely to involve different teams, and regardless of whether the founder starts ventures simultaneously or sequentially, it is likely to distract the founder's attention, resources, and capabilities from the focal venture, thereby leading to maladaptive outcomes. Evidence from habitual entrepreneurs also suggests that they tend to extract valuable employees away from the existing venture to new ones (Iacobucci and Rosa, 2010). Such behavior could occur with founders displaying OP for founding ventures. While such behavior can satisfy the founder's OP, it would deter potential co-founders, as it directly damages the competitiveness of the focal venture and thereby reduces the benefits to co-founders. Based on these two differences, we suggest that the perception of the founder's OP for founding ventures reduces the likelihood of potential co-founders' deciding to join the venture, because it reduces the co-founders' chances of achieving their own goals and making personal gains.

Hypothesis 3. *Potential co-founders' likelihood of joining the venture team is negatively associated with the perception of the founder's OP for founding ventures.*

Extending these arguments, we suggest that perceived OP for founding ventures can also reduce the positive influence of perceived OPs for inventing opportunities and developing ventures on potential co-founders' decisions to join the venture. Co-founders might think there is a risk that the founder engages in these activities in other new ventures outside the focal one. The continued commitment to inventing and developing is necessary for long-term venturing outcomes and thus imperative for the co-founder's own objectives and priorities. These concerns about founders perceived to display OP for founding, therefore, decrease the positive impact of perceived OPs for inventing and developing.

Hypothesis 4a. *Perceived OP for founding ventures reduces the positive impact of perceived OP for inventing opportunities on potential co-founders' decisions to join the venture team.*

Hypothesis 4b. *Perceived OP for founding ventures reduces the positive impact of perceived OP for developing ventures on potential co-founders' decisions to join the venture team.*

4.4. The interaction between perceived OP and co-founders' own OP

Research in entrepreneurship consistently indicates that similarity in member characteristics helps attraction and team formation (Ruef et al., 2003; Steffens et al., 2012). Such characteristics include not only surface-level characteristics like education, class, sex, race, and age, but also characteristics like beliefs, preferences, and goals.

Montoya and Horton (2014: 73) emphasize that "*positivity of one's inferences about a target, rather than similarity* per se*, plays a central role in the similarity effect*". Numerous empirical studies provide additional support for this argument in psychology (Condon and Crano, 1988; Lydon et al., 1988; McLaughlin, 1970; Montoya and Horton, 2004; Singh et al., 2007). This perspective suggests that perceived

similarity in passion might influence attraction. The perceiver's assessment of the target's "similar" passion would lead to a more positive inference regarding the target's capacity and willingness to facilitate the perceiver's goals (Kaplan and Anderson, 1973; Montoya and Horton, 2014). Thus, we argue that potential co-founders' own OP would have positive moderating effects on perceived OP for all three activities (inventing, developing, and founding).

First, for a co-founder with high OP for inventing, engaging in opportunity exploration becomes a substitute for self-worth (Mageau et al., 2009; Vallerand et al., 2003). As such, the co-founder is more eager to pursue inventions and expects the founder to be more capable of and willing to support the endeavor, or even collaborate in the invention process. Second, potential co-founders with an OP for developing tend to experience a strong urge to adopt aggressive market practices to attract new customers and achieve financial growth (Cardon et al., 2009; Vallerand et al., 2003). For this type of potential co-founder, the perception of the founder's OP for developing is more positive, as potential co-founders would likewise favor the founder's capacity for and willingness to adopt aggressive market strategies. Third, when a potential co-founder has high OP for founding, the founder's goals and interests are also expected to be more aligned with the founding activity, such as founding extra ventures or becoming a serial/portfolio entrepreneur. That means the potential co-founder's goals and interests would not only be related to the development and success of the focal venture, but would also be connected to the possibility of creating more ventures. Accordingly, we argue that the negative aspects from the perception of a founder's OP for founding ventures are less important for a co-founder with high OP for founding. This is because such a co-founder would appreciate more (and thus pay more attention to) the founder's potential capacity to collaborate on founding more ventures and willingness to tolerate the co-founder's desire to engage in founding ventures other than the focal one.

