

On the Emergence of Collective Psychological Ownership in New Creative Teams

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### Abstract

We develop and test a theoretical model that explains how collective psychological ownership—shared feelings of joint possession over something—emerges within new creative teams that were launched to advance one person’s (i.e., a creative lead’s) preconceived idea. Our model proposes that such teams face a unique challenge—an initial asymmetry in feelings of psychological ownership for the idea between the creative lead who conceived the idea and new team members who are beginning to work on the idea. We suggest that the creative lead can resolve this asymmetry and foster the emergence of collective psychological ownership by enacting two interpersonal behaviors—help seeking and territorial marking. These behaviors build collective ownership by facilitating the unifying, centripetal force of team identification and preventing the divisive, centrifugal force of team ownership conflict. Our model also proposes that collective ownership positively relates to the early success of new creative teams. The results of a quantitative study of 79 creative teams participating in an entrepreneurship competition provided general support for our predictions, but also suggested refinements as to how a creative lead’s behavior influences team dynamics. The findings of a subsequent qualitative investigation of 27 teams participating in a university startup launch course shed additional light on how collective ownership emerges in new creative teams launched to advance one person’s idea.

Across a range of contexts, teams have become the primary vehicle for driving creative work—the production of something new and valuable (Choi and Thompson 2006; Hennessey and Amabile 2010). For example, teams are the heart of creative artistic productions at the animation studio Pixar, which has released a string of blockbuster films over the past decades (Catmull and Wallace 2014). They are the basic unit of development within innovative, high-tech companies like Google (Schmidt and Rosenberg 2014). And they are central to the advancement of entrepreneurial ventures like KAYAK (Kidder 2016). Reflecting the importance of teams for creative work, researchers have highlighted the role of teams in scientific discovery (Wuchty et al. 2007), new product development (Keller 2001), and entrepreneurship (Klotz et al. 2014). Scholars refer to such teams—groups of people whose primary task and overarching objective is to develop and produce something novel and useful—as *creative teams* (George 2007; Harrison and Rouse 2015).

Recent research suggests that creative teams are most likely to produce something novel and useful when team members form a strong psychological bond with their work (Harrison and Rouse 2015; Rouse 2013). Collective ownership<sup>1</sup>—the sense among team members that a work product (e.g., a piece of software) or an abstract idea (e.g., the business idea underlying the software product) is “ours” (Pierce and Jussila 2010)—exemplifies such a bond. When team members share a sense of collective ownership, they are apt to invest collaborative effort in the team’s work (Wagner et al. 2003), to take risks to benefit the team (DeTienne 2010), and to make personal sacrifices to advance the team’s creative output (Pierce and Jussila 2011). In other words, collective ownership is a motor that propels a team forward through the inherent uncertainty and inevitable setbacks of creative work.

Collective ownership emerges in a team as a function of team members sharing control over, developing joint knowledge about, or investing collective effort into a work product (Pierce and Jussila 2010). The formative period of many creative teams, however, may make it particularly difficult for

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<sup>1</sup> This concept is most precisely described as “collective psychological ownership,” which differentiates it from shared financial ownership or shared legal ownership. We use the abbreviated term “collective ownership” for ease of exposition.

teams to experience such shared activities. Rather than beginning with all team members on an equal footing, creative teams are often formed when one person—a principal investigator, a lead author, an inventor, or a lead entrepreneur—first generates an initial idea and then, with this idea in hand, subsequently recruits others to join the effort to make the idea a reality (e.g., Hargadon and Bechky 2006; Perry-Smith and Mannucci 2017). For example, a psychologist with an idea for how to measure personality using social media profiles might recruit a computer scientist to join the effort and become a co-investigator on a grant application. Or, a software engineer with an idea for a web-based advertising platform might recruit a co-founder with financial resources and social capital. This formative process that many creative teams go through—starting with one individual and subsequently becoming a team as others join the effort—yields an initial asymmetry in members’ sense of ownership over the creative team’s work product. In particular, psychological ownership is concentrated in the person who developed the initial idea—the creative lead<sup>2</sup>—with joining team members feeling less ownership of it. Although many teams may face this asymmetry in ownership during their formative phases, this challenge is particularly acute in new creative teams because creative work is inherently abstract and, as such, more difficult to communicate and coordinate. Given the benefits of collective ownership for the success of creative teams, this asymmetry constitutes an initial obstacle to the success of creative teams and the creative leads who assemble them.

The purpose of this paper is to develop and test a theoretical model of how collective ownership emerges in creative teams that originated from a single person’s idea. Integrating the literatures on psychological ownership (e.g., Brown et al. 2005; Pierce et al. 2001) and creative teams (e.g., Hargadon and Bechky 2006; Rouse 2013), we identify a basic tension that stems from this initial asymmetry, which has implications for the emergence of collective ownership. On the one hand, for members to become unified by developing a shared identification with the new creative team—which theory suggests

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<sup>2</sup> We use the umbrella term “creative lead” to encompass a range of specific terms that are used in different creative contexts for this person. Examples include the “lead entrepreneur” or “founder” in a start-up team, the “principal investigator” in a scientific team, the “artistic director” in a performing arts group, and the “inventor” in a new product development team.

facilitates the emergence of collective ownership (Pierce and Jussila 2010)—they must have opportunities to influence the creative idea itself, rather than just implement the idea as-is (Ashforth et al. 2008). Yet, through their attempts to shape the team's idea, team members are apt to step on the toes of the creative lead and spark divisive conflict, which inhibits the development of collective ownership (Baer and Brown 2012; Brown and Robinson 2007, 2011; Dirks et al. 1996). We propose that creative leads can navigate this tension by enacting two behaviors: *help seeking*, which involves inviting new team members' input into the team's idea and *territorial marking*, which includes actions that signal ownership and demarcate boundaries to others. Creative leads who embrace both help seeking and territorial marking can simultaneously foster the unifying force of team identification and avert the divisive force of team conflict, thus enabling the emergence of collective ownership (Figure 1 depicts our full model).

We test our model through a quantitative study of 79 newly-formed creative teams participating in a renowned entrepreneurship competition and, subsequently, elaborate upon our findings using a qualitative study of 27 creative teams participating in a university startup launch course. In each context, creative teams form around an individual's idea for a new business, work intensely together for a period of time to push the idea closer to fruition, and present their collective work to a panel of judges.

Our work makes three contributions to the literature on creative teams. First, and most significantly, our research yields new insights into how collective ownership emerges during the formative period of creative teams. Prior work on creative teams has primarily studied established teams—those that have managed to survive the tenuous early days of team life (e.g., Harrison and Rouse 2014; Klotz et al. 2014). By examining the dynamics of creative teams during these early days—before teams become stable and established—our research explains the interpersonal processes that may facilitate or inhibit a collaborative creative effort from surviving beyond its earliest days of inception.

Second, we explain how creative leads can influence the emergence of collective ownership. Our conceptual model and empirical findings suggest that creative leads can actively manage the degree to which new team members identify with the team and how much they become embroiled in conflict by engaging in help seeking and territorial marking—behaviors that our research shows are not mutually

exclusive. By explaining how territorial marking and help seeking work together to influence the emergence of collective ownership, we integrate the relatively more *intrapersonal* literature on psychological ownership (e.g., Pierce et al. 2001) with the relatively more *interpersonal* literature on creative teams (e.g., Hargadon and Bechky 2006). Past theory and research on psychological ownership have primarily emphasized how territorial marking communicates an individual's sense of psychological ownership for an idea (e.g., Baer and Brown 2012, Brown and Robinson 2011), without considering the downstream ripple effects of marking on others' sense of ownership for that idea (for an exception, see Brown and Baer 2015). Prior research on creative teams has suggested that help seeking engenders feelings of belonging and inclusion among the members of a creative group (Hargadon and Bechky 2006, Harrison and Rouse 2015), without considering how the help that others offer could threaten the help seeker's sense of ownership. By concurrently studying territorial marking and help seeking, our model and findings build a bridge between these two previously disconnected literatures.

Third, we build upon and extend the growing literature on collective ownership by identifying team ownership conflict as an impediment to the emergence of shared feelings of ownership in new creative teams. Existing theory proposes that team identification is one key driver of collective ownership (Pierce and Jussila 2010). An implicit assumption in prior theory, however, is that new team members start with similar levels of ownership. By studying creative teams that form around one person's preconceived idea, we reveal a tension that is likely ubiquitous in creative efforts—an initial asymmetry in people's feelings of ownership. We explain how creative teams characterized by this initial asymmetry are vulnerable to conflict because team members are susceptible to infringing on the creative lead's territory. This divisive conflict stunts collective ownership by blocking the shared experiences that enable collective ownership to emerge. By studying creative teams that form around one person's preconceived idea, we enrich existing theoretical accounts of collective ownership, specifying an additional mechanism that contributes to its emergence.

