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PERCEPTIONS OF ENTREPRENEURIAL PROJECT FAILURES AND PROJECT TEAMS: HOW DO THEY IMPACT EMPLOYEE ENGAGEMENT AT WORK?



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ABSTRACT

The failure rate of projects is often high in entrepreneurial organizations. Drawing on self-determination theory, we develop a model of how employees' perceived organizational project failure frequency impacts work engagement contingent on their perceptions of team diversity and team member satisfaction. Using data on 438 leaders and members of entrepreneurial project teams from 49 research and development-intensive organizations, we find evidence of a quadratic moderating relationship of team diversity and team member satisfaction, respectively, on the relationship between project failure frequency and work engagement. The impact of project failure frequency was diminished at medium levels of team diversity and team member satisfaction but less so at low and high levels. We discuss implications of these findings for the literatures on project failure and teams in corporate entrepreneurship contexts.

INTRODUCTION

Entrepreneurial projects—"new ventures, new products, new services, entering new markets, and/or implementing new processes" (Shepherd et al., 2009a: 923)—are typically characterized by high failure risks (Barringer et al., 1999), a constant need for improvisation (Hmieleski et al., 2008), long working hours (Harris et al., 1999), and high levels of uncertainty and unpredictability (Baron et al., 2011). Understanding what motivates employees working in such contexts is an important topic in corporate entrepreneurship research (Corbett et al., 2013; Hornsby et al., 2002; Marvel et al., 2007; Phan et al., 2009). Studies have found that drivers of motivation for corporate entrepreneurship include appropriate reward systems (De Clercq et al., 2011; Hornsby et al., 2002; Marvel et al., 2007; Monsen et al., 2010), trust and control mechanisms within the organization (Allen et al., 2015; Dess et al., 2003; Hornsby et al., 2002), an entrepreneurial culture (Covin et al., 1991), and appropriate work designs (Marvel et al., 2007).

Given that entrepreneurial project failure rates are as high as 90% in biotechnology (DiMasi et al., 2003), 95% in consumer products (Clancy et al., 2005), and 90% in corporate venturing (Block et al., 1993), recent research has been particularly focused on the motivational effects of entrepreneurial project failures—namely, *the early termination of projects that have fallen short of their goals* (McGrath, 2001). These studies have shown that employees involved in failing projects often experience substantial negative emotions, which diminish their learning from the experience (Shepherd et al., 2009a; Shepherd et al., 2009b; Shepherd et al., 2013), their motivation to engage in new projects (Jenkins et al., 2014; Shepherd et al., 2009a; Shepherd et al., 2009b), and their overall commitment to the organization (Shepherd et al., 2011). An implicit assumption these studies have made is that motivational consequences emerge from project failures when employees are directly involved rather than from the failure of projects for which employees are not part of the team. However, exploring the effects of the "failure environment" in terms of overall frequency of project failures within the organization (over and above team members' own project failures) is theoretically important because it is known that in addition to employees' own experiences, the

characteristics of the organizational environment impact firms' entrepreneurial behavior (Covin et al., 1991), and specifically, employees' motivation to act entrepreneurially (Marvel et al., 2007).

An important motivational concept is work engagement—that is, “the harnessing of organization members' selves to their work roles” (Kahn, 1990: 694). Engaged employees experience work as “a positive, fulfilling, work-related state of mind” (Schaufeli et al., 2002) and perceive it as energizing, meaningful, and engrossing (Bakker et al., 2011). Work engagement is particularly relevant for corporate entrepreneurship because it is positively related to creativity (Bakker et al., 2013), effective recovery from high stress levels (Sonnentag et al., 2012), persistence in the face of difficulties (Rich et al., 2010; Schaufeli et al., 2002), proactivity (Hahn et al., 2012), and the generation (Hakanen et al., 2008) and effective exploitation (Gorgievski et al., 2014) of entrepreneurial ideas and opportunities. Therefore, this study asks: *How do employees' perceptions of the “failure environment” (frequency of project failures) within an organization impact their work engagement?*