Hypothesis 5a. *Potential co-founders' own OP for inventing enhances the positive relationship between the co-founders' perception of the founder's OP for inventing opportunities and the decision to join the venture team.*

Hypothesis 5b. *Potential co-founders' own OP for developing enhances the positive relationship between the co-founders' perception of the founder's OP for developing ventures and the decision to join the venture team.*

Hypothesis 5c. *Potential co-founders' own OP for founding reduces the negative relationship between the co-founders' perception of the founder's OP for founding ventures and the decision to join the venture team.*

5. Methods

5.1. Conjoint analysis

We investigate factors influencing co-founders' decision-making using a conjoint experiment—a technique requiring respondents to make a series of decisions based on a set of attributes from which the underlying structure of their decisions can be decomposed by means of hierarchical regression and hierarchical linear modeling (HLM) (Choi and Shepherd, 2004; Lohrke et al., 2010). The experimental design is typically orthogonal for metric conjoint analysis, as it guarantees that the effect of one factor or interaction can be estimated separately from the effect of any other factor or interaction in the model. Conjoint analysis is a suitable and useful method in entrepreneurship studies for investigating entrepreneurial decision-making (Lohrke et al., 2010; Shepherd et al., 2015; Shepherd and Zacharakis, 1999), as it enables researchers to capture the decision-makers' decision policies while they are "in use", thus overcoming many of the limitations associated with post-hoc techniques that require extensive and potentially error-prone introspection (Wood et al., 2014).

In our study, we asked participants to assess a series of hypothetical co-founder recruitment contexts and indicate their likelihood of joining the venture team. Following previous research using conjoint analysis (Warnick et al., 2018), our investigation involves nested data: the decisions (level 1) are nested in each of the participants (level 2). We captured respondents' individual differences through a post-experiment questionnaire and were thus able to test the hypothesized cross-level interactions included in our hypotheses.

5.2. Sample

The participants in our main study were founder entrepreneurs who owned and operated at least one venture in the southeast region of China at the time of investigation. This sample was especially suitable to our investigation because these participants had entrepreneurial experience and were likely to be familiar with the real decision-making contexts of team member formation. We approached these participants through the popular entrepreneurship social platform *Welian* (www.welian.com), which focuses on connecting entrepreneurs with investors and formal entrepreneurs' clubs. With support from the founder of the platform and the entrepreneurs' clubs, we distributed online survey links via WeChat, a mobile app more commonly used for business communication than email in China. We contacted 309 entrepreneurs in 269 ventures (as some participants are co-founders, no more than two were from the same venture). We received 123 complete responses (40% response rate). Of these, seven reported no entrepreneurial experience; they were excluded. Our final sample contains 116 founder entrepreneurs. These entrepreneurs have an average entrepreneurial experience of 7.46 years (s.d. 6.27) and 3.23 ventures (s.d. 4.75); 96 (83%) of them have co-founder experience and 103 (89%) have received invitations to join venture teams. A total of 89 (77%) participants are male. The average age is 38 years (s.d. 8.27). A total of 87 (75%) participants have an undergraduate or higher-level degree.

To test nonresponse bias (Dooley and Lindner, 2003), we employed analysis of variance (ANOVA) tests to check for differences between early and late respondents in terms of their demographics. None of the results is significant ($p > 0.05$). Each of the participants made eight decisions in the original profiles of our conjoint experiment, resulting in 928 observations. We added two randomly

replicated profiles for testing test-retest reliability.

5.3. Research instrument

We designed our research instrument following a number of published conjoint studies in entrepreneurship (Haynie et al., 2009; Mitteness et al., 2012; Shepherd et al., 2013; Warnick et al., 2018; Wood et al., 2014). It consisted of three components: (1) a task introduction and attributes descriptions, (2) a series of conjoint profiles, and (3) a post-experiment survey. The instrument was first designed in English. We then used the conventional method of back-translation (Brislin, 1970) to translate the instrument from English to Chinese.

In the task introduction and attribute descriptions, we provided the definition of OP (Cardon et al., 2009; Vallerand et al., 2003), as well as detailed explanations of the decision-making task and each of the attributes used in the conjoint experiment. To provide a common context for participants (Haynie et al., 2009; Warnick et al., 2018; Wood et al., 2014), in the task introduction we asked participants to make the following three assumptions before making their assessments: (1) "This venture project is in the initial stage. It is in an industry with a high growth potential, has a scalable business model, a defensible competitive position, and strong potential regarding profit margins. This project belongs to one of the major industries currently targeted by the financial market." (2) "The current team has all other necessary business expertise except yours. You are sufficiently familiar with the founder and other core team members." (3) "The position offered to you is that of a co-founder rather than a normal employee. The shares and the salary offered to you well satisfy your expectation of quitting your current work. You have enough capital for the investment."

In the conjoint experiment section, respondents were asked to evaluate a series of hypothetical attribute profiles. In each profile, the three OP attributes were represented by one of two possible levels, resulting in eight profiles with different attribute level combinations, as we used a full factorial design. In the end, each respondent evaluated ten profiles (eight original profiles and two random replications).