### **The Emergence and Effects of Collective Ownership in New Creative Teams**

Collective ownership is the shared sense that an (tangible or intangible) object is a possession of and belongs to the group; it is “ours” (Pierce and Jussila 2010). For a creative team, that object is the idea underlying the team’s work—its creative work product (e.g., a concept for a piece of art, an idea for a scientific advancement, a new venture idea, or an idea for a new product or service). With roots in the literature on individual psychological ownership—an individual’s belief that something is “mine”—it is important to highlight two distinctive elements of the conceptualization of collective ownership, which together make it a property of a group. First, collective ownership is a *shared cognition*—it is a perception or belief that the members of a collective hold in common (Klein and Kozlowski 2000). Without unanimity in members’ cognitions about the team’s creative work product, collective ownership cannot exist. Second, collective ownership is a shared cognition that the creative work product belongs to *the group*—it is a possession that is an extension of the collective itself, not just of each individual person in the team. Absent a reification of the collective in members’ minds, collective ownership cannot exist. As such, if each team member just independently holds strong psychological ownership over an idea (i.e., each person believes the idea is “mine”), collective ownership does not exist. For collective ownership to emerge, members must share a belief that the idea belongs to the team.

Prior theory suggests that three shared activities independently and additively promote the emergence of collective ownership in teams (e.g., Furby 1980a; Jussila and Pierce 2010). By exercising shared control over their team’s work product—such as by collaboratively altering an idea during its development (e.g., Hargadon and Bechky 2006)—team members begin to perceive it as a property of the collective, rather than as a property of any one person. By jointly learning about their team’s work product—such as by researching and discussing the details underlying an idea—members’ shared psychological attachment to the work product grows (Beggan and Brown 1994; Rudmin and Berry 1987). By investing mutual effort into their team’s work product—such as by spending time together clarifying the idea—members develop a shared sense of ownership over the target of their labor (Durkheim 1957). When team members jointly conceive of the idea underlying their work—such as in a standing product development team charged with coming up with and developing a new mobile gaming application (e.g.,

Rouse 2013)—collective ownership is likely to emerge naturally, as conceiving a new idea requires team members to engage in these shared activities.

Collective ownership is less likely to emerge naturally when people come together to advance one person's preconceived idea. Each of the three shared activities described above—or, routes to collective ownership (Pierce and Jussila 2010)—are absent at the outset of a creative team that is formed to advance an idea first conceived of by one person. Whereas a collaborative ideation process provides an early context in which team members can acquire shared knowledge, invest shared effort, and exert shared control, when a team forms around one person's idea there is an initial asymmetry between the creative lead and new team members with respect to knowledge, effort, and control. The lead, who has already invested time in the idea, has more of each of these than any of the new team members.

How can a creative lead encourage the emergence of collective ownership in the face of this initial asymmetry? Our model presupposes that the members of a newly formed creative team experience interactions and events that can either bring them together as a meaningful and unified collective or drive them apart. As Kozlowski et al. (1999) summarized from reviewing the group development literature, most descriptive models of group development characterize the earliest days of a group as a tension between formative processes that help the team become unified and conflictual processes that threaten to divide members of the group. In the context of new product development, Sheremata (2000, p. 390) referred to these as “centrifugal forces” that drive a group apart and “centripetal forces” that pull a group together. Ilgen et al. (2005, p. 527-528) describe how members need to develop an “attachment to the larger collective” and “minimize conflict among team members”. For collective ownership to emerge in a new creative team, members must come together as a unified whole while, at the same time, avoid the conflictual processes that would divide them (Pierce and Jussila 2011; Rouse 2013). Thus, our conceptual model specifies two basic pathways through which collective ownership can arise. One pathway—team identification—is a unifying force that brings team members together and the second pathway—team conflict—is a dividing force that drives team members apart.

Our model further posits that the behavior of the creative lead is a key factor that influences the strength of the unifying and dividing forces that act upon a team. We focus on the creative lead's behavior because research across several domains underscores that those who are high in status, possess power, or hold leadership positions tend to have a disproportionate impact on team emergent states and processes (Kozlowski and Ilgen 2006). Relevant to new creative teams, the literatures on psychological ownership and creativity suggest that two kinds of behavior—help seeking and territorial marking—are means for creative leads to strengthen team identification and prevent conflict.

Help seeking behavior has attracted increasing attention in the creativity literature as a driver of collaborative creativity and as a way to draw others into the collective (e.g., George 2007; 2011; Grodal et al. 2015; Hargadon and Bechky 2006; Mueller and Kamdar 2011). Help seeking is a proactive behavior which centers on soliciting input from others (e.g., advice, guidance, suggestions) with the intention to advance, improve, or redefine an idea (Hargadon and Bechky 2006). It is not, however, the mere implementation of an idea as it is currently conceptualized. Help seeking can entail the potential for changes to any dimension of the idea underlying a team's creative work product, including changes specific to a narrow part of the creative idea or broad changes that pertain to the idea as a whole. For instance, help seeking by the creative lead might involve a principal investigator or lead author asking a post-doctoral researcher who recently joined her lab for thoughts how to best design an experiment. Or, it could include an entrepreneur asking a co-founder who joined the team for general advice about how to strengthen the venture idea.

The literature on psychological ownership suggests that territorial marking is a means for individuals to protect their ideas from others (Baer and Brown 2012; Brown 2009; Brown and Baer 2015; Brown et al. 2005). Territorial marking—actions used to explicitly or implicitly communicate possession to others and signal boundaries (Brown 2009; Brown et al. 2005)—is a behavioral manifestation of psychological ownership. When marking, an individual pre-emptively conveys to others a proprietary attachment, which clarifies expectations and, consequently, minimizes conflict (Brown and Robinson 2007). Territorial marking can involve a particular aspect, dimension, or element of the idea or it could be

directed toward the entire creative idea as a whole. Within a creative team, territorial marking can manifest in subtle and implicit forms or it can be overt and explicit. For example, in presenting the findings of a small-scale pilot study to new team members, a principal investigator might describe the painstaking effort that she expended in developing her research idea, *subtly* signaling ownership over the idea as a whole. Or, the champion of a new application within a software development group might *explicitly* signal psychological ownership by telling new collaborators that the application's underlying architecture and novel database design are off-limits to change, explicitly marking these elements of the creative idea. In both examples, the interpersonal function of territorial marking is communicating psychological ownership of the idea or facets of the idea to others.

Below, we explain how help seeking and territorial marking work together to influence the emergence of collective ownership in new creative teams by promoting team members' shared identification with the team and by preventing team members from becoming engulfed in conflict. Although the dominant function of help seeking may be to strengthen team identification, we also consider how help seeking might influence the dividing force of conflict. And while the dominant function of marking may be to limit team conflict, this behavior also has implications for the unifying force of team identification. Thus, a creative lead's use of the two behaviors likely operates on both forces simultaneously. As a result, we consider the effects of these behaviors on identification and conflict both individually and jointly. We first discuss the role of help seeking and marking in regulating the unifying force of team identification and then describe how they regulate the dividing force of team conflict. Finally, we explain how collective ownership in new creative teams, once established, relates to two early indicators of creative team effectiveness—team performance and team commitment.

### **Managing the Unifying Force of Team Identification**

To overcome the initial asymmetry in feelings of ownership, and develop a sense of collective ownership, the creative lead must strengthen the unifying force that binds members together and allows them to fully identify with the team. Team identification reflects individuals' "perception of oneness or belongingness to some human aggregate" (Ashforth and Mael 1989, p. 21). It is the degree to which

members intertwine their concepts of the self with their membership in the team. Because they encounter similar conditions in their work, a shared sense of identification—such that members' identification is relatively homogeneous and uniform—often emerges in work teams (e.g., Van der Vegt and Bunderson 2005). It is this shared sense of belongingness with the team that precipitates the emergence of collective ownership in a new creative team (Pierce and Jussila 2010).

Help seeking behavior is particularly important for fostering team identification (Edmondson et al. 2007; Hargadon and Bechky 2006). Ashforth and colleagues (Ashforth et al. 2008) argued that people form a perception of belongingness with a collective by observing and making sense of their own behavior vis-à-vis the collective. Help seeking behavior by the creative lead provides new team members with opportunities to enact their identification with the team by making substantive contributions to the team's underlying purpose. Help seeking thereby fulfills members' expectations of appropriate treatment within the new creative team—a collective that they have joined ostensibly for the purpose of making important contributions (Blader and Tyler 2009; Tyler and Blader 2003). By providing a context in which members can enact their identification and make meaningful contributions to the team, a creative lead's help-seeking behavior likely facilitates the development of team identification.

Whereas help seeking draws new members into the team, the literature on psychological ownership suggests that territorial marking keeps team members at a distance (Brown et al. 2005). By signaling individual ownership and demarcating boundaries, territorial marking dissuades team members from attempting to influence or shape the idea, and therefore could limit opportunities for new members to enact their identification with the creative team. Thus, while marking may minimize unwanted encroachments by others (Becker and Mayo 1971; Brown 1987), it could also diminish others' motivation to invest in the collaborative process (Brown and Baer 2015). In response to marking by the creative lead, new team members may withhold their ideas, knowledge, and suggestions because they are “reluctant to venture into certain (marked) areas out of respect for another's ownership of those territories (even though doing so would be in the interest of the collective)” (Brown et al. 2005, p. 588). A creative lead's territorial marking—which is likely to arise amidst the asymmetry in psychological ownership in a new

creative team—could thwart the collaborative ideation process needed for team members to enact their identification with the new creative team.