We draw on self-determination theory (Ryan et al., 2000) to explore this question. Self-determination theory suggests that employees' work engagement is contingent on how they perceive the organizational environment in terms of nurturing their basic psychological needs. We posit that in an environment where employees perceive failure as a frequent project outcome, these needs are thwarted (cf. Shepherd et al., 2009a), leading to decreased engagement (Deci et al., 2001). Consistent with recent studies emphasizing the importance of the team context in entrepreneurship (Foo, 2011; Klotz et al., 2014; Schjoedt et al., 2013), our model suggests that employees' perceptions of the project team provide an alternative source to fulfill these needs but in a complex manner. We test the model with a sample of 438 members of entrepreneurial project teams from 49 organizations. Our study makes the following contributions to the corporate entrepreneurship literature.

First, our study extends current theorizing and empirical research on the effects of entrepreneurial project failures from a focus on those experiencing the failure (Corbett et al., 2007; Shepherd et al., 2009a; Shepherd et al., 2013; Shepherd et al., 2011) to an organizational “failure environment” involving the project failures of others in the organization. An important theoretical implication of our finding that entrepreneurial team members' work engagement is affected by the failure of others is that in order to fully assess the organizational effects of project failures, future theorizing needs to take into account how those *not* included in the failed project are affected. Thus, our work addresses recent calls to consider the context in which entrepreneurial activities occur (De Clercq et al., 2013; Marvel et al., 2015) and “how organizations can attract, cultivate, and manage human capital in a way that allows for continuous corporate entrepreneurship efforts within the corporation” (Corbett et al., 2013: 817).

Second, while the importance of the team environment is widely acknowledged in entrepreneurship research (Klotz et al., 2014; Schjoedt et al., 2013), there has been little theoretical understanding of how the team environment impacts recovery and motivation after entrepreneurial failure. Our results illustrate the complex nature of the effects of team characteristics on work engagement in a “failure environment” and suggest that rather than focusing on direct and linear relationships, future theorizing should explore *when* certain team and team member characteristics impact how individuals cope with entrepreneurial failures (their own and others').

Third, studies on the antecedents of work engagement have primarily focused on motivational job characteristics, such as performance feedback (Schaufeli et al., 2009), or contextual job characteristics, such as job security (Mauno et al., 2005). In contrast, existing theory and empirical work provides little insight into how team aspects impact work engagement (Freeney et al., 2013). We offer and test theoretical arguments on the role of team environments in explaining work engagement. The important implication is that future theorizing on the antecedents of work engagement should explore non-linear and moderating effects of the team context.

METHOD

438 entrepreneurial team members from 49 organizations completed the survey, yielding response rates of 78.5% with respect to invited employees and 15.3% with respect to the organizations contacted. We tested our theoretical model using ordinary least squares (OLS) regression with quadratic moderations Jaccard & Turrisi, 2003 and explored if the coefficient of the interaction of the independent variable with the squared term of the moderators was significant and negative (indicating an inverse U-shaped pattern of moderation as proposed in our model).

DISCUSSION

Understanding the antecedents to employees' work engagement is critical for organizations pursuing entrepreneurial projects (Gorgievski et al., 2014). This study found that engagement is negatively related to the frequency with which employees perceive projects to fail within their organizations but that this relationship is weaker for those who perceive that their team has a medium level of diversity and for those displaying medium levels of team member satisfaction. These findings have several implications for the corporate entrepreneurship literature.

First, we found that the organizational "failure environment"—the frequency at which employees perceive projects to fail within their organizations—influences engagement at work. Extant literature on project failure has mainly focused on employees' own failure experiences and the emotional, motivational, and learning consequences of these experiences (Edmondson, 1999; Shepherd et al., 2009a; Shepherd et al., 2013; Shepherd et al., 2011). In contrast, our results suggest that members of entrepreneurial project teams are also affected by the failures of others. An implication of this finding is that focusing on the consequences of project failure for those involved underestimates the impact of project failure at the level of the organization.