Before the large-scale data collection, we conducted pre-tests and interviews with three active co-founders to ensure face validity, establish understandability of the instrument, and ensure the length of the experiment was suitable. In the interviews, we asked if they understood the meaning of obsessive passion, if the explanation of each attribute was clear to them, and if both attribute levels were sufficiently different and clear. We asked the entrepreneurs if the activities of obsessive passion reflected the entrepreneurial reality they had experienced, and if they understood the decision-making tasks in the experiment as something they would normally consider. Respondents answered affirmatively. Interview partners further confirmed that these attributes were indeed important to their real-life decision-making.

5.4. Dependent variable

To capture respondents' decision outcomes regarding the likelihood of joining the venture team, we adapted the dependent variable used in Wood et al.'s (2014) work, which focused on entrepreneurs' likelihood of pursuing opportunities. The adaptation is appropriate because for co-founders, the decision to join a venture team is similar to the decision to pursue an opportunity. Consequently, we measure respondents' likelihood of joining the venture team using a 7-point Likert scale: 1: low probability to 7: high probability (Murnieks et al., 2016; Warnick et al., 2018).

5.5. Explanatory variables: Independent, control, and moderating

Level 1: Decision-level explanatory variables. We designed our attributes and attribute levels following previous research (Murnieks et al., 2016; Warnick et al., 2018). Similar to Warnick et al.'s (2018) study, we investigated if the founder was perceived to have "tremendous" (high) OP, as compared with if the founder was perceived to have only "some" (low) OP. Accordingly, our decision-level variables were designed and operationalized as binary archetypes. Table 1 below shows the details.

Further, we conducted a pilot test[1] to validate the attribute descriptions using Amazon MTurk (general public, U.S., Canada, UK; n = 78). The results supported our descriptions leading to the consideration of OP rather than harmonious passion or other alternatives (e.g., confidence, optimism, flexibility, determination, devotion, and openness).

Level 2: Individual-level variables. Obsessive entrepreneurial passion. We adapted the 13-item entrepreneurial passion scale developed by Cardon et al. (2013) based on the scale of OP in the work of Vallerand et al. (2003). Cronbach's alphas of obsessive passion for inventing, founding, and developing are 0.72, 0.78, and 0.77, respectively. We measured co-founders' OPs for inventing (5 items), founding (4 items), and developing (4 items) using the means of corresponding items. In a second pilot test, we validated the adapted scale again using Amazon MTurk (general public, U.S., Canada, UK; n = 109). The OP scale had similarly high structural validity compared to the original entrepreneurial passion scale. The OP scale also had good discriminant validity, i.e., it is different from the original entrepreneurial passion scale. Finally, we validated the OP scale and the entire instrument on a student sample (n = 177) at a European business school. The results for the scale validation tests are presented in Appendix B.

Controls. We controlled for participants' age, gender, education, and entrepreneurial experience, which are likely to influence their decision-making (Mitchell and Shepherd, 2010; Murnieks et al., 2011; Wood et al., 2014). We controlled for participants' co-founder

[1] In this research, we conducted three separate pilot tests. Appendix A summarizes the purposes, samples, and results.

Table 1
Operationalization of independent variables (attributes).

Variables	Levels
OP for inventing	*Extreme (high):* The founder shows tremendous obsessive passion for identifying, inventing, and exploring new opportunities. *Modest (low):* The founder shows some obsessive passion for identifying, inventing, and exploring new opportunities.
OP for developing	*Extreme (high):* The founder shows tremendous obsessive passion for developing ventures (market expansion and financial growth). *Modest (low):* The founder shows some obsessive passion for developing ventures (market expansion and financial growth).
OP for founding	*Extreme (high):* The founder shows tremendous obsessive passion for founding (multiple) new ventures. *Modest (low):* The founder shows some obsessive passion for founding (multiple) new ventures.

experience and whether they were invited to join as co-founders. Results are robust when excluding all controls.

6. Analysis and results

6.1. Study 1: main study of founder entrepreneurs

The main sample provided 928 observations nested in 116 entrepreneurs. Furthermore, 232 observations from the randomly replicated profiles were generated. The mean test-retest correlation for the dependent variable was 0.88, indicating high reliability. We compared the observations from the replicated profiles with the corresponding observations from the original profiles based on the assumption that if respondents provided reliable responses and understood our manipulation of attributes and contexts, there would be no significant difference between the average responses for the original profiles and those of the replicated profiles (Green and Srinivasan, 1990; Hair et al., 2006). The means for our dependent variable for the original profile compared to the repeat profiles were 4.13 vs. 4.07. The difference was not significant ($T = -0.67$, $p = 0.51$). These findings suggest reliable responses from our participants. Their consistency also provide evidence that respondents understood the attributes in the experiment. Furthermore, to check for multicollinearity, we tested the variance inflation factors (VIF). All VIFs were below three, i.e., below the accepted limit of ten (Nachtsheim et al., 2004). Table 2 (Study 1: Main study) shows HLM results.