The extent to which marking suppresses team identification, however, likely depends on how much a creative lead also engages in help seeking behavior. Even though territorial marking limits some opportunities for team members to shape the idea, help seeking could curtail these negative effects of marking. Prior research on new product development suggests, for example, that team members are more collaborative and engaged in response to the product lead's directive behaviors when the product lead also pairs those behaviors with participative behaviors, which provide sanctioned avenues for team members to contribute to the creative process (Dougherty 1996; Lewis et al. 2002). Help seeking behavior may similarly reduce the extent to which marking dampens team identification because—even if marking blocks some routes to contribution—it opens clear paths for team members to contribute to the team and enact their identification. We thus propose that help seeking and territorial marking work jointly and in concert to influence the development of shared feelings of identification in new creative teams and that the negative effects of marking on identification can be buffered by help seeking.

**Hypothesis 1:** Help seeking and territorial marking by the creative lead of a new team interact to predict team identification such that (a) help seeking is positively related to team identification, (b) marking is negatively related to team identification, and (c) help seeking weakens the negative relationship between marking and identification.

By reifying new members' bonds with the collective structure of the team, team identification is an important factor that precipitates the emergence of collective ownership. Psychological ownership theorists (e.g., Pierce and Jussila 2010; Pierce et al. 2017) have postulated that before people can have the capacity to hold joint feelings of ownership—believing that the collective has the capacity to possess something—they must first perceive themselves as intertwined meaningfully with the collective itself. Without an “us” there can be no “ours” (Pierce and Jussila 2011; Rouse 2013). Beyond just serving as a primitive group-based cognitive foundation for collective ownership, team identification also enables team members to engage in the collaborative activities—accumulating shared knowledge, exercising

shared control, or investing shared effort (Pierce and Jussila 2010)—that give rise to shared feelings of ownership (Pearsall and Venkataramani 2015). Team identification thus likely facilitates the emergence of collective ownership in newly-formed creative teams.

**Hypothesis 2:** Team identification is positively related to collective ownership.

### **Managing the Dividing Force of Team Ownership Conflict**

The asymmetry in feelings of ownership that characterizes a creative team formed around one person's idea heightens the potential for conflict—a divisive team process that tends to arise during the early life of almost any team (Kozlowski et al. 1996). As detailed above, when people hold psychological ownership of something, they are motivated to guard against others' attempts to access and control their possession (Brown et al. 2005; Pierce et al. 2001). This creates an inherent risk in a new creative team formed around one person's idea that those who join the team may, in their attempts to contribute to the team's work, violate the creative lead's conception of what the idea is and should be. Infringements upon the lead's psychological attachment to the idea—whether intentional or unintentional—are likely to spark conflict within the team over who has the right to control or influence the team's idea (Brown et al. 2005). This type of intrateam conflict—interpersonal tension centered on who possesses and can control something—has been referred to as ownership conflict (Carnevale 1995). It is the conflict that is manifest when, for example, scientists argue about who first developed a scientific idea (e.g., Isaacson 2014; Kuhn 1962) or when members of a new venture team disagree about who has the right to change a product idea (e.g., Mezrich 2009). Accordingly, to overcome the initial asymmetry in feelings of ownership and enable the emergence of collective ownership, the creative lead must limit, as much as possible, the occurrence of ownership conflict—a dividing force that pushes team members apart and prevents collective ownership from arising.

Theory and research on psychological ownership are clear: those who hold psychological possessions can dissuade others from encroaching upon them by engaging in territorial marking (Brown 2009; Brown et al. 2005). By signaling ownership to others, marking helps to prevent conflict (Brown 1987; Furby 1980b). Marking makes “the boundaries and proprietary nature of territories clear to others”

(Brown et al. 2005, p. 587). When the creative lead engages in territorial marking, team members are apt to develop a shared understanding of the person's psychological bond with the creative idea (Altman and Haythorn 1967; Rosenblatt and Budd 1975). Team members who are aware of this attachment may be reticent to independently alter that idea based upon the potential costs that could come from stepping on the toes of the creative lead (Brown et al. 2005). Marking may be particularly beneficial for a new creative team, in which the target of possession—the idea underlying the team's work—is intangible (Graham and Cooper 2013). The boundaries of intangible objects are ambiguous, underspecified, and often idiosyncratically perceived by others (Brown and Robinson 2007; Dittmar 1992). By clarifying boundaries, territorial marking dissuades members from trying to change or modify the creative idea in ways that are threatening to the creative lead (Brown and Baer 2015; Brown et al. 2005), thereby reducing the occurrence of ownership conflict.

We argued above that help seeking enables the emergence of collective ownership because it provides new members with opportunities to make substantive contributions to the team, thereby enacting their identification. By opening the door to members' contributions, however, help seeking could also open the door to ownership conflict. With an explicit invitation to contribute to the idea, members may suggest changes that threaten the creative lead's sense of individual ownership, sparking interpersonal tension and division in the team (Bolino et al. 2010; Morrison 2011). Past research has shown that even well-meaning feedback offered to someone with a strong sense of psychological ownership can be interpreted as an infringement and elicit negative reactions and backlash (Baer and Brown 2012; Brown and Robinson 2011; Dirks et al. 1996). Encouraged by the creative lead's help seeking behavior, team members could violate the lead's psychological attachment to the idea and trigger ownership conflict.

The extent to which help seeking breeds team ownership conflict, however, depends on how much the creative lead also engages in territorial marking. At its core, the functions of territorial marking are to signal ownership to others and demarcate boundaries (Brown et al. 2005). While help seeking could provide opportunities for team members to change the idea according to their own preferences, territorial marking clarifies for new members what the creative lead sees as the boundaries of acceptable change.

Research suggests that, in the face of territorial marking behavior by another, people asked to provide feedback are tentative and exhibit caution in the kinds of suggestions that they offer (Brown and Baer 2015). As a result, territorial marking reduces the risk that invitations for help with altering the creative idea will materialize into changes that threaten or undermine the creative lead's psychological feelings of ownership. Territorial marking may thus nullify the degree to which help seeking stimulates ownership conflict by clarifying where members' help is less desirable and by communicating to team members the need to be cautious regarding the creative lead's psychological attachment to the idea. Accordingly, we propose that marking and help seeking work together, interactively, to influence ownership conflict in new creative teams, with marking reducing the potential for help seeking to trigger the occurrence of ownership conflict.

**Hypothesis 3:** Help seeking and territorial marking by the creative lead of a new team interact to predict team ownership conflict such that (a) marking is negatively related to ownership conflict, (b) help seeking is positively related to ownership conflict, and (c) marking weakens the positive relationship between help seeking and ownership conflict.

A substantial body of research indicates that emotionally-charged conflict—including disagreements and tension about intrateam status and control over resources—disrupts team functioning (De Dreu and Weingart 2003; De Wit et al. 2012). Ownership conflict is particularly disruptive to the emergence of shared feelings of ownership within new creative teams because it hampers the collaborative activities that theory suggests foster collective ownership (Pierce and Jussila 2010). If team members are embroiled in arguments over who gets to control the creative team's idea, they are unlikely to begin expressing shared control over that idea. Further, time spent managing and resolving ownership conflict is time taken away from team members jointly acquiring new knowledge about the team's creative work product. Finally, disagreements over ownership are typically aggressive, hostile, and prolonged (Brown and Robinson 2011; De Dreu and van Knippenberg 2005; Walton and Dutton 1969). The negative emotions that accompany ownership conflict likely inhibit team members from investing mutual and collaborative effort into the creative team's work product in an interpersonally integrated way

(Brockner et al. 2004; Knight and Eisenkraft 2015). For these reasons, ownership conflict likely inhibits the emergence of collective ownership in new creative teams.

**Hypothesis 4:** Team ownership conflict is negatively related to collective ownership.

### **Collective Ownership and New Creative Team Outcomes**

The degree to which collective ownership emerges in a new creative team likely relates to early team outcomes—both the team’s early performance in advancing its idea and members’ commitment to advancing the idea in the future. With respect to creative team performance, team members who share collective ownership of their team’s idea are likely to expend significant effort and make sacrifices to advance the idea (Pierce and Jussila 2011). Psychological possessions are extensions of the self, which—through a self-enhancement motive—leads people to behave in ways that improve what they believe they own (Pierce et al. 2001). The inherent ambiguity of the creative process makes members’ investments of discretionary effort on behalf of the work product particularly important for the early performance of creative teams (Hargadon and Bechky 2006). In addition, team members’ efforts are particularly likely to be cooperative and coordinated when team members feel collective ownership over the team’s creative idea (Pierce and Jussila 2010). Such coordinated efforts are critical for advancing a new creative idea since changes to one part of the idea will likely require coordinated changes to other parts of the idea (Levinthal 1997). We thus expect a positive link between collective ownership and team performance.

**Hypothesis 5:** Collective ownership is positively related to team performance.

In addition to enabling early team performance, collective ownership also likely strengthens team members’ shared commitment to continuing their collaborative work on the idea in the future. Stemming from the feeling that the team’s idea is an extension of the self, team members who feel collective ownership of their team’s idea likely find detachment from the team costly, as “...separation may diminish the self” (Pierce and Jussila 2011, p. 94). Indeed, research has shown that people who feel a strong sense of psychological ownership of their work are prone to remain with an organization to, in part, avoid the psychological costs incurred from leaving (DeTienne 2010; Van de Walle et al. 1995; Van

Dyne and Pierce 2004). Similarly, we expect that collective ownership increases team members' shared commitment to collaborating with one another to advance the idea in the future.