Shepherd et al. (2011) explored how organizations' coping with project failures impacts employees. The authors proposed that organizational project failures can lead to an "informed culture" that normalizes failure (Ashforth et al., 2002) such that negative emotions from failure are diminished and motivation (conceptualized as affective commitment) is maintained. Given that higher failure rates tend to facilitate normalization (Ashforth et al., 2002), Shepherd et al.'s work seems to suggest that higher failure rates can also enhance motivation, which, at first sight, is in contrast to our results showing a negative relationship between failure rates and motivation. However, an important difference between both studies is that Shepherd et al. did not relate the frequency of organizational project failures to normalization (and subsequent employee emotions/motivation). That is, perhaps in some organizations, high failure rates lead to a culture normalizing failure, but in others, this may not be the case. Given this study's findings of interactions between project failure rates and employees' team environments in explaining motivation (i.e., engagement), perhaps the team environment plays a crucial role in explaining how project failures at the organizational level can contribute to developing a culture normalizing failure.

We found that the effect of entrepreneurial project failure frequency on work engagement was contingent on employees' perceptions of the current project team's characteristics. While it is known that team psychological safety facilitates learning from failure experiences (Edmondson, 1999), our study provides new insights into the role of the team in mitigating the motivational consequences of others' failures in the organization. Specifically, our results highlight that members' perceived structure (heterogeneity) of and satisfaction with the team can contribute to buffering against diminished motivation in organizations with high project failure rates. It is tempting to speculate that team structure and team member satisfaction might also impact learning from one's own project failure experiences.

The quadratic nature of the moderating effects of perceived team heterogeneity and team member satisfaction we theorized about and uncovered calls for researchers to acknowledge more complexity when exploring the role

of teams and their composition in entrepreneurial contexts. Although numerous existing studies have investigated how the characteristics of teams and team members impact entrepreneurial outcomes (e.g., venture performance), our understanding of teams in entrepreneurial contexts is still quite limited (Klotz et al., 2014; Schjoedt et al., 2013). Indeed, most studies have focused on linear effects and often report non-findings (e.g., Chowdhury, 2005). Perhaps a closer look at *when* certain team and team member characteristics are indeed useful for achieving entrepreneurial outcomes at the individual, team, and organizational levels can provide more insights than straightforward arguments suggesting that “more is better (or worse).”

Our finding that employees’ perceptions of their teams counteract demotivating effects of project failures within the organization emphasizes the team context as an important factor contributing to motivating employees working in organizational environments characterized by uncertainty and high project failure rates. While previous research has explored how potential organizational benefits from entrepreneurial initiatives (De Clercq et al., 2011), employee-manager relationships, managerial support (Hornsby et al., 2002; Marvel et al., 2007), managerial control (Allen et al., 2015; Hornsby et al., 2002), organizational structures (Hornsby et al., 2002; Klarner et al., 2013; Marvel et al., 2007), and reward systems (De Clercq et al., 2011; Hornsby et al., 2002; Marvel et al., 2007; Monsen et al., 2010) impact employee motivation in a corporate entrepreneurship context, the role of teams has received relatively little attention. This is surprising given that teams are crucial for acquiring entrepreneurial resources and achieving desired entrepreneurial outcomes. Our results suggest that future theorizing and empirical work should further explore the role of teams in motivating corporate entrepreneurial action.