To test our hypotheses, we used the observations from the original eight profiles; two replicated profiles were not used. We used standardized values of age, education, entrepreneurial experience, and co-founders' OP in our testing. The use of standardized values (compared to non-standardized values) did not change any significance levels.

Hypotheses 1, 2, and 3 predicted positive effects for OP for inventing and OP for development, and a negative effect for OP for founding. In Model 1 of Table 2, the results showed that the coefficient was positive and significant for perceived OP for inventing ($\beta = 0.49$, $p < 0.001$) with an effect size (Cohen's f^2, indicating the proportion of variance accounted for by the variable, over and above that of all other variables) of 0.03. The coefficient OP for developing was also positive ($\beta = 0.43$ $p < 0.001$) with an effect size of 0.02. The significant positive coefficients indicated that potential co-founders were more likely to join the venture team when they perceived that the founder had high OP for inventing and developing ventures. The coefficient for perceived OP for founding ($\beta = -1.03$, $p < 0.001$) was negative and significant. The effect size was 0.14. This result showed that co-founders were less likely to join if they perceived that the founder had high OP for founding new ventures. Hypotheses 1, 2, and 3 were supported.

Hypotheses 4a and 4b predicted moderation where a high level of perceived OP for founding reduces the positive impact of perceived OP for inventing and developing respectively. In Model 2 of Table 2, the results showed that perceived OP for founding negatively moderated the relationship between perceived OP for inventing and co-founders' decisions to join ($\beta = -0.45$, $p < 0.01$), as shown in Fig. 2. The effect size of this interaction was 0.01. The interaction between perceived OP for founding and for developing was negative but only marginally significant. Hypothesis 4a was supported but Hypothesis 4b was not supported.

Hypotheses 5a, 5b, and 5c predicted that a high similarity between co-founder's own OP and founder's perceived OP increased the likelihood to join. In Model 2 of Table 2, the results showed that co-founders' OP for founding positively moderated the relationship between perceived OP for founding and a potential co-founders' decision to join ($\beta = 0.33$, $p < 0.05$), as shown in Fig. 3. The effect size was 0.02. That means that the negative impact of perceived OP for founding decreased for potential co-founders with higher OP for founding themselves. Thus, Hypothesis 5c was supported. Hypotheses 5a and 5b were not.

6.2. Study 2: validation study of additional founder entrepreneurs

There were two potential limitations of our main study. First, we specified "multiple" in our experiment manipulation regarding perceived OP for "founding (multiple) ventures".[2] Hence, co-founders' decisions might be depended upon our usage of the word "multiple" in the description of OP for founding. Second, although we had sent our surveys to no more than two entrepreneurs of the

Table 2
HLM analysis on willingness to join the venture team.

Variables	Study 1: Main study		Study 2: Validation study	
	Model 1	Model 2	Model 3	Model 4
	Primary Entre	Primary Entre	Add Entre	Add Entre
Intercept	3.97*** (0.33)	3.80*** (0.38)	3.89*** (0.64)	3.89*** (0.61)
Control variables (Level 2)				
Age, gender, education, ent exp. (years), ent exp. (projects), co-founder exp	Yes	Yes	Yes	Yes
Main effects (Level 1)				
Perceived OP for inventing (H1)	0.49*** (0.12)	0.72*** (0.16)	0.32† (0.19)	0.32 (0.21)
Perceived OP for developing (H2)	0.43*** (0.11)	0.56*** (0.14)	0.32* (0.16)	0.59** (0.21)
Perceived OP for founding (H3)	−1.03*** (0.13)	−0.67*** (0.14)	−0.49** (0.17)	−0.21 (0.23)
Co-founders' OP for inventing	−0.04 (0.12)	−0.05 (0.14)	0.08 (0.14)	−0.13 (0.16)
Co-founders' OP for developing	−0.25* (0.11)	−0.18 (0.13)	−0.06 (0.14)	0.14 (0.19)
Co-founders' OP for founding	0.54*** (0.13)	0.26 (0.17)	−0.01 (0.14)	−0.38* (0.19)
Interactions (Level 1)				
Perceived OP for inventing (H4a) × Perceived OP for founding		−0.45** (0.17)		−0.01 (0.19)
Perceived OP for developing (H4b) × Perceived OP for founding		−0.26† (0.16)		−0.55* (0.23)
Interactions (Level 2)				
Perceived OP for inventing (H5a) × Co-founders' OP for inventing		0.17 (0.13)		0.29* (0.15)
Perceived OP for developing (H5b) × Co-founders' OP for developing		0.09 (0.13)		0.11 (0.19)
Perceived OP for founding (H5c) × Co-founders' OP for founding		0.33* (0.13)		0.35† (0.19)
Snijders/Bosker R-squared	L1: 17% L2: 20% n = 928 N = 116	L1: 19% L2: 20% n = 928 N = 116	L1: 7% L2: 11% n = 472 N = 59	L1: 9% L2: 11% n = 472 N = 59

Note: Primary Entre = Primary entrepreneur sample. Add Entre = Additional entrepreneur sample for validation.
† p < 0.10. * p < 0.05. ** p < 0.01. *** p < 0.001; robust standard errors in parentheses.

