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# EFFORT IN ENTREPRENEURIAL TEAMS



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## ABSTRACT

Although entrepreneurial effort is crucial for venture success and entrepreneurs frequently work in teams, we lack insights how effort develops in entrepreneurial teams. We propose an affiliation-based model of entrepreneurial effort under threat which predicts that entrepreneurs will reciprocate their teammates' effort when confronted with a threat, i.e., low venture performance and high environmental hostility. We test our model in a sample of 103 entrepreneurs nested in 51 teams in a longitudinal setting capturing entrepreneurial effort over 26 weeks. While we did not find a direct relationship between teammates' effort and an entrepreneur's subsequent effort, we found support for the crucial role of threat in triggering the contagion of entrepreneurial effort. We discuss our contributions for research on entrepreneurial effort, social motivation, venture performance, and the firm environment.

## INTRODUCTION

Entrepreneurial effort is crucial for the success of new ventures (Bitler et al., 2005; Foo et al., 2009). Entrepreneurs need to invest resources, such as energy, attention, and time, into the execution of venture tasks and persist in these efforts even when they are facing difficult goals and challenges (Uy et al., 2015). Previous research has suggested that the effort invested by one entrepreneur is often not sufficient to start and grow a venture (Parker, 2009), but entrepreneurs need to collaborate in teams (Klotz et al., 2014). However, research has so far not addressed how the effort invested by an entrepreneur's teammates motivates him or her to invest effort in the venture. This is surprising as research in social psychology demonstrates that an individual's social context impacts his or her effort (Karau and Williams, 1993; Liden et al., 2004; Mulvey and Klein, 1998).

Drawing on models of social motivation (De Jong et al., 2014; Quigley et al., 2007), this study addresses the question when entrepreneurial effort is contagious in the entrepreneurial team. We offer an affiliation-based model of entrepreneurial effort under threat to explain when the effort invested by an entrepreneur's teammates impacts the effort that he or she subsequently invests in the venture. The model draws on the belongingness hypothesis suggesting that an "external threat seems to increase the tendency to form strong bonds" (Baumeister and Leary, 1995: 502). We take into account highly salient threats for entrepreneurial team members: their perception of low venture performance and of the venture's hostile environment. We suggest that entrepreneurs reciprocate the effort previously invested by their teammates and that this relationship is stronger under threat when entrepreneurs affiliate themselves more strongly with their team.

Our study makes three primary contributions. First, we answer calls for research on motivation and effort in entrepreneurial teams (Klotz et al., 2014; Uy et al., 2015). While previous research on entrepreneurial teams has hinted that team members can provide motivational support to each other (Blatt, 2009; Feeser and Willard, 1990), our study shows that there is no significant main effect of the effort exerted by teammates on an individual's subsequent effort. However, our model highlights that teammates' effort can inspire an individual's effort under conditions of threat. Second, previous

research has highlighted that venture performance represents an important feedback source impacting entrepreneurial decision making (Gimeno et al., 1997; Nicholls-Nixon et al., 2000). We complement this stream of research by showing that perceived venture performance also has important motivational implications for team members. Finally, while previous research on firm environments has mainly focused on the consequences for firm-level variables (Grant, 2003; Lumpkin and Dess, 1995), we theorize and find that high perceived environmental hostility triggers effort reciprocity in entrepreneurial teams.

### HYPOTHESES DEVELOPMENT

Our affiliation-based model of entrepreneurial effort under threat focuses on the contagion of effort in entrepreneurial teams. Drawing on the belongingness hypothesis (Baumeister and Leary, 1995), we suggest that perceived threat impact how individuals react to their teammates' effort.

#### Teammates' Effort and Individuals' Subsequent Effort

Models of social motivation (De Jong et al., 2014; Quigley et al., 2007) propose that individuals reciprocate the effort invested by their teammates. First, the teammates' effort will serve as an orientation and a norm. If the teammates invest higher levels of effort, the individual will feel obliged to work harder (Quigley et al., 2007). In contrast, if the teammates invest lower levels of effort, the individual will be less willing to invest high levels of effort in the venture.

