EMPIRICAL EXPLORATION OF THE NATURE AND INFLUENCE OF TEAM ENTREPRENEURIAL PASSION (TEP)

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EMPIRICAL EXPLORATION OF THE NATURE AND INFLUENCE OF TEAM ENTREPRENEURIAL PASSION (TEP)

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ABSTRACT

We examine how NVTs converge around a shared sense of team passion, if at all, and test whether or not shared TEP has an impact on team reflexivity and team monitoring, and ultimately on team performance. Using a sample of 73 NVTs we find that not NVTs converge around a shared sense of team passion. Twelve of the 73 teams did not share consensus concerning the strength or focus of the team’s passion. Of the 61 teams that did have consensus concerning the team’s passion, 23 teams identified their passion as mono-focal, while 38 teams identified the team’s passion as poly-focal. Our results indicate that TEP for inventing and developing are positively related to team performance, and both of these paths are mediated by team reflexivity. TEP for founding does not have a significant effect, nor are any of the paths mediated by team monitoring. In general, poly-focal TEP has a stronger relationship with team performance than mono-focal TEP.

INTRODUCTION

The majority of entrepreneurial firms are founded by teams (Klotz, et al., 2014), so understanding how new venture teams (NVTs) can function most effectively and yield productive outcomes is important (Harper, 2008; Amason et al, 2006). One important aspect of NVT functioning may be team entrepreneurial passion (TEP), defined as “the level of shared intense positive feelings for a collective team identity that is high in identity-centrality for the new venture team” (Cardon, Post, & Forster 2017: 286). While empirical examination of entrepreneurial passion at the individual level of analysis is accumulating fairly rapidly, examination of how passion works in new venture teams is scarce. In particular, there is no published empirical evidence concerning the implications of affective diversity or collective affect of NVTs to date, an oversight that leaves critical holes in our knowledge of the leadership processes of the majority of entrepreneurial organizations.

A dynamic theoretical model has recently emerged that focuses on how team entrepreneurial passion might emerge in NVTs and the impacts it might have on individuals and teams, as well as their organizations (Cardon, et al., 2017). The authors of this model recommend pursuing testing of that dynamic model in steps. We begin such empirical testing by first determining if NVTs actually do experience consensus around what the team, as a whole, is passionate about, in order to establish whether the construct of entrepreneurial passion at a team level of analysis is empirically valid. We also examine the specific nature of TEP, to test whether the proposed distinction between mono-focal TEP (shared feelings for a single collective identity) and poly-focal TEP (shared feelings for multiple collective identities) (Cardon et al., 2017) exist as conceptualized. We extend Cardon and colleagues (2017) conceptualization of poly-focal TEP to incorporate the idea of identity congruence (Powell & Baker, 2014) and role completeness. In particular, we propose that poly-focal TEP is not homogenous and instead includes complete poly-focal TEP and incomplete poly-focal TEP. We then empirically examine the influences of the various forms of
TEP on the quality of team processes (team reflexivity and team monitoring), and ultimately on team performance.

HYPOTHESIS DEVELOPMENT

With TEP, the team, rather than the individual members, are the referent point for feelings of passion and the identity-centrality of the object of the feelings. The critical question is how passionate is the team for inventing, founding, and developing, regardless of how any particular team member experiences their individual passion. With collective identities the key question is “who are we” as a team (Brewer & Gardner, 1996; Corley et al., 2006; Powell & Baker, 2017). Support for a conceptualization of team-level passion comes from both the identity literature and the affect literature (Cardon et al., 2017). In terms of identity, Ashforth and Mael (1989: p. 26) note that “identification with a collectivity can arise even in the absence of interpersonal cohesion, similarity, or interaction and yet have a powerful impact on affect and behavior.” Thus we focus only on the team's shared experience of passion, as a team, based on collective identity and shared emotions. From the affect literature we know that group settings can be an emotional incubator, where the emotions of group members combine to produce an overall group-level emotional tenor (De Dreu et al., 2001) or a group mood (Kelly & Barsade, 2001) which can have profound effects on the team dynamics and outcomes (Cardon et al., 2017). Thus again we focus on the feelings experienced by the team, as a whole, rather than experienced by individual team members (these may well be relevant but are not the focus of this study).