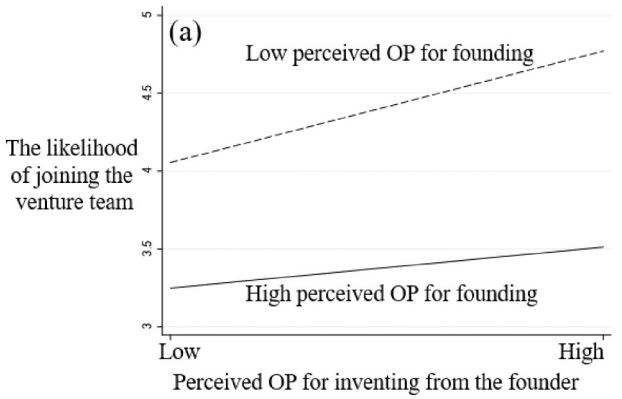

Fig. 2. Interaction between perceived OPs for inventing and founding (high and low represent two conditions of perceived OPs in the conjoint experiment manipulation).

[2] Instrument translation had specific challenges as exemplified by our operationalization of OP for founding. Our original intention in using the word "(multiple)" was to make the Chinese version of the instrument consistent with the (back-translated) English version. In the English version, adding the word "multiple" to "founding ventures" is essentially redundant, as the plural term of the noun does not need further specification to signal the possibility of founding more than one venture. In the Chinese version, the use of "founding ventures" introduced a potential ambiguity if it was the passion for founding a single venture, or founding one or more ventures (i.e. as a repeated behavior). In Chinese, "founding venture" and "founding ventures" have the exact same translation "创建企业". The singular and the plural term of venture/s are only contextually differentiated (i.e., depending on other content in a sentence or paragraph). We added the "multiple" in parenthesis in the Chinese version "创建(多个)企业", because it was a less ambiguous translation for "founding ventures". To be consistent with the English back-translation and transparent, we put the "multiple" in parenthesis in the English version. "Inventing opportunities" (发明机遇) and "developing ventures" (发展企业) do not share the same language issue, as Chinese entrepreneurs easily understand inventing and developing as repeated behaviors.

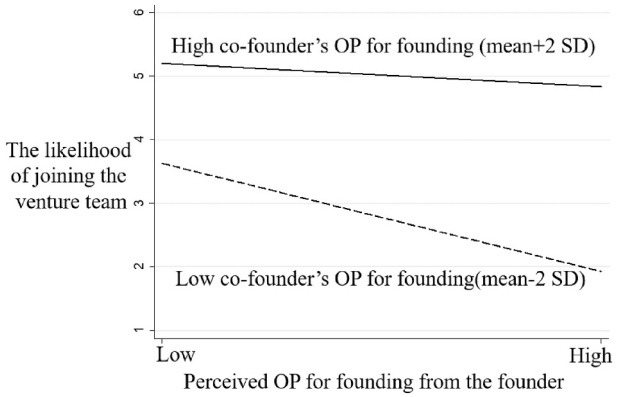

Fig. 3. Interactions between perceived OPs for founding and co-founders' OP for founding.

Table 3
Comparison between main and additional entrepreneur samples.

	Study 1: Main study		Study 2: Validation study		*t*-Test
	Mean	S.D.	Mean	S.D.	P-values
Age	37.81	8.27	42.61	6.38	$p < 0.001$
Education	3.96	0.78	4.25	0.76	$p < 0.05$
Working experience	15.27	8.47	20.07	6.22	$p < 0.001$
Entrepreneurship experience (years)	7.46	6.27	10.42	6.95	$p < 0.01$
Entrepreneurship experience (projects)	3.23	4.75	3.05	1.98	Not sig
OP for inventing	5.32	1	5.21	0.83	Not sig
OP for founding	4.96	1.24	4.9	1.15	Not sig
OP for developing	5.62	0.94	5.32	0.88	$p < 0.05$
	Percentage		Percentage		
Gender (male)	76.72%		81.36%		Not sig
Co-founder experience	82.76%		83.05%		Not sig
Co-founder invitation	88.79%		93.22%		Not sig
N	116		59		

same venture, we did not record or control for participants from the same venture in our analysis. Therefore, we conducted a validation test with an additional sample of Chinese entrepreneurs removing the specification "multiple". Table 3 below shows a comparison between the primary and additional entrepreneur samples. The additional entrepreneur sample provided 472 observations nested in 59 entrepreneurs.