Second, others' effort to achieve a goal can be contagious for individuals and results in higher levels of their effort towards this goal (Aarts et al., 2004). Thus, an entrepreneur will feel inspired by the effort invested by his or her teammates (De Jong et al., 2014). In contrast, when the teammates have not invested high levels of effort, the entrepreneur will also invest lower levels of effort because he or she will not feel motivated by the rest of the team. Therefore, we postulate:

*Hypothesis 1: The relationship between the effort invested by teammates and the entrepreneurial effort an individual invests subsequently will be positive.*

#### Teammates' Effort and Perceived Venture Performance

Individuals who are confronted with a threat tend to affiliate with others (Baumeister and Leary, 1995) in the hope for emotional support (Kulik et al., 1996) and protection (Ein-Dor et al., 2011). Furthermore, they are likely to react in a collective way (Ellemers et al., 2002). One substantial threat for entrepreneurs is if their venture is not performing well. Low performance levels is connected to cuts in personal income (Ucbasaran et al., 2013) and the risk of bankruptcy (Shepherd, 2003). Thus, an individual's perceptions of lower venture performance likely intensify his or her focus on the team.

First, when an individual feels highly affiliated with his or her teammates but these teammates invest low effort, he or she will likely become reluctant to invest high levels of effort (Mulvey and Klein, 1998). Moreover, when teammates' effort is low, the individual likely considers his or her own effort to be largely useless for the overall success of the team (Dirks, 1999).

Second, when an individual's teammates invest more effort when he or she perceives venture performance to be low, he or she will likely also work harder on venture tasks because of an obligation toward his or her teammates (De Jong et al., 2014; Quigley et al., 2007). Such team members will feel like they are "in the same boat" (Feesser and Willard, 1990: 89), thereby triggering reciprocal behavior (Blatt, 2009). Thus, when perceived venture performance is low, we expect the effort invested by teammates to positively influence the individual's own effort investment. In contrast, when an individual perceives venture performance to be high, he or she will not perceive a substantial threat and will focus less on

the team (Baumeister and Leary, 1995; Ellemers et al., 2002). Therefore, he or she will be less likely to behave in a reciprocal way to teammates' behaviors. Based on these arguments, we offer the following:

*Hypothesis 2: The relationship between the effort invested by teammates and the entrepreneurial effort an individual invests subsequently will be more positive when the individual perceives venture performance to be lower than higher.*

### **Teammates' Effort and Perceived Environmental Hostility**

By definition, one major threat in the venture's environment is hostility, which refers to "the degree of threat to the firm posed by the multifacetedness, vigor and intensity of the competition and the downswings and upswings of the firm's principal industry" (Miller and Friesen, 1983: 222). Hostility endangers firm growth and survival (Wales et al., 2013). Again, we suggest that a threatening venture environment will likely enhance an individual's affiliation with and focus on his or her team (Baumeister and Leary, 1995; Ellemers et al., 2002) and thereby impact the relationship between the effort invested by teammates and the individual's subsequent effort.

High hostility is connected to a lack of environmental resources for the venture (Miller and Friesen, 1983). The individual will realize that teammates' lack of effort will exacerbate this resource scarcity, which is likely to make his or her own efforts appear futile. That is, the individual will be less willing to invest high effort in this unfavorable situation because he or she believes that such efforts are worthless (Dirks, 1999).

However, when teammates invest considerable effort, the individual will believe that his or her effort will help overcome the threats posed by environmental hostility. He or she is likely to realize that entrepreneurial efforts are particularly crucial for firm performance when facing hostile environments (Covin and Slevin, 1989). Therefore, the effort invested by teammates will motivate the individual to invest more effort toward achieving the venture's goals as well (Mulvey and Klein, 1998). In contrast, lower hostility involves greater access to resources and less pressure. Thus, the entrepreneur's affiliation with the entrepreneurial team will be less strong which will reduce the contagious effect of the teammates' effort. Based on the above reasoning, we postulate:

*Hypothesis 3: The relationship between the effort invested by teammates and the entrepreneurial effort an individual invests subsequently will be more positive when the individual perceives environmental hostility to be higher than lower.*

### **METHOD**

To test our hypotheses we conducted a longitudinal study weekly surveying 103 entrepreneurs from 51 entrepreneurial teams. The entrepreneurial teams were recruited from incubators in a European metropolitan area without any industry restrictions. If entrepreneurial teams were willing to participate, all members were sent a short survey every Friday for 26 weeks to report their effort (Foo et al., 2009) and perceived venture performance (Gruber, 2007). Moreover, we captured their perceptions of the hostility of the venture's environment (Green et al., 2008).