**Hypothesis 6:** Collective ownership is positively related to team commitment.

Our full conceptual model, shown in Figure 1, depicts the emergence of collective ownership as stemming distally from a creative lead's behavior, which we have argued flows through the unifying force of team identification and the dividing force of team ownership conflict. Our model further posits that collective ownership influences creative team outcomes. In addition to the main and interactive effects that we have hypothesized, our model thus also portrays several indirect effect relationships, such as the indirect relationship between a creative lead's behavior and the emergence of collective ownership. Beyond testing our hypotheses, we also examine the indirect effects implied by our conceptual model.

## **Method**

### **Research Setting**

To test our conceptual model, we collected multi-source data on teams participating in an entrepreneurship competition. The competition is held hundreds of times each year in cities and countries across the world. The overarching purpose of the competition is to provide a context in which aspiring entrepreneurs can come together, form a team, and advance an idea over the course of a weekend. Events are organized locally and range in the number of attendees from 20 to more than 300 people. A single non-profit organization gives local organizers an event structure, materials, and a trained facilitator to preserve fidelity to a standard model. At the start of the three-day event, individual attendees present new venture ideas to one another in 60-second elevator pitches. Although all have the option to do so, roughly half of the attendees will share an idea with the group at a typical event. The ideas that individuals pitch are diverse, ranging from using 3-D printing to produce prosthetic limbs to a software application to deliver targeted advertisements on top of web-based videos. To be acceptable for the event, attendees cannot pitch ideas that they have substantially developed already—there can be no sophisticated prototype of a product nor substantive funding behind the idea. After the pitches, attendees cast votes to

identify ideas that hold the most promise. Based on the vote tally, organizers choose a subset of ideas—usually between 10 and 15 depending on event size—that will be the focus of attendees’ efforts during the event. Attendees then form teams organically around the chosen subset of ideas and begin working together. Throughout the following days, teams work to advance their ideas along multiple dimensions—building prototypes of products, vetting pricing and business models, and working to more clearly understand their potential customer base. At the end of the third day, teams present their work to a panel of judges composed of three to seven investors, entrepreneurs, and/or incubator leaders who choose three teams to receive packages of prizes (e.g., legal services, technology products, office space).

This entrepreneurship competition affords us the opportunity to examine the emergence of collective ownership in new creative teams formed around an individual’s idea. The event structure requires the initial idea underlying a team’s work to be generated by a single person, rather than by a pre-existing team. Further, because teams are not pre-formed before the competition begins, this context affords the possibility of studying the effects of a creative lead’s behavior on team functioning during an early and formative phase of team life. This aspect of the competitions—in which we can identify new creative teams from the moment they begin to work together—mitigates against the survivorship bias that could otherwise obscure how the creative lead’s behavior and early team dynamics contribute to collective ownership and team effectiveness.

### **Sample and Procedure**

We collected data at seven events held between 2013 and 2014—in the Midwest, the Northwest, the South, and the Northeast regions of the United States. In total, we collected data from 409 individuals comprising 89 teams. We excluded data collected from the members of 10 teams that were dyads. At the beginning of the event, local organizers stated that in order for teams to present to the panel of judges, teams must include at least three team members. This foreknowledge among two-member teams that they would not be presenting to the judges could have shaped their team process and, further, limited our ability to assess team effectiveness. The results that we report below are thus based on data collected from the 79 teams (389 individuals) that had at least three members. The sample was mostly male (79%) and

participants were on average 30.94 years old ( $SD = 9.98$ ). Participants reported having an average of 1.61 years of entrepreneurial experience ( $SD = 4.24$ ) and a wide range of functional backgrounds (sales/marketing: 29%, graphic design: 12%, software development: 31%, other: 28%).

We surveyed participants at four points in time. Participants completed the Time 1 survey (89% response rate) as they arrived for the event on the first day, before anyone delivered an elevator pitch. The Time 1 survey asked participants about the idea that they planned to pitch that evening and for their demographic information. We administered the Time 2 survey (88% response rate) in the morning of the second day, asking participants to complete and return it before lunchtime. At this point, teams were formed and had worked together for up to twelve hours; members could thus provide their perceptions of early team interactions. The Time 2 survey asked team members to describe the behavior of the person who pitched their team's idea (i.e., the creative lead). Participants completed the Time 3 survey (82% response rate) early in the morning of the third day. The Time 3 survey, which assessed team identification and ownership conflict, was timed to coincide with the approximate midpoint of team life—a time when conflict is especially likely manifest in teams facing a deadline (Gersick 1988). We administered the Time 4 survey (86% response rate), which assessed collective ownership and self-reported early team outcomes, in the evening of the third day. Participants completed the survey immediately after their presentation, before event organizers announced the competition results.

In addition to collecting self-report measures of early team effectiveness, we measured team performance and team commitment using teams' presentations to the panel of judges on the third day. Presentations last between five and ten minutes, have multimedia support, and include an additional question and answer period. Judges rate teams during and immediately following each team's presentation across several dimensions. We collected judges' individual ratings of each team at the conclusion of the competition to derive a supplementary measure of team performance. We also video recorded teams' presentations, which we used to derive a supplementary measure of team commitment.

### **Survey Development**

We followed a multi-step scale development process (i.e., Hinkin 1998) to create new measures (e.g., ownership conflict, collective ownership) and to adapt existing measures in the academic literature to our research context (e.g., help seeking, territorial marking, team identification, team commitment, team performance). Adapting existing measures of these constructs was necessary to (a) direct attention to the interactions between a creative lead and new team members (i.e., help seeking, territorial marking) and to reduce the total number of survey items that team members completed within the context of the competition. We started by using a deductive approach to generate new survey items, relying on construct definitions in the existing literature (Schwab 1980). To evaluate content validity, we compared the items that we wrote to the construct definition and to the parameters of the research context. We eliminated and modified survey items that did not assess the construct space and/or did not fit with the research context. To adapt existing items to our research context, we drew upon the insights from one co-author's first-hand experiences as a participating team member at a competition event in the year prior to our research, as well as observations of five other events before this study and semi-structured interviews with participants at those events. We used this information to ensure that survey items took into account the specific context of the entrepreneurship competition. As a final check on the relevance of our survey items to this particular context, an entrepreneur and venture capitalist reviewed our measures, identifying items that were unclear or did not fit the research context.

Second, to reduce the length of our survey, which was necessary due to the time constraints of the competition, we administered an initial set of items to an online sample of individuals representative of our population of interest. We recruited participants from an online participant pool who reported either having prior entrepreneurial experience or an interest in entrepreneurship to match our field context—one in which some people have prior experience in entrepreneurship and some are participating in an entrepreneurial activity for the first time. We prompted participants to imagine a situation in which they had “recently decided to work with someone who had spent the past several months working on a new business idea and were now working with that person on that new business idea.” We excluded any responses which failed one or more attention check questions (25 responses excluded), did not complete

the full survey (68 responses excluded), or did not include a designated five-digit code (11 responses excluded). This resulted in a sample of 127 participants that mirrors our field sample along several dimensions (age:  $M = 40.34$  years,  $SD = 12.03$ ; entrepreneurial experience:  $M = 5.71$  years,  $SD = 7.49$ ; gender: 63% male; functional skill diversity: 9% graphic designers, 28% software developers, 59% business background; entrepreneurial experience: 57% self-employed). Using the responses from this online sample, we conducted exploratory factor analysis to identify and eliminate any items loading on their respective factors less than 0.50 (Ford et al. 1986). To assess reliability, we evaluated the internal consistency of each scale. Where possible we eliminated survey items that did not improve alpha and retained items that maintained alpha greater than 0.70 (Nunnally 1978). We favored parsimonious scales with at least three items that comprehensively assessed the theoretical domain and offered high internal consistency (Thurstone 1947). This item reduction process ensured unidimensional scales and enabled us to use a shorter survey form, which was required for the study to be feasible in this context (Hinkin 1998).

Third, to examine the validity of the measures that we ultimately used in our field study, as detailed below, we further assessed the factor structure of our measurement model using confirmatory factor analysis. Specifically, we fit a model to the data in which survey items loaded on their expected underlying factors and all factors were allowed to covary with one another. The measurement model provided an acceptable fit for the data ( $\chi^2_{278} = 643.05$ , CFI = 0.93, RMSEA = 0.07, SRMR = 0.06) and all survey items had standardized loadings greater than 0.50 on their respective latent factors.

## Measures

Unless otherwise noted, participants responded to survey items using a 7-point Likert-type scale ranging from 1 = *Disagree strongly* to 7 = *Agree strongly*. Coefficient alpha, calculated at the team-level, is along the diagonal of Table 1 for multi-item scales (see Appendix for all survey items). To assess the appropriateness of using aggregated individual-level survey responses to measure shared team-level constructs (Klein and Kozlowski 2000), we examined and report below indices of within-team homogeneity and between-team variance in members' individual responses (Bliese 2000).

**Creative lead help seeking.** At Time 2, team members completed a 3-item measure adapted from Anderson and Williams (1996) to assess the creative lead's help seeking behavior. A sample item is, "The person who pitched the idea seeks our assistance with how to improve the idea, not just how to execute it as is." To operationalize help seeking, we used the mean of team members' perceptions of the creative lead. There was high within-team homogeneity and significant between-team variance in team members' perceptions of the creative lead's behavior [Median  $r_{wg(j)} = 0.88$ ,  $ICC(1) = 0.10$ ,  $p < 0.05$ ,  $ICC(2) = 0.31$ ].