We repeated the same HLM analysis as our main study with the additional sample. Table 2 (Study 2: validation study) shows the results, which were generally consistent with our main study. All hypothesized main effects and interactions had the same directions (positive or negative) as our previous results. Especially in that the main effect of perceived OP for founding ventures (Hypothesis 3) was still negative and significant. Compared with the results of the main study, major differences related to the OP for founding in the validation study were as described below.

First, as shown in Model 4 of Table 2, the interaction between perceived OP for inventing and perceived OP for founding was negative but not significant ($\beta = -0.01$ $p > 0.10$), yet the interaction between perceived OP for developing and perceived OP for founding was negative and significant ($\beta = -0.55$ $p < 0.05$). Third, as shown in Model 4 of Table 2, the cross-level interaction between perceived OP for founding and co-founder's own OP for founding was positive but only marginally significant ($\beta = 0.345$ $p < 0.10$). In summary, Hypothesis 3 was supported by both studies. Hypothesis 4a was only supported by the main study. Hypothesis 4b was supported by the validation study but only marginally supported by the main study. Hypothesis 5c was supported by the main study, but only marginally supported by the validation study. The results remain largely the same as our predictions for OP for founding.

7. Discussion

We have investigated the influence of perceived Obsessive Passion (OP) of the founder on potential co-founders' decisions to join the venture team. We have used a conjoint experiment based on samples of entrepreneurs. We make important contributions to the entrepreneurship literature, specifically on the role of perceived OP in the team formation process.

7.1. Theoretical implications

First, previous research emphasized the role of passion in venture teams. Research suggested that team entrepreneurial passion influences member entry, which in turn influences team passion diversity (Cardon et al., 2017). Team passion is therefore primarily seen as an already-emerged team-level state having a top-to-bottom effect on individual members. Our results offer a different view, that research should focus not only on how collective passion at the team level influences venture team formation, but also on the individual team member level among members before team passion has emerged. We focus on an initial stage, when team passion may not yet exist as a state. Our findings provide evidence that (perceived) passion at the individual team member level (such as a founder who directly interacts with potential team members) influences member entry. The initial attraction between two founders as a dyadic relationship is a basic building block of the team formation process. This finding is important because potential co-founders might make decisions without the experience or perception of a venture team's collective passion. Their decisions are influenced by the perception they have of the founder's passion very early on. We provide the important insight that even before the emergence of team collective passion, the individual passion of the founder is already impactful for team formation and member entry.

Second, we argue and find that the perception of OP plays an important role for team formation and has important theoretical implications for the literature of venture team formation (Forbes et al., 2006), which indicates the importance of interpersonal attraction and similarities among members. Based on Montoya and Horton' (2014) work, we find that a person's subjective perception of another person's passionate activities is crucial to understanding how attraction operates and hence how teams are formed. Previous research in entrepreneurship observed the role of similarities in easily observable characteristics such as race, gender, age, and education on new venture team formation. We add to this existing research on team formation by investigating the role of a characteristic only detectable through observation: the perceived OP of the founder. We show that research on new member addition should focus not only on the surface-level characteristics of team formation (Ruef et al., 2003), but also on potential co-founders' perceptions of other individual team members' behaviors.

Third, we advance our understanding of what dimensions of perceived OP potential co-founders consider when deciding to join a new venture team. We argue that via perceived OP, potential co-founders assess the capacity and willingness of founders to help realize their own long-term goals. We provide rigorous and novel evidence that, depending on the specific entrepreneurial activities of passion, perceived OP can have both positive and negative impacts on co-founders' decision-making. More precisely, when potential co-founders perceive that the founder has greater OP for developing, they are more likely to join the venture team. But, when they perceive the founder has greater OP for founding ventures, they are less likely to join. Previous studies have painted an unclear picture of the influence of perceived OP on potential co-founders' decisions to join a venture team, as they emphasize the positive impact of perceived passion on the one hand (Mitteness et al., 2012; Murnieks et al., 2016; Warnick et al., 2018), but indicate the negative impact of OP on the other (Ho and Pollack, 2014). We find that the impact is less binary and depends on the type of activity.

Fourth and relatedly, we dig deeper into the role of interpersonal attraction by investigating similarities in passion between co-founders and founders. Our findings here echo longstanding traditions in the psychology literature that similarity is perceived as positive, familiar, and welcomed. Despite the prevailing notion of obsessive passion having a negative impact (Ho and Pollack, 2014), our findings indicate that beyond the activity about which someone is obsessively passionate, the perceiver's decision-making also depends on his or her own obsessive passions. In both the aforementioned ways, our results contribute to recent calls for interpersonal attraction theory to emphasize "more direct attention to the social context of the dyadic interaction" (Graham et al., 2018: 334), where we offer two levels of contextual differentiation in the type of activity, and the observers' own departure point in terms of obsessive passion. Both are worthwhile additions that lend additional granularity to understanding the dyadic interaction between founders and potential co-founders.