In general, higher levels of TEP are likely to be related to better team processes and outcomes (Cardon et al., 2017). The shared emotion component of TEP is likely to help improve the quality of social processes (Rhee, 2006), information exchange and learning (Klimoski & Mohammed, 1994), and greater integration and cohesion as a team. Such shared emotions are also likely to provide information as an input to goal-setting, motivation, and performance of the team (Fredrickson, 1998; 2013; Cardon et al., 2017). The shared identity component of TEP is also likely to motivate the group to work together toward collective goals, exchanging information along the way, in a cooperative rather than competitive manner (Chatman & Flynn, 2001; Flynn, 2005) and therefore improve team processes and performance. Team monitoring is the process of perceiving actions of team members and observing performance discrepancies in order to provide suggestions or corrective feedback that helps to improve team performance (Marks et al. 2001). Team reflexivity is “the extent to which team members overtly reflect upon the team’s objectives, strategies and processes, and adapt them to current or anticipated circumstances” (West 2000, p. 296). Previous research suggests team reflexivity is positively related to performance (Schippers, et al. 2008), contributes to clarifying task roles for team members, and consequently helps to achieve a more shared understanding of task strategies and goals (Nederveen Pieterse, van Knippenberg, and van Ginkel 2011), and enhances the effectiveness of work teams (Schippers, et al. 2007). Therefore, we expect:

H1: TEP is positively related to team performance, through the mediator of team reflexivity.

H2: TEP is positively related to team performance, through the mediator of team monitoring.

Importantly for the study of team entrepreneurial passion, the shared emotion a NVT may experience can be for different objects or identities of the team, and because of this, there are different types of TEP (Cardon et al., 2017). Powell and Baker (2016) discuss how at the individual level, entrepreneurial identities can be singular (with one dominant identity), multiple and congruent (where they can harmoniously co-exist), or multiple and incongruent (where they clash
and therefore cause dissonance and difficulty). We extend this to the team level of analysis and argue that the identity that NVTs may experience shared passion for can be singular (mono-focal, using the labeling of Cardon et al., 2017) or multiple (poly-focal). Mono-focal TEP occurs when team members share positive and intense feelings for a singular entrepreneurial identity (such as founding), while poly-focal TEP occurs when team members share positive and intense feelings for multiple entrepreneurial identities (such as founding and developing).

Extending the theorizing of Cardon et al. (2017), we propose that in addition to the distinction between mono- and poly-focal TEP, there are likely different types of poly-focal TEP. Specifically, there are likely performance differences between NVTs that share passion for some of the roles (incomplete) and NVTs that share passion for all of the roles (complete) that are necessary to start and run an entrepreneurial firm. Cardon et al. (2009) draw from the entrepreneurship literature to suggest that the three primary roles inherent in the entrepreneurial process are inventing (identifying and/or creating products/services needed in the market), founding (assembling needed resources and creating a firm) and developing (growing and expanding the venture to meet ongoing market demands). When entrepreneurs or teams focus on only one or some of these roles, their firms may suffer (Cardon et al., 2009). Cardon et al. (2017) argue that poly-focal TEP provides NVTs with more resources in terms of network connections and knowledge, in particular, which allows them to flexibly adapt and address challenges that require a shift in the team’s focus. We extend that thinking to argue that the greatest knowledge, resources, and flexibility will occur for firms that have all three primary domains represented in their shared identity and team passion, compared to NVTs where only 2 of the 3 domains are represented. While we use the Cardon et al., (2009) conceptualization of 3 primary domains, this line of reasoning can be adapted to contexts where more or different numbers of domains of passion are needed. As such, we conceptualize poly-focal complete TEP as shared passion for a team identity that contains all necessary domains for the particular context (in our case, 3), and poly-focal incomplete TEP as shared passion for a team identity where only some of the necessary domains are represented (in our case, 2). Based on our arguments above, we expect the following:

**H3:** Poly-focal TEP will have a stronger positive relationship with team performance than mono-focal TEP.

**H4:** Poly-focal complete TEP will have a stronger positive relationship with team performance than Poly-focal incomplete TEP.

### METHOD

#### Sample

Data were collected from new venture teams participating in an international venture competition, organized by a top tier university in Portugal in collaboration with one of the world's most prestigious universities located in the United States, as part of an international collaboration program investing in science, technology and higher education. The venture competition was launched in 2010, occurs every year, and has evolved to be a tech start up accelerator. Each year, the call opening occurs early April and 20 new venture teams are selected by a board of judges to proceed into the program. The selected teams attend a one week training boot camp in Lisbon, Portugal, in July which aims to develop tech-based entrepreneurs and successful go to market strategies.