**Creative lead territorial marking.** We measured territorial marking by the creative lead at Time 2 using a 6-item measure adapted from Brown (2009). A sample item is, "The person who pitched the idea often highlights how his/her personal experiences have led to the idea." As with help seeking, we used the mean of team members' perceptions, excluding the creative lead [Median  $r_{wg(j)} = 0.88$ ,  $ICC(1) = 0.28$ ,  $p < 0.01$ ,  $ICC(2) = 0.62$ ].

**Team identification.** We measured team identification at Time 3 using three items from Mael and Ashforth's (1992) scale. A sample item is, "I am very interested in what others think about the group." To reflect all members' collective team identification, we used the team mean of members' responses, including the creative lead. Consistent with prior research (e.g., Van der Vegt and Bunderson 2005), team members were relatively homogeneous in their identification with their team [Median  $r_{wg(j)} = 0.86$ ,  $ICC(1) = 0.23$ ,  $p < 0.01$ ,  $ICC(2) = 0.55$ ].

**Team ownership conflict<sup>3</sup>.** At Time 3, we measured ownership conflict using three items that we developed for this study. A sample item is, "How much tension is there about who owns the idea?" Participants responded using a 7-point Likert-type scale ranging from 1 = *Never* to 7 = *A lot*. Similar to

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<sup>3</sup> In addition to examining the fit of our hypothesized measurement model, we used confirmatory factor analysis to examine the discriminant validity of ownership conflict vis-à-vis the two most widely-studied forms of conflict, task conflict and relationship conflict (de Wit et al., 2012). At Time 3, we included items measuring task and relationship conflict (Jehn and Mannix 2001) alongside our measure of ownership conflict. A three-factor model fit the data well ( $\chi^2_{24} = 34.04$ , CFI = 0.98, RMSEA = 0.09, SRMR = 0.03) and significantly better than a one-factor model ( $\Delta\chi^2_3 = 111.66$ ,  $p < 0.01$ ) or any two-factor model—task and relationship items on one factor and ownership items on the second ( $\Delta\chi^2_2 = 7.27$ ,  $p < 0.05$ ), ownership and task items on one factor and relationship items on the second ( $\Delta\chi^2_2 = 94.24$ ,  $p < 0.01$ ), or ownership and relationship items on one factor and task items on the second ( $\Delta\chi^2_2 = 77.01$ ,  $p < 0.01$ ). This supports the idea that ownership conflict is distinct from task or relationship conflict.

team identification, we operationalized ownership conflict using the team mean of members' responses, including the creative lead [Median  $r_{wg(j)} = 0.96$ ,  $ICC(1) = 0.27$ ,  $p < 0.01$ ,  $ICC(2) = 0.60$ ].

**Collective ownership**<sup>4</sup>. We measured collective ownership at Time 4 using a 4-item measure derived from Van Dyne and Pierce (2004). A sample item is, "The team really has ownership of the idea." We operationalized collective ownership as the team mean of all members' responses, including the creative lead [Median  $r_{wg(j)} = 0.94$ ,  $ICC(1) = 0.29$ ,  $p < 0.01$ ,  $ICC(2) = 0.65$ ].

**Team performance.** We measured team performance using two approaches. First, we collected team members' ratings of their own performance immediately following their presentation at Time 4 using a 3-item measure adapted from Edmondson (1999). A sample item is "My group produced excellent work." We aggregated all team members' individual ratings of performance using the team mean [Median  $r_{wg(j)} = 0.95$ ,  $ICC(1) = 0.26$ ,  $p < 0.01$ ,  $ICC(2) = 0.61$ ].

To complement this self-report measure, which could contribute to single source and/or common method biases in testing our hypotheses (Podsakoff et al. 2003), we measured team performance using the judges' ratings for each team. The organization that guides events provides a standardized evaluation form with items to measure the quality of a team's business plan (e.g., revenue model, customer acquisition strategy), the quality of the product or prototype that the team built, and the degree to which the team's product or service provides a compelling and captivating experience for potential customers. Some local event organizers, however, customized the items included on this form. To account for these event-level variations, and to derive a common metric, we did the following. First, we examined the level of interrater reliability in judges' ratings. Judges exhibited a high level of interrater reliability in their ratings [Median  $ICC(2) = 0.62$  across items]. Second, while judges provided 97 percent of all possible

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<sup>4</sup> Although a validated measure of collective ownership was not available when we collected our field data, a measure was recently published by Pierce et al. (2017). We conducted an additional online study and performed a confirmatory factor analysis in which we found that a single factor model comprised of the four items from our scale and the four items from Pierce et al. (2017) fit the data well ( $\chi^2_{199} = 430.01$ ,  $CFI = 0.95$ ,  $RMSEA = 0.07$ ,  $SRMR = 0.04$ ) and that a two-factor model did not fit the data significantly better than the one-factor model ( $\Delta\chi^2_2 = 6.45$ ,  $p = 0.26$ ). We also observed a high bivariate correlation between the mean scale scores for these two measures of collective ownership ( $r = 0.85$ ,  $p < 0.01$ ).

ratings across teams and items, we needed to address missing item-level ratings because in one of the seven events we studied, the venture evaluation form used different weights for different items (e.g., 10 points for business model, 15 points for user experience). Missing data are problematic in this case because some missing ratings might carry more weight than others. To address this, we imputed ratings for missing items using the mean of the other judges' responses to that particular item for that particular team, filling in unknown information with the best-available information for that rating. We tested and found that missing ratings were not systematically related to any particular team, item, or judge, satisfying an important assumption of imputation (Fichman and Cummings 2003). Third, after imputation, we calculated the overall judge evaluation for a given team as the sum total score across items. The sum total score is the most appropriate overall metric, as forms included a total score entry blank, with the intention that judges use this total score to rank-order teams before deliberating and selecting the top three teams. Fourth, we aggregated team scores across judges to create a single score for each team. Fifth, we standardized team performance scores within event to account for scaling differences across events.

**Team commitment.** Similar to our approach for measuring team performance, we assessed team commitment using two different measures. To best capture team members' internal psychological experiences, we used a self-report survey measure that team members completed at Time 4 adapted from Mowday et al. (1979). A sample item is "I am willing to put in a great deal of effort in the future to help this idea succeed." We used the team mean of team members' individual responses to operationalize team commitment [Median  $r_{wg(j)}$  = 0.91, ICC(1) = 0.18,  $p < 0.01$ , ICC(2) = 0.50].

To again address the potential for single source and common method biases in examining the relationship between collective ownership and team commitment, we also assessed team commitment by coding the behavior of team members during their final presentation to the judges captured through video recordings. Three research assistants blind to our hypotheses used a behaviorally-focused coding approach to assess the extent to which the team "discussed its future plans for the idea during the presentation and during Q&A" using a scale from 1 = *Not at all* to 5 = *To a great extent*. Raters exhibited

high interrater agreement (Median  $r_{wg} = .83$ ;  $ICC(2) = .51$ ,  $p < .01$ ), so we operationalized commitment by averaging across raters.

**Control variables.** We used a theoretically-driven approach and followed recent guidance on including control variables in our models (Becker 2005; Carlson and Wu 2011; Spector and Brannick 2011). We controlled for team size because the time constraints in the competition might favor larger teams that can accomplish more in a shorter amount of time. Prior research also suggests that team size relates to creative team processes and outcomes (Foo et al. 2006; Hmieleski and Ensley 2007). To focus specifically on how effectively the team advanced the idea, rather than simply on the quality of the initial idea as pitched by the creative lead, we controlled for the number of votes that ideas received by the audience on the first day of the competition (Chen et al. 2009). Because the total number of possible votes varied across events (i.e., audience sizes varied), we standardized the vote count within event. We also controlled for two characteristics of creative leads—their individual psychological ownership of the new venture idea at the start of the event and their entrepreneurial self efficacy—that might influence both their behavior and the extent to which team members develop collective ownership. For individual psychological ownership, we used a three-item measure based on Van Dyne and Pierce (2004); a sample item is “I really feel like I own the idea I am pitching.” We measured entrepreneurial self efficacy using a three-item measure (Chen et al. 2001); a sample item is “I am confident in my ability to start a new business.” Our findings are robust to the inclusion or exclusion of these control variables.

## Results

Table 1 provides descriptive statistics for and correlations among study variables. Because teams in our sample are nested within events, we used multilevel modeling to test our hypotheses. We included a random intercept in all models to account for any potential event-level non-independence among team-level observations and grand mean centered all predictor variables (Hofmann and Gavin 1998).

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 Insert Tables 1 – 5 about here  
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## Tests of Hypotheses

In Hypothesis 1 we proposed that help seeking and territorial marking by the creative lead interact to shape team identification. Specifically, we predicted that (a) help seeking is positively related to team identification, (b) marking is negatively related to team identification, and (c) help seeking weakens the negative relationship between marking and team identification. As seen in Model 3 of Table 2, the interaction between help seeking and marking was not significant ( $B = 0.10$ , n.s.) in predicting team identification. However, consistent with H1a, we found a positive relationship between creative lead help seeking and team identification ( $B = 0.41$ ,  $p < 0.01$ ). Unexpectedly, we also found a positive relationship between creative lead territorial marking and team identification ( $B = 0.21$ ,  $p < 0.10$ ). This suggests that, contrary to H1b, territorial marking does not detract from, but rather may build team identification—at least at average levels of help seeking behavior. Below, we report the findings of a supplementary qualitative investigation, which we used to explore this unexpected pattern.