Finally, we contribute to the theory of passion, especially regarding OP (Lalande et al., 2017; Murnieks et al., 2020; Vallerand et al., 2003). Studies in psychology emphasize the negative aspects of individuals experiencing OP and mostly suggest that they tend to exhibit problematic behaviors causing negative outcomes (Lalande et al., 2017; Seguin-Levesque et al., 2003; Sirén et al., 2016). However, our work provides a novel insight. Even if OP is connected to radical behaviors and can cause damage to an individual's personal life, its perception might still relate positively to some interpersonal decisions. In certain conditions, stakeholders would not reject the perceived OP of an individual if the task requires extreme emotion and motivation to fuel action and resilience.

7.2. Practical implications

We highlight two practical implications of our study, one for entrepreneurs and one for co-founders. First, our findings show that co-founders assess the founder based on the perception of the founder's OPs. This insight suggests that potential co-founders complement information about the venture with information about the perceived affects and behaviors displayed by founding entrepreneurs. Hence, entrepreneurs need to show an active and strong inclination toward engagement in important long-term entrepreneurial activities such as inventing and developing to attract potential co-founders, who consider this affective and behavioral information in their assessment of whether to join a venture team, as they evaluate the founder's responses to possible uncertainties and future challenges. Founders need to be mindful that their OPs signal whether they possess capacity and willingness to overcome the venture's future obstacles and help co-founders achieve personal venture success and realize individual gains. Concretely, our findings specify that not all OP for different activities has this positive effect. Indeed, the perceived OP for founding ventures does not increase the likelihood of co-founders wanting to join the venture team. This suggests that founders need to reflect carefully on which OP they possess and share, because it may determine with whom they work going forward.

Second, for co-founders, finding a founder with the same passions can be a strong determinant to work in the same the venture. Perceiving signals of the capacity of the founder to adapt, perform, and satisfy a co-founders' own objectives (Montoya and Horton, 2014) via the founder's displayed OPs can attract co-founders, even before objectively verifiable performance data are available. Such a potential co-founder would be well-advised to investigate the specific type of OP a potential founder displays and to check for compatibility with his or her own OP. Co-founders thus need to know their own (obsessive) passions, their counterparts' (obsessive) passions, and how similar these might be, because early perceptions of similarity will cast light on all information that follows and are likely strong indicators of the final decision to join a venture team.

7.3. Limitations, future research, and conclusion

We identified a few limitations. First, in the existing conceptualization of entrepreneurial passion, there is vagueness regarding whether passion for founding is connected with the founding activities for one venture or multiple ventures. In our research, we focus on perceived OP for founding ventures. Our research is limited in that we are unable to explore fully all the possibilities such as differentiating OP for founding one venture and multiple ventures, or differentiating OP for founding and owning. Future research could further develop the conceptualization of OP for founding and investigate the differences among types of OP for founding in more complex and developed experimental scenarios.

Second, given the possibility that OP may lead founders to behave aggressively (Donahue et al., 2009) and radically (Gousse-Lessard et al., 2013), such as investing in unrealistic innovations and adopting aggressive market strategies, future research can further investigate the specific contexts in which perceived OPs may be harmful and therefore of a higher concern for co-founders.

Third, according to the guidelines for Cohen's f^2 (Cohen, 1988), we observed relatively small effect sizes. Our single study does not allow us to establish whether or not OP has a weak effect. Future research needs to explore different forms of OP and passion in different contexts and using different designs, for example looking at more than the entry decision. Future research can explore more impactful passions such as team collective passions. We still know little about passion in general, and obsessive passion specifically, in the co-founder decision making process to join, remain in, or exit a team. It would be interesting to look at teams where both types of passion are present and how they interact to influence team dynamics, entry and exit choices, and teamwork. It would also be interesting to explore the differences between the impact of perceived OP and perceived passion on co-founders.

In conclusion, we hope more scholars become passionate about passion in entrepreneurship, such that we may gain more insight into this powerful realm of cognition. Clearly more work remains to be done to understand its multiple facets and its uniquely fascinating impacts on the venturing world.

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Declaration of competing interest

None.