Although our data structure is longitudinal, we do not assume that our variables grow or decline as a function of time. To analyze how the teammates' effort invested in the previous week impacts a focal entrepreneur's effort in the subsequent week, we used a multilevel modeling approach (Schonfeld and Rindskopf, 2007). In our analyses, accounts of effort are nested in individuals that are nested in entrepreneurial teams.

## RESULTS

While the effort invested by the teammates did not have a significant impact on an individual's effort invested in the venture in the subsequent week, we found support for the importance of threats in the contagion of effort. The relationship between the effort invested by teammates and the effort the individual subsequently invests was positive for lower perceived venture performance and negative for higher venture performance supporting Hypothesis 2. For high levels of environmental hostility, the relationship between the teammates' effort and the individual's subsequent effort was also positive, whereas it was negative for low levels of hostility providing support for Hypothesis 3. Table 1 and Figure 1 present our results.

## DISCUSSION & IMPLICATIONS

### Theoretical implications

Extant research suggests that entrepreneurial team members motivate each other to work hard for the venture (Blatt, 2009; Feeser and Willard, 1990). In this study, we analyzed the contagion of effort in entrepreneurial teams. However, we did not find a direct effect of the teammates' effort on an entrepreneur's subsequent effort. Thus, drawing on the belongingness hypothesis, we show an important boundary condition of models of social motivation: the entrepreneur's perceptions of threats trigger the contagion of effort, while effort was not contagious under low levels of threats.

Our study contributes to previous research on collective effort in teams which has often relied on laboratory settings and students samples working on tasks that were of little importance to them (Dirks, 1999; Liden et al., 2004; Quigley et al., 2007). We complement this work by relying on a field study using a sample of real entrepreneurial teams, which are known to be passionate for their tasks and highly dependent on a successful outcome (Cardon et al., 2009). Our results show that entrepreneurial effort has an important social component; that is, it substantially depends on the effort invested by teammates. These findings extend previous entrepreneurial psychology research, which has identified drivers of the effort entrepreneurs invest into their ventures at the individual level (Foo et al., 2009; Uy et al., 2015), the venture level (Bitler et al., 2005; Wu, 2010), as well as the environmental level (Edelman and Yli-Renko, 2010). Importantly, the relationship between entrepreneurial effort and teammates' effort does not seem to be straightforward but depends on the level of threat entrepreneurs perceive. These findings answer calls for a cross-level perspective on entrepreneurial cognition and motivation (Grégoire et al., 2011; Shepherd, 2011).

Furthermore, our results show that the threat entrepreneurs perceive from low venture performance motivates them to invest more effort as a response to teammates' increased effort. Importantly, in our study, there was no significant direct relationship between performance and effort. In contrast, a recent study by Uy et al. (2015) found that perceptions of venture progress *positively* and directly trigger entrepreneurial effort. The important difference to our study is that Uy et al.'s study surveyed individual entrepreneurs while we explicitly sampled entrepreneurial team members. There appear to be important differences in how entrepreneurs react to perceptions of low venture performance/ progress depending on their social context. When venture performance is low, motivated teammates can drive entrepreneurs to invest more effort that they may not have invested if they were solo entrepreneurs. This finding highlights the importance of the social support provided by (the right, i.e. motivated) teammates in entrepreneurial ventures facing difficult conditions.

Finally, we found that entrepreneurs' perceptions of threat in terms of environmental hostility (partly) explain how much effort entrepreneurs invest into their ventures as a response to the previous

effort invested by teammates. This result extends existing theorizing on how firm environments impact the entrepreneurial process. Previous work has primarily focused on explaining the impact of environmental hostility on organization-level outcomes (Grant, 2003; Lumpkin and Dess, 1995) or to a lesser extent on the decision making of individual entrepreneurs (Shepherd et al., 2013), but little theoretical insight exists about environmental effects on social processes within entrepreneurial teams. While a study by Hmieleski and Ensley (2007) analyzed the interplay of entrepreneurial team composition, leadership, and environmental dynamism and its effect on firm performance, the authors called for multilevel studies that address how the firm environment shapes behaviors in entrepreneurial teams as a next step. Our results provide the first empirical evidence that these effects exist because environmental hostility triggered effort reciprocity within the entrepreneurial team.