We proposed in Hypothesis 2 that team identification is positively related to collective ownership. As Model 4 of Table 3 shows, there was a significant positive relationship between team identification and collective ownership ( $B = 0.54$ ,  $p < 0.01$ ). Hypothesis 2 was supported.

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 Insert Figure 2 about here  
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In Hypothesis 3 we posited that creative lead help seeking and territorial marking interact to shape team ownership conflict, such that (a) marking is negatively related to team conflict, (b) help seeking is positively related to team conflict, and (c) marking weakens the positive relationship between help seeking and ownership conflict. As Model 6 of Table 2 shows, there was a significant interaction between help seeking and marking on ownership conflict ( $B = 0.42$ ,  $p < 0.01$ ). To understand the form of the interaction, we examined the simple slope of the relationship between help seeking and ownership conflict at each possible value of territorial marking (Preacher et al. 2006). This method of examining an interactive effect extends Aiken and West's (1991) simple slopes analysis and provides a comprehensive picture of how a moderator (in this case territorial marking) influences the relationship between a predictor (help seeking) and a criterion (ownership conflict). Figure 2 provides both (A) a traditional plot

of the interaction at relatively high (+1 SD) and relatively low (-1 SD) values of help seeking and territorial marking and (B) a plot of the simple slopes and confidence bands following Preacher and colleagues' method. Consistent with H3a, we found that creative lead territorial marking was negatively related to ownership conflict. Contrary to H3b and H3c, however, we found that help seeking was, on average, negatively related to conflict—and that this negative relationship was weakened by territorial marking. This pattern suggests that, rather than inciting ownership conflict, help seeking instead acts as a substitute for territorial marking in inhibiting ownership conflict from emerging. We further probe this finding through the supplementary qualitative investigation described in more detail below.

In Hypothesis 4 we proposed that team ownership conflict is negatively related to collective ownership. As Model 4 of Table 3 shows, we found support for this hypothesis: ownership conflict was negatively related to collective ownership ( $B = -0.44, p < 0.01$ ).<sup>5</sup>

In Hypotheses 5 and 6 we proposed that collective ownership is positively related to, respectively, team performance and team commitment. Table 4 provides the results of models examining the effects of collective ownership on team performance. As Models 3 and 6 of Table 4 show, team collective ownership was positively related to team performance as rated by judges ( $B = 0.31, p < 0.10$ ) and as rated by team members themselves ( $B = 0.62, p < 0.01$ ). Similarly, as Models 3 and 6 of Table 5 show, team collective ownership was positively related to team commitment, measured by third-party ratings of team members' behavior during their presentation ( $B = 0.24, p < 0.10$ ) and as rated by team members themselves ( $B = 0.37, p < 0.01$ ). These results partially support both Hypothesis 5 and Hypothesis 6.

### **Examination of Indirect Effects**

Implicit in our conceptual model, as depicted in Figure 1, are a set of partially mediated relationships. Two of these partially mediated relationships are of greatest theoretical relevance: (a) the unifying pathway, whereby the creative lead can influence collective ownership through team

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<sup>5</sup> In a post-hoc analysis we examined whether team identification and team ownership conflict interact to predict collective ownership. Specifically, we added an interaction term to the model represented in Model 4 of Table 3, finding that it was not related to collective ownership ( $B = -0.01, SE = 0.22, n.s.$ ).

identification; and, (b) the dividing pathway, whereby the creative lead can influence collective ownership through team ownership conflict. To evaluate the validity of these two pathways, we thus considered team identification and team ownership conflict as partially mediating mechanisms and examined the significance of indirect effects using bootstrapping with 5,000 draws to derive parameter estimates and confidence intervals (MacKinnon and Fairchild 2009). Because the pathway of team ownership conflict comprises a significant interactive effect of help seeking and territorial marking, we examined the significance of conditional indirect effects for this pathway (Preacher et al. 2007).

With respect to the unifying pathway of team identification, we found a significant indirect effect of help seeking by the creative lead on collective ownership through team identification (Est. = 0.23, SE = 0.12, 95% CI = 0.02, 0.48). For the dividing path of team ownership conflict, we found a significant indirect effect of territorial marking on collective ownership through team ownership conflict (Est. = 0.20, SE = 0.10, 95% C.I. = 0.03, 0.42). Because we hypothesized and found a significant interaction between territorial marking and help seeking on team ownership conflict, we also considered the conditional indirect effects of marking on collective ownership through ownership conflict at relatively low (-1 SD) and high (+1 SD) levels of help seeking (Preacher et al. 2007). We found that the indirect effect was significant at low levels of help seeking (Est. = 0.36, SE = 0.17, 95% C.I. = 0.09, 0.74) but not at high levels (Est. = 0.02, SE = 0.07, 95% C.I. = -0.11, 0.17). This pattern of results supports the idea that territorial marking and help seeking can both serve to inhibit ownership conflict, working interactively as substitutes for one another in shaping ownership conflict in a team.<sup>6</sup>

### **Supplementary Qualitative Elaboration of Unexpected Quantitative Results**

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<sup>6</sup> It would be desirable to test our full model simultaneously using path analysis. However, our team-level sample size is smaller than what is needed for stable parameter estimates using path analysis (e.g., Bentler and Chou 1987). We nonetheless tested our model using path analysis, removing the non-significant interactive effect of marking and help seeking on team identification and using rater-based measures of outcomes, and found that it fit the data moderately well ( $\chi^2_{17} = 39.24$ , CFI = 0.942, RMSEA = 0.138, SRMR = 0.099). The parameter estimates were similar in magnitude and significance to the results reported above using multilevel modeling. These path analysis results must be taken with caution, however, given our ratio of parameter estimates to observations.

Our survey-based study of new creative teams supported many aspects of our conceptual model. Specifically, we found that collective ownership is an emergent team characteristic that contributes to team performance and team commitment. We also found support for the role of team identification and team ownership conflict as unifying and dividing forces, respectively, to the emergence of team collective ownership. And our results supported the notion that a creative lead's behavior—engaging in help seeking and territorial marking—shapes collective ownership through team identification and team ownership conflict. Help seeking behavior builds collective ownership, principally, by facilitating team identification; territorial marking builds collective ownership, foremost, by reducing ownership conflict.

Yet, there were two unexpected results from our quantitative study, suggesting that help seeking and territorial marking behavior work together in nuanced ways to influence the emergence of collective ownership through team identification and team ownership conflict. First, we expected that territorial marking—in the absence of help seeking behavior—would hinder the development of team identification. Our results suggested, however, that territorial marking is *positively* related to team identification, regardless of how much the team's creative lead seeks members' help. Second, we expected that help seeking—in the absence of territorial marking—would contribute to ownership conflict. Instead, we found that help seeking behavior is most strongly and *negatively* related to team ownership conflict when a creative lead eschews territorial marking.

To better understand how a creative lead's behavior influences the emergence of collective ownership, we conducted a supplementary qualitative study of new creative teams participating in a university startup launch course. Our specific objective with this supplementary study was to explore potential reasons why territorial marking might bolster team identification and help seeking might mitigate ownership conflict—two findings from our quantitative study that run counter to what existing theory and our a priori conceptual model would suggest. This methodological approach—using a supplementary qualitative investigation to probe unexpected findings and enrich the insights of a quantitative study—mirrors Sutton and Rafaeli (1988), who used qualitative data to make sense of

surprising quantitative findings in a study of convenience store clerks, and Edmondson (1999), who used interview data to elaborate upon a quantitative study of team learning.

### **Research Setting and Data Sources**

The context for this qualitative elaboration of our quantitative findings was a university startup launch course. Participants in the course represent different areas of expertise (e.g., engineering, law, business, arts and sciences) and belong to various components of the broad university community (e.g., students, faculty, and external community members). We chose the startup launch course as our research context because the course's general structure mirrors the setting of the entrepreneurship competitions where we conducted our survey-based study. On the first day of the course, participants pitch ideas and teams form around those ideas. Creative teams then work for roughly four months to create and vet a prototype and business plan. At the conclusion, teams present their ideas to a panel of investors.

To gain multiple perspectives on how creative leads influence their teams we conducted eighteen one-hour interviews with people from fourteen teams that had completed the course (post-hoc teams) and sixty-three twenty-minute interviews, spread at one month intervals across the semester, with thirty people from thirteen teams currently enrolled in the course (in vivo teams). Semi-structured interviews, which were audio recorded and transcribed, focused on the effect of the creative lead's behavior on team dynamics. We also observed a series of meetings held by four in vivo teams. To select teams to observe, we used the first round of interviews and identified teams that represented the four possible cells created by crossing help seeking and territorial marking. In Team NS the creative lead engaged in little marking or help seeking. In Team WB the creative lead engaged in high marking but little help seeking. In Team OE the creative lead engaged in high help seeking but little territorial marking. In Team YH the creative lead engaged in high levels of both marking and help seeking. For each of these teams we attended three one-to-two hour meetings (twelve meetings in all). We took notes on interactions and non-verbal behavior during meetings and also audio-recorded (and transcribed) meetings. From these observations and interviews with team members, we constructed detailed case histories for these four teams to better understand their trajectories of teams. Table 6 provides an overview of our qualitative data.