Data was collected during this boot camp. One of the researchers joined the boot camp, presented the research project and asked for the participation of all teams. Surveys were distributed
in the room to those team members who were attending the boot camp, and online using Qualtrics for team members who did not attend the boot camp. This study comprises the teams competing in 2012, 2013, 2014, 2015 and 2016. A total of 73 new venture teams (239 individuals) participated in this study ($N_{2012}^{program}=15; N_{2013}^{program}=18; N_{2014}^{program}=19; N_{2015}^{program}=15; N_{2016}^{program}=6$), corresponding to a response rate of 75% in 2012, 90% in 2013, 95% in 2014, 75% in 2015 and 60% in 2016 (average response rate=79%). Participation in the study was voluntary, not rewarded and individuals informed that their results were not used for any other purpose than research.

Our definition of NVTs is from Klotz et al, and is consistent with Ruef (2010) and Powell and Baker (2017) to include the set of people who come together in order to develop and implement the evolving strategy of the new venture. New venture teams involved in the program were early stage startups looking to raise investment and funding. Startups were working in different market tracks such as life sciences, sustainable energy and transportation systems; enterprise IT, web and smart data; consumer products and services; medical technologies and health tech; smart cities and industrial technologies; ocean and water economy. Team size ranged from 2 to 8 members, average size 3.27 members ($s.d.=1.30$). The average respondent in our sample was 37 years of age ($s.d.=8.7$ years). Men comprise 82 percent of the respondents; 69.3 percent were from Portugal, 6.6 percent from Italy, 3.9 percent from Brazil, 3.1 percent from Russia and 3.1 percent from Hungary (the remaining percentage was from other countries). Regarding their highest level of education, 40 percent concluded a college degree, 21.6 percent held master’s degrees and 20 percent were doctorate.

**Measures**

*Team entrepreneurial passion* was measured using the thirteen items from Cardon, Gregoire, Stevens and Patel (2012) adapted to the team level using a referent shift approach, following Chan (1998). We positioned all the items in the first-person plural – *we* – so that the individual includes him or herself as integrant part of the group, reinforcing the belongingness and inclusiveness in the team. All the sentences were preceded by the following instruction “Having in mind your team, please indicate the level of agreement or disagreement with the following sentences”. This introductory statement follows the procedure suggest by Chan (1998), as it conveys each team member to answer thinking about their team, enhancing the importance of focusing on the shared perception of the team. The items were assessed in a five point scale, ranging from 1 “completely disagree” to 5 “completely agree”.

*Team reflexivity* was measured using five items developed by De Jong and Elfring (2010): “In this team we often review the feasibility of our objectives.”; “In this team we often discuss the methods used to get the job done.”; “In this team we regularly discuss whether we are working effectively together.”; “In this team we modify our objectives in light of changing circumstances.”; and “In our team we often review our approach to getting the job done.” ($\alpha=0.75$).

*Team monitoring* was measured using five items also developed by De Jong and Elfring (2010). Sample items include: “In this team we check whether everyone meets their obligations to the team.”; “In this team we watch whether everyone completes their work on time.”; “In this team we keep close track of whether everyone performs as expected.”; “In this team we check whether everyone is doing what is expected of him/her.”; and “In this team we carefully monitor each other’s progress on his/her work.” ($\alpha=0.79$).
Team performance was measured using three items also developed by De Jong and Elfring (2010), including one item referring to the quality of the work, one referring to the quantity of the work, and one overall assessment of team performance (α= 0.87).

Control variables included percentage of males in the team and team size.

RESULTS

We first computed the $R_{wg(j)}$ for team monitoring, team reflexivity, team performance and all the dimensions of team entrepreneurial passion in the sample of 73 entrepreneurial teams. The average values of $R_{wg(j)}$ appeared to be adequate with mean values above the 0.70 threshold. However, when analysing the $R_{wg(j)}$ of team entrepreneurial passion dimensions for each team, we identified 12 teams with one or more TEP dimensions that did not reach the $R_{wg(j)}$ threshold. For these teams, the $R_{wg(j)}$ is below the threshold 0.70 for at least one dimension of TEP, providing evidence that there is no agreement among the team members in that, or those, dimensions of TEP. In general, the lack of agreement between team members is more frequent for the identity centrality for founding (N=12 teams) followed by identity centrality for developing (N=9 teams). These 12 teams were excluded from further analysis, as they did not experience TEP, and thus might be considered to have incongruent identities (Powell & Baker, 2014).

For the remaining 61 teams, we analyzed the patterns of mono-focal and poly-focal TEP by computing the team entrepreneurial passion for each domain, as a product of team intense positive feelings and team identity centrality for inventing, founding, and developing (Cardon et al, 2017). Of the 61 teams that experience TEP (signified by $R_{wg(j)}$ scores above the 0.70 threshold on each dimension, ICC(1) exceeding 0.05, and ICC(2) values higher than ICC(1)), 23 NVTs report a singular team identity, and therefore passion that is mono-focal, with 17 teams passionate about inventing, 5 teams passionate about founding and 1 team passionate about developing. 38 NVTs evidenced a poly-focal passion, with 12 NVTs experiencing a poly-focal incomplete TEP for two roles - 6 teams were passionate about inventing and founding, 5 teams were passionate about inventing and developing, and 1 team was passionate about founding and developing. 26 NVT were passionate about all three domains of entrepreneurial passion, therefore representing a poly-focal complete passion.