Finally, this article provides additional insights for the broader literature on work engagement. First, we studied the influence of team aspects on work engagement and therefore answered calls for increased research efforts exploring the role of the social environment (Freeney et al., 2013). Prior studies on work engagement antecedents have focused on motivational job characteristics (Schaufeli et al., 2009) or contextual job characteristics (Mauno et al., 2005), while “social” job characteristics, such as like team work, have not yet been sufficiently considered and have mainly been limited to social support at work (Rich et al., 2010). Our findings advocate for perceived team diversity and team member satisfaction as additional social environmental factors influencing employees’ work engagement. Second, we help clarify what makes a “climate for work engagement”—namely, “employees’ shared perceptions about formal and informal organizational structures, events, practices, policies, and procedures that are rewarded, supported, and expected in their organizational context” (Bakker et al., 2011: 12). While previous work engagement studies have devoted attention to broad climate concepts (Jenkins et al., 2013), service climates (Salanova et al., 2005), innovation climates (Hakanen et al., 2008), or team climates (Costa et al., 2014), we draw attention to a “failure climate” to explain employees’ levels of work engagement.

There are some limitations to our study. First, consistent with our theorizing and many other studies on work engagement we relied on employees’ assessments of organization’s project failure frequency, team diversity, team member satisfaction, and work engagement. Future research could take a more behavioral perspective and investigate the effect of objective values. Second, since the design of our study was cross-sectional, we were not able to identify the directions of the causal relationships between the independent variables and work engagement. Although it seems unlikely that individual employees’ work engagement level influences their team perceptions and project failure rates at an organizational level, we cannot rule out this possibility empirically. Finally, while we drew on self-determination theory to understand the relationships of interest, we did not explicitly measure employees’ fulfillment of their innate human needs. Future studies might test for mediation effects by using recently published need fulfillment scales (e.g., Van den Broeck et al., 2010).

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Table 1: Hierarchical regression results

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Individual-level controls</i>					
Age	.005	.004	.004	.003	.002
Gender ¹	.083	.104	.106	.113	.156
Project experience	-.002	-.001	-.001	-.001	-.002
Position ²	-.007	-.010	-.010	-.023	-.047
Positive affect	.426***	.438***	.437***	.432***	.560***
Negative affect	-.106	-.135	-.139	-.132	-.226+
Team identification	.068	.070+	.070+	.079+	.089
Affect. commitment	.222***	.218***	.215***	.213***	.253***
Time since last failure ³	-.002	-.001	-.001	-.001	-.001
European Union, non-German	-.093+	.100+	-.104*	-.092	-.056
Non-European Union	-.010	-.001	.000	.053	.115
<i>Team-level controls</i>					
Team size	.001	.001	.001	.001	.000
Project duration	.001	.001	.001	.002	.002
<i>Organizational-level controls</i>					
Size of organization	.020	.017	.016	.006	-.018
Industrial goods	-.210+	-.221+	-.224+	-.172+	-.041+
Automotive	-.228	-.217	-.223	-.133	-.006
Chemicals/materials	-.232+	-.205+	-.213+	-.165+	-.103
Consumer/electronics	-.286**	-.282*	-.289*	-.231*	-.140
Aerospace/defense	-.531**	-.524**	-.532**	-.448**	-.466**
Medical	-.288*	-.347*	-.345*	-.249*	-.303**
<i>Independent variables</i>					
Project failure frequency (PFF)		-.040	-.076	1.874***	1.989***
Team diversity		-.065**	.023	-.696+	-.857+
Team satisfaction		-.042	.017	1.953***	2.020**
PFF x Team diversity			.017	.380*	.432*
PFF x Team satisfaction			.009	.373**	.396*
Team satisfaction sq.				.180***	.187***
Team diversity sq.				.075+	.094+
PFF x Team diversity sq.				-.038*	-.044*
PFF x Team satisfaction sq.				-.036**	-.039**
<i>Model estimation results</i>					
R-squared	.415	.443	.469	.481	.481
ΔR-squared	.415	.028	.026	.012	

N = 438; + p < .1; * p < .05; ** p < .01; *** p < .001; sq. = squared

(1) Gender: 0 = female, 1 = male; (2) Position: 0 = project member, 1 = project leader; (3) Time since last project failure

Note: Constant term not displayed; results derived from robust regression clustered by organizations

Figure 1: Relationships between project failure frequency and work engagement as a function of team diversity (A) and team member satisfaction (B) (with 95% confidence interval)