We collected qualitative data through theoretical sampling (e.g., Corbin and Strauss 2008), in which we sought specifically to elaborate upon the effects of help seeking and territorial marking on team identification and team ownership conflict. We marked transcript and case histories for incidents in which concepts from our theoretical model were manifest. For each incident, we included relevant contextual information, such as descriptions of the dynamics that preceded the incident and ripple effects of the incident. Then, we denoted how concepts were intertwined in a given incident. For example, if a creative lead engaged in territorial marking we noted the effect of these behaviors on team identification.

## **Findings**

**How can territorial marking strengthen the unifying force of team identification?** Building upon research in the literature on psychological ownership, we proposed that, in the absence of help seeking, territorial marking by the creative lead would inhibit team members' feeling of belongingness with their team. With fewer opportunities to contribute to the team's creative work, we reasoned, team members would be less likely to feel a strong sense of identification with the team. Our empirical findings suggested, however, that marking may instead promote team identification. We probed this possibility in our qualitative investigation.

Through interviews with team members and observations of team interactions, we found that team members often interpreted a creative lead's territorial marking behavior as a signal of the lead's personal commitment to and passion for the creative idea. For new team members, this increased the attractiveness of the team as an entity with which to identify. For example, one team member of YH stated, "On a scale of 1 to 10, I'd say he's a 10 in terms of how much he [the creative lead] communicates his ownership of this idea. He talks about how he came up with the idea, how much it means to him, and what he's going to do with it... He really wants to see the product take off." On the other hand, the creative lead of Team E—who rarely engaged in marking behavior—regretted not more strongly expressing her feelings of ownership to the team. She noted, "I think I should have voiced my ownership of it. I would have been able to lead things a little better because (team members) would have known I was 100% committed (to the idea)."

Knowing that the creative lead is fully committed to the long-term success of the creative idea enhanced the attractiveness of the team as an entity with which to identify. As a member of Team WB related, “It was appealing that [the creative lead] is serious about taking it forward. It’s not just an idea. He is serious enough about taking it forward to quit his job and move on it.” And, in reflecting on the ripple effects of her territorial marking behavior on team members, the creative lead of Team VC stated, “I think they [the other team members] liked working on something that is going to be established.” A member of Team V exclaimed, “It was really clear to us that it was his baby. And then when he told us, ‘I’m really going to do this.’ He got the support of his family and said he’s going to pursue this after he graduates. That’s when it got real for us. Now we knew we had something solid and something that was worthwhile because of [the creative lead’s] commitment.” Conversely, when new members perceived a weak psychological bond between the creative lead and the creative idea, they identified less with the team. A member of Team OE lamented, “I think after hearing that [the creative lead] is going to be gone for a long period of time and cannot be fully committed to this, it’s harder to get excited about this team.”

These qualitative findings reinforce and bring to life the core interpersonal function of territorial marking—signaling ownership to others. In contrast to existing research, however, which has focused on how marking prevents encroachment by others on a psychological possession, our quantitative and qualitative findings suggest an additional side effect of territorial marking within the context of creative work. For an unproven creative idea—one which has uncertain future value—signaling one’s individual psychological ownership may communicate to others that the idea is valuable and worthy of possession. Marking thus seems to draw new members into the creative team, motivated by a desire to identify with and contribute to something valuable. When a creative lead eschews marking behavior, our findings suggest, new team members may conclude that the creative idea lacks promise and is not worth their time, effort, and psychological attachment.

**How can help seeking substitute for marking and inhibit the dividing force of team ownership conflict?** We reasoned that, in the absence of marking behavior, help seeking by the creative lead could open the door for new team members to infringe upon the lead’s sense of psychological

ownership, sparking team ownership conflict. Our quantitative findings suggested, however, that help seeking might instead serve as a substitute for marking. When a creative lead does not also engage in territorial marking, help seeking seems to inhibit team ownership conflict. We used our qualitative investigation to explore the interpersonal mechanisms underlying this unexpected effect of help seeking behavior in new creative teams.

Interviews and observations suggested that help seeking by the creative lead prevents ownership conflict because it establishes a shared expectation among team members that, when changes are needed to the creative idea, the lead will be the one to initiate and guide the change process. As one member of LL recounted about the creative lead of her team, “He was inviting the suggestions from others, rather than people just offering their own ideas and him reacting.” A member of Team MV similarly described the process in his team: “[the creative lead] just frames the problem for the team ... and we discuss it from there.” We further observed that creative leads who used high levels of help seeking did not simply initiate conversations about changing the idea; rather, they also actively led those discussions. In describing how the creative lead guided conversations about changes to his team’s creative idea, one member of Team PR remarked, “[the creative lead] is directive in terms of soliciting help on the idea itself.” The dynamics of Team OE’s meetings provided further evidence. Although the creative lead was open to changing the idea, he was assertive in directing the dialogue as the team explored changes. This tendency in teams with a creative lead who frequently engaged in help seeking behavior—wherein the lead actively initiated and directed change-focused conversations—seemed to coalesce into a stable team routine that governed how changes to the idea would occur.

We observed that this routine of creative lead-directed change discussions dramatically reduced the potential for new members to act as independent change agents and infringe upon the creative lead’s sense of ownership—something that creative leads who frequently used help seeking themselves recounted. As the high help-seeking creative lead of OE stated, “For me, I’m not really concerned with them changing the idea.” And the creative lead of F noted, “I think I was really comfortable at that point and didn’t feel at all like they would take things in the wrong direction.” By launching and directing

discussions about how to change the idea, the creative lead maintains control over what questions are asked and what changes are ultimately adopted and implemented. So, although help seeking communicates that team member input is welcome, it also creates an expectation that when help is wanted, the creative lead will seek it.

These insights suggest that by engaging in help seeking behavior a creative lead may provide opportunities for new team members to shape the creative idea without relinquishing control over the direction of the idea. Whereas prior theory and research have suggested that suggestions for change can elicit negative reactions from someone with high psychological ownership over an idea, we found from observing teams over time that creative leads may feel less threatened or undermined when they are the ones actively soliciting help. Further, even though help seeking may empower team members to offer their insights into the creative idea, it may at the same time contribute to the development of an interpersonal routine that maintains the creative lead's ultimate control over the collaborative process. By creating an expectation that the creative lead will invite and direct team members' input, help seeking behavior may reduce the likelihood that new members change the team's creative idea in an unbridled way. This notion—that help seeking by the creative lead may establish an interpersonal routine to govern the collaborative creative process—is compatible with the literature on workgroup socialization (Ostroff and Kozlowski 1992) and the development of routines and norms in groups (e.g., Feldman 1984; Gersick and Hackman 1990; Grodal et al. 2015; Hogg and Reid 2006).

### **Discussion**

Integrating theory and research on creative teams with the literature on psychological ownership, we identified a central challenge that many new creative teams face—an initial asymmetry between the creative lead and new team members in their feelings of ownership of the team's creative idea. The findings of our quantitative study of newly formed teams participating in entrepreneurship competitions, which we elaborated upon in a qualitative study of new teams participating in a university startup course, revealed how shared feelings of collective ownership emerge in such teams. Collective ownership emerges in creative teams that form around one person's idea when the creative lead supports the unifying

force of team identification and prevents the dividing force of team ownership conflict. Consistent with our model, the findings of our quantitative study showed that creative leads can foster team identification by proactively seeking new team members' help and prevent ownership conflict by signaling their ownership to new team members and establishing clear boundaries through territorial marking. Our findings also revealed that collective ownership is a driver of early creative team success—teams higher in collective ownership outperformed those lower in collective ownership and had members who shared a strong commitment to working on the idea in the future.

Contrary to our expectations, however, the findings of our quantitative study revealed that marking an idea does not, as a byproduct, inhibit team members from developing a sense of belongingness with the team; indeed, we found that territorial marking can strengthen team identification. We also unexpectedly found that a creative lead's help seeking does not necessarily open the door to divisive conflict. Rather, help seeking may actually help prevent team ownership conflict. Our qualitative analysis of an additional sample of creative teams offered explanations for these unexpected findings and suggested possible mechanisms underlying these effects. We concluded from our interviews and observations that territorial marking may increase the attractiveness of the creative team as a target of identification because it signals that the idea is something worthy of time, effort, and psychological attachment. Help seeking may prevent ownership conflict because it establishes an interpersonal routine within the creative team in which the creative lead initiates and directs change-focused discussions.

### **Theoretical Contributions**

Our research makes three main theoretical contributions to the literature on creative teams. First, we broaden the scope of existing theory and research on creative teams by examining and explaining the emergence of collective ownership in new creative teams from their very earliest days. Existing knowledge about creative teams is derived largely from research on well-established teams that have succeeded in navigating the tenuous early period of team life (e.g., Klotz et al. 2014; Wuchty et al. 2007). This stream of research, while invaluable for understanding the functioning of established teams, is limited in its capacity for shedding light on how a creative lead can best mobilize and launch a new team

to advance a creative idea. In part, this limitation stems from the well-recognized survivor bias that is present in most research on creative teams (e.g., Gimeno et al. 1997; Shermer 2014). Because of practical constraints, most studies necessarily ignore the pool of creative teams that disband early on and, thus, never become available for inclusion in research in the first place. Focusing on the formative early period, our research contributes to the literature on creative teams by building and testing theory about the emergence of collective ownership. We highlight an inherent challenge that many newly formed creative teams face—an asymmetry in feelings of ownership between the creative lead who conceived the team's idea and new team members who have joined to help realize the idea's promise. Our findings suggest that a creative lead must manage the inherent asymmetry in feelings of ownership to cultivate shared feelings of collective ownership. When the members of a new team lack collective ownership of their creative work, their early performance suffers and they feel uncommitted to working on the idea in the future.