H1 stated that TEP is positively related to team performance, through the mediator of team reflexivity. OLS regression results indicate that TEP for inventing and TEP for developing are positively related to performance ($\beta_{TEP_INV}=0.25$, $p<0.05$; $\beta_{TEP_DEV}=0.21$, $p<0.05$), but TEP for founding has an insignificant relationship with performance. Further, the two significant relationships are indeed mediated by team reflexivity (Sobel test, $Z_{TEP_INV}=3.680$, $p<0.05$; Sobel test, $Z_{TEP_DEV}=3.743$, $p<0.05$).

H2 stated that TEP is positively related to team performance through the mediator of team monitoring. While the relationships for TEP for inventing and TEP for developing with performance are positive and significant, as reported above, neither of these relationships are mediated by team monitoring, thus H2 is not supported.

In H3 we argued that poly-focal TEP would have a stronger relationship with team performance than mono-focal TEP, and in H4 that poly-focal complete TEP would have a stronger relationship with performance than poly-focal incomplete TEP. Interestingly, our results indicate that mono-focal TEP and poly-focal complete TEP have the strongest relationships with team performance, while poly-focal incomplete TEP has a weaker relationship with team performance. This pattern of results was found for TEP for inventing and TEP for founding, but not for TEP for developing.
DISCUSSION & IMPLICATIONS

Our study makes three contributions to the literature. First, we expand the empirical knowledge concerning how passion operates in entrepreneurial firms, by focusing on passion at a collective team level of analysis. In so doing we integrate recent work on collective identity among entrepreneurial teams (Powell & Baker, in press) as well as multiple identities of entrepreneurs (e.g. Powell & Baker, 2014; Fauchart & Gruber, 2012). Importantly, “while the NVT literature has progressed in understanding collective cognitions, affective emergent stages in NVTs remain understudied” (Klotz et al., 2014: 244). Our results indicate that not every NVT experiences agreement concerning the team identity or shared emotion for that collective identity, and therefore team entrepreneurial passion does not exist for some NVTs.

Second, we both test and extend a key aspect of the theoretical model proposed by Cardon et al. (2017). We test their conceptualization of two different types of TEP, mono-focal and poly-focal, as well as examine the exact nature of both types of TEP in terms of the focus of such passion within NVTs. More importantly, we expand their conceptualization of poly-focal TEP to reflect that rather than being homogenous, poly-focal TEP is heterogeneous in terms of how many identities are simultaneously held within the TEP, as well as heterogeneous in terms of the extent of agreement the team experiences with regard to that TEP. Indeed, our sample includes 23 teams that are mono-focally passionate, 12 teams that are poly-focally passionate for 2 domains, and 26 teams that experience shared passion for all three domains of entrepreneurship represented in our study. This suggests that rather than a clear distinction between mon-focal and poly-focal TEP, future research should examine the specific domains of passion for TEP, as well as the number of domains represented, since TEP is heterogeneous in how it is experienced by NVTs, as well as in terms of its relationship with team processes and outcomes.

As a third contribution, we further extend Cardon et al’s theoretical model by developing theory and empirical evidence concerning the influence of TEP on specific team processes of team reflexivity and team monitoring. While they propose that TEP will influence the quality of team processes, Cardon et al. do not specify which exact processes, or develop specific theory about such influences. As they note (p. 300), “future research could examine specific individual and team outcomes that might be associated with TEP.” We take up that call in this paper. Our findings suggest that TEP for inventing and developing are positively related to team performance, and both of these paths are mediated by team reflexivity. TEP for founding did not have a significant effect, nor were any of the paths mediated by team monitoring. In general, poly-focal TEP does have a stronger relationship with team performance than mono-focal TEP, but only for poly-focal complete TEP.

Taken together, our findings clearly suggest that not all new venture teams are unilaterally passionate, nor are they passionate about the same things. Indeed, our findings provide support for Cardon, et al. (2017)’s claim that teams vary quite substantially in whether or not TEP emerges, and if so, in the specific nature of that TEP. Moreover, such variation in the nature of team entrepreneurial passion can have a significant impact on team processes, and ultimately, on team performance. Our work thus opens new avenues for examining dynamic affective processes in entrepreneurship.

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