### **Limitations, future research, and conclusions**

We would like to note a number of limitations of our study, which represent opportunities for future research. First, an assumption we make is that entrepreneurs can observe the overall effort their teammates invest into the venture. While this is likely in small teams (Liden et al., 2004) that work interdependently (Stewart et al., 2012), such as with entrepreneurial teams, this is not necessarily the case for larger work teams or virtual teams in which the individuals might have difficulties evaluating their teammates' effort (Karau and Williams, 1993). Thus, future research could explore how focal individuals' perceptions of teammates' effort influences their own effort. Nevertheless, a methodological advantage of our approach is that it generates multi-respondent data, thus eliminating concerns of common method bias (Podsakoff et al., 2003).

Similarly, our study is based on self-report measures of entrepreneurial effort. Although studies have found that self-reports yield similar results as reports from supervisors and colleagues (Goffin and Gellatly, 2001), an alternative approach would be to capture a focal team member's effort as assessed by his or her teammates. Moreover, a more objective perspective could have been to record the actual number of hours that entrepreneurial team members invested in the venture (cf. Staats et al., 2012). However, given the irregular working schedules of entrepreneurs, which often include working from home (Gumpert and Boyd, 1984), this would have interfered with the participants' daily lives. Still, we relied on more objective measures to evaluate the validity of other perceptual measures included in the study (i.e., venture performance and environmental hostility) and found support for participants' ability to come to assessments that reflect more objective measures.

The results of our study indicate that entrepreneurial effort has an important social component, specifically, the effort an entrepreneur's teammates invested into the venture. Teammates' efforts can be contagious but only under high levels of perceived threat from low venture performance or high environmental hostility. With diminishing threat, the contagious effect of the teammates' effort disappears. These results emphasize the interdependencies between social, organizational, and industry contexts in explaining entrepreneurial effort, and they provide important insights into the boundary conditions of models of social motivation.

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Figure 1:

Moderating effect of an individual's (A) perceived venture performance in week t-1 and (B) perceived environmental hostility on the relationship between teammates' effort in week t-1 and the individual's effort in week t

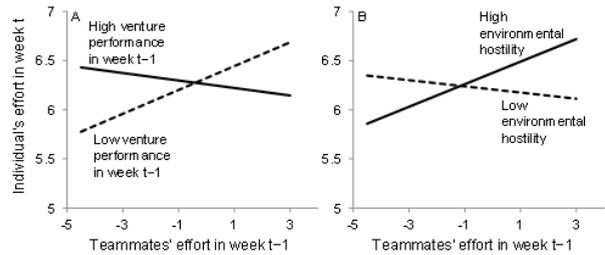


Table 1: Hierarchical linear model to predict an individual's effort in week t

	Model 1	Model 2	Model 3	Model 4
Constant	6.23*** (0.84)	6.15*** (0.83)	6.05*** (0.83)	6.24*** (0.84)
Gender <sup>b</sup>	0.24 (0.40)	0.28 (0.40)	0.13 (0.40)	0.25 (0.40)
Age	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)
Equity stake	0.08 (0.75)	0.16 (0.74)	0.13 (0.74)	0.08 (0.74)
Team age	0.05 (0.05)	0.05 (0.05)	0.04 (0.05)	0.05 (0.05)
Team size	0.03 (0.16)	0.02 (0.16)	0.06 (0.16)	0.02 (0.16)
Industry	-0.17 (0.23)	-0.15 (0.23)	-0.17 (0.23)	-0.16 (0.23)
Effort in week t-1	0.14*** (0.03)	0.14*** (0.03)	0.09** (0.04)	0.14*** (0.03)
Teammates' effort in week t-1	0.04 (0.03)	0.04 (0.03)	0.02 (0.03)	0.04 (0.03)
Perceived venture performance in week t-1	-0.03 (0.04)	-0.03 (0.04)		-0.03 (0.04)
Perceived environmental hostility	0.08 (0.11)		0.04 (0.11)	0.08 (0.11)
Teammates' effort in week t-1 × venture performance in week t-1		-0.09' (0.04)		-0.09' (0.04)
Teammates' effort in week t-1 × hostility			0.08** (0.03)	0.07' (0.03)

Notes. N = 1,197 observations (Level 1) nested in 103 individuals (Level 2) nested in 51 teams (Level 3).

Unstandardized estimates are reported and standard errors are in parentheses.

<sup>a</sup> 0 = male, 1 = female.

'  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$