Second, our research identifies a key factor that shapes the emergence of collective ownership in newly formed creative teams: the behavior of the creative lead. Our model and findings explain how the creative lead's use of two seemingly incompatible behaviors, help seeking and territorial marking, influences two prominent forces in the early life of a team—the unifying force of team identification and the dividing force of team ownership conflict. In doing so, we add theoretical precision to the interpersonal consequences of territorial marking and help seeking. Contrary to previous work which has shown territorial marking to have mostly deleterious effects on others' collaborative efforts (e.g., Brown et al. 2005), we find that territorial marking may also pull new team members in by signaling that a creative idea is worthy of their psychological investment. This effect may be especially true for objects that have an uncertain value (e.g., a new idea), such that people look to others' territorial marking to infer the underlying value of that object. And while the literature on creative teams has typically cast help seeking as purely an inclusionary, participative behavior (e.g., Hargadon and Bechky 2006), we find that help seeking may also have more directive effects in new creative teams by building shared expectations among new team members that the creative lead will initiate and facilitate change-oriented discussions. Because both territorial marking and help seeking have secondary effects, beyond the principal functions

identified by prior theory and research, our findings suggest that the two work together to influence team identification and team ownership conflict. By drawing connecting lines between the literatures on psychological ownership and creative teams, our research advances understanding of the interpersonal functioning of creative teams.

Third, we introduce an additional interpersonal mechanism—the dividing force of team ownership conflict—that can inhibit the emergence of collective ownership. Existing theory on the antecedents of collective ownership has highlighted team identification as a driver of collective ownership by enabling the accumulation of shared knowledge, the expression of shared control, and the investment of shared effort by team members (Pierce and Jussila 2010). But one implicit assumption in this work is that team members begin on equal footing with respect to their feelings of ownership. While it is indeed possible for a new idea to emerge fresh from a collaborative process, the origins of many creative teams lie in an idea—or even the seeds of an idea—that one person has conceived alone (Perry-Smith and Mannucci 2017). By studying creative teams that form around one person’s preconceived idea we highlight how these teams must grapple with an initial asymmetry between the creative lead who is more psychologically attached to the idea and new members who are less attached to the idea. In such teams, there is an inherent potential for infringement and conflict over ownership. We contribute to the emerging literature on collective ownership by identifying the role of team ownership conflict as a barrier to the emergence of shared feelings of ownership in new creative teams. We thus provide a more comprehensive picture of the interpersonal processes that contribute to the emergence of collective ownership. For the members of new creative teams to develop a sense of collective ownership, they must not only experience the unifying force of team identification, as prior theory suggests, but they must also avoid the dividing force of team ownership conflict.

### **Boundary Conditions, Limitations, and Directions for Future Research**

These contributions must be viewed with a consideration of the boundary conditions and limitations of our empirical studies. Our research examined teams engaged in creative work—that is, teams whose work focuses specifically on the development and advancement of a novel and useful idea

(George 2007). Our findings are thus most directly generalizable to teams engaged in tasks that fall within the “generate” quadrant of McGrath’s (1984) task circumplex. Moreover, a key boundary condition of our research is our focus on newly-formed creative teams organized around one person’s preconceived idea. It is likely that the emergence of collective ownership differs in creative teams that lack a “creative lead” who first conceived the idea. Rather than the creative lead’s behavior serving as a critical driving force behind team identification and team ownership conflict, it is possible that in these teams pre-existing interpersonal relationships among team members play a more prominent role in shaping team functioning.

Although our empirical findings shed some light on the dynamics of early stage creative teams, our results do not speak to the success or stability of these teams over longer periods of time. Future research is needed to understand how the creative lead’s behavior affects team dynamics as a team matures and progresses across later phases of development. Perhaps as a creative team grows and becomes well-established, the influence of the creative lead becomes muted or replaced by more formal policies, practices, and procedures. Likewise, as a creative team becomes more established, the relationship between collective ownership and team performance may change as these feelings could make the team resistant to outside feedback (Grimes 2018). Longitudinal research that charts possible dynamic effects of creative lead behavior and collective ownership over time would be informative.

We focused on the downstream consequences of two interpersonal behaviors—territorial marking and help seeking—that have been implicated by prior theory and research on psychological ownership and the functioning of creative teams. Our model and results do not explain, however, why creative leads vary in how much they express these behaviors. It is possible that these behaviors are a manifestation of creative leads’ own varying levels of individual psychological ownership. Prior theory suggests that individual psychological ownership contributes both to a motive to advance an idea and a motive to protect an idea (Pierce et al. 2001). If this is the case, then help seeking and territorial marking may both have roots in the creative lead’s own individual attachment to the idea. Exploring the antecedents of help seeking and territorial marking in creative teams may therefore be an interesting direction for future research. Additional work is also needed to identify other ways that creative leads influence team

dynamics. For example, during our field research we observed some creative leads using inspirational behaviors (e.g., showing a video of potential beneficiaries of the venture) to instill in team members a deeper sense of purpose for the team. Other creative leads attempted to incorporate team members' own personal developmental goals into their responsibilities within the team. Future research should explore how these and other behaviors might contribute to early team functioning.

While the combination of quantitative and qualitative methods across two field settings provides some confidence regarding the external validity of our research to creative teams launched around one person's idea, examining teams in these contexts came at the cost of certainty regarding causality. Establishing the causal effects of territorial marking and help seeking on ownership conflict, team identification, and collective ownership requires experimental studies in which participants are randomly assigned to teams and the behavior of creative leads is manipulated. Or, alternatively, future research on the emergence of collective ownership in new creative teams could adopt computational modeling, which scholars have recently recommended as a promising method for understanding the dynamic and reciprocal effects that underlie processes of emergence (e.g., Kozlowski et al. 2013). Computational modeling holds promise, in particular, for better understanding the longer-term dynamics that occur in creative teams as they mature over time. Prior theory suggests that new teams might fall into reinforcing cycles—either virtuous or vicious—over the course of time (e.g., Ericksen and Dyer 2004). For example, although we have considered them as independent and additive forces, it is possible that the incidental occurrence of ownership conflict could spill over and impact team members' feelings of identification, which in turn could increase the likelihood that team members become further embroiled in conflict. Dynamic modeling would be useful for understanding these kinds of reinforcing relationships.

Finally, we did not distinguish in this research between components of a creative team's idea that are central to its work product versus those that are more peripheral. Instead, we developed theory about feelings of ownership and behavior as they relate to the team's creative idea, in general. There may be, however, differences in a creative lead's behavior toward, and team members' emerging feelings of collective ownership over, different facets of the team's creative work. For example, a graphic designer

who joins a new software team might be prone to develop feelings of ownership of the color scheme used throughout the team's product and collateral, while a software engineer might be likely to develop feelings of ownership of the adapted framework underlying the team's application. Micro-oriented research, using more precise laboratory methods, would be useful for understanding the more nuanced ways in which creative team members interact with the different components of a creative idea.

### **Practical Implications**

Notwithstanding these limitations, our paper offers two clear practical implications for those actively involved in creative teams. First, for creative leads seeking to build mobilize and launch effective viable teams, our research offers guidance for how to interact with new team members. Specifically, our findings suggest that creative leads will benefit by clearly communicating their own personal feelings of ownership of the team's creative work product to new team members. At the same time, creative leads will benefit from actively soliciting team members' input and suggestions on the underlying creative idea itself, rather than just asking members to execute already-designed plans. Second, our findings offer guidance for new members who have joined a creative team that formed around an idea that one person had initially conceived. Because creative leads are likely psychologically attached to their idea, team members should be initially cautious when offering suggestions for how to change the idea. In the early days, and before they clearly understand the boundaries around the creative idea, it may be prudent to wait for the creative lead to actively solicit changes. Taken together, our study thus offers guidance to both creative leads and team members about how to navigate the early days of working in a creative team.

### **Conclusion**

Newly formed creative teams face a unique challenge that stems from an initial asymmetry in the creative lead's and new team members' initial feelings of ownership of the creative idea. Our quantitative and qualitative investigations of newly formed creative teams suggest that creative leads can influence the initial success of their teams by engaging in help seeking and territorial marking—two seemingly contradictory behaviors that contribute to the emergence of collective ownership by strengthening team identification and minimizing the occurrence of team ownership conflict. A shared sense of collective

ownership, in turn, facilitates early team performance and team members' commitment to working together on the idea in the future.

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Table 1. Descriptive statistics for and intercorrelations among study variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Team size	5.19	2.05													
2. Initial idea quality	.04	.97	.34*												
3. Creative lead entrepreneurial self-efficacy	6.00	.83	-.04	-.09	(.86)										
4. Creative lead psychological ownership	5.47	1.42	-.12	-.22 <sup>+</sup>	.01	(.93)									
5. Creative lead help seeking	5.69	.77	.13	.03	-.01	.09	(.89)								
6. Creative lead