Appendix A. Summary of pilot tests

	Pilot Test 1	Pilot Test 2	Pilot Test 3
Purpose	Validation of *attribute descriptions*	Validation of *adapted OP scale*	Validation of *entire instrument*
Sample origin	Amazon MTurk (general public, U.S., Canada, UK)	Amazon MTurk (general public, U.S., Canada, UK)	Students at European Business School
Sample	78 individuals	109 individuals	177 students
Empirical approach	Paired sample t-tests	Factor analysis, paired sample *t*-tests	Same HLM as our main study, factor analysis

Notes:

1. Pilot Test 1: we validated the attribute descriptions with 78 individuals recruited via Amazon MTurk, a standard website to recruit internet participants who are representative of the general public (Crump et al., 2013; Mason and Suri, 2012). We conducted an online survey, listed each of the three scenarios used in our new conjoint experiment (about inventing, founding, and developing), and asked participants to what extent they agreed or disagreed (seven-Likert scale) that the respective scenario described the founder's specific characteristic (obsessive passion, harmonious passion, confidence, optimism, flexibility, determination, devotion, and openness). For each of the scenarios, the rating for obsessive passion is significantly higher ($p < 0.001$) than any alternative.
2. Pilot Test 2: we validated our adapted scale with another 109 individuals recruited via Amazon MTurk. Appendix B shows detailed results of the confirmatory factor analyses and paired sample *t*-tests.
3. Pilot Test 3: we validated the entire instrument with a sample of 177 business school postgraduates (1416 observations) from a leading European university. We conducted the same HLM analysis as our main study. Results were largely consistent with our main study, that H1–4 were supported by the student sample. H5a and H5b were supported but H5c was not supported by the student sample.

Appendix B. Comparison between the original EP scale (Cardon et al., 2013) and the adapted OP scale

Entrepreneurial passion (EP) (Cardon et al., 2013)	Obsessive entrepreneurial passion (OP) (our study)
Inventing: 1. It is exciting to figure out new ways to solve unmet market needs that can be commercialized. 2. Searching for new ideas for products/services to offer is enjoyable to me. 3. I am motivated to figure out how to make existing products/services better. 4. Scanning the environment for new opportunities really excites me. 5. Inventing new solutions to problems is an important part of who I am. **Founding:** 1. Establishing a new company excites me. 2. Owning my own company energizes me. 3. Nurturing a new business through its emerging success is enjoyable. 4. Being the founder of a business is an important part of who I am. **Developing** 1. I really like finding the right people to market my product/service to. 2. Assembling the right people to work for my business is exciting. 3. Pushing my employees and myself to make our company better motivates me. 4. Nurturing and growing companies is an important part of who I am.	**Inventing:** 1. I have an obsessive feeling for figuring out new ways to solve unmet market needs that can be commercialized. 2. I have a tough time controlling my need to search for new ideas for products/services. 3. The urge to figure out how to make existing products/services better is so strong. I can't help myself from doing it. 4. My emotions depend on scanning the environment for new opportunities. 5. I can't live without inventing new solutions to problems. **Founding:** 1. I have an obsessive feeling for establishing a new company. 2. The urge to own my own company is so strong, I can't help myself from acting on it. 3. My emotions depend on nurturing a new business through its emerging success. 4. I can't live without being the founder of a business. **Developing** 1. I have an obsessive feeling for finding the right people to market my product/service to. 2. My emotions depend on assembling the right people to work for my business. 3. The urge to push my employees and myself to make our company better is so strong, I can't help myself from doing it. 4. I can't live without nurturing and growing companies.

Notes:

1. All items are distributed on a seven-point Likert scale ranging from 1: strongly disagree to 7: strongly agree.
2. Confirmatory factor analysis of a scale validation test (N = 109) using Mplus 8.3 showed that the three-factor models of 1) the adapted OP scale and 2) the original EP scale by Cardon et al. (2013) showed a similar and good model fit: 1) OP: CFI = 0.944 vs EP: CFI = 0.934; 2) OP: SRMR = 0.049 vs EP: SRMR = 0.051; 3) OP: RMSEA = 0.111 vs EP: RMSEA = 0.110). All factor loadings are significant ($p < 0.001$). Further, confirmatory factor analysis using the student sample (N = 177) showed similarly good structure validity for the adapted OP scale: CFI = 0.924; SRMR = 0.058; RMSEA = 0.082.
3. Confirmatory factor analysis also provided evidence that the two scales did not measure the same passions. Three hypothetical one-factor models each combining four or five items of the adapted OP scale for a specific activity (for instance OP for inventing) and four or five items of the original EP scale for the same activity (i.e. EP for inventing) showed very poor model fits (e.g., CFI = 0.690 for 10 inventing items). Two-factor models showed much better model fits in all three passion activities (e.g., CFI = 0.922 for 10 inventing items). Finally, paired sample t-tests also showed that the means of each OP were significantly lower ($p < 0.001$) than that of the corresponding EP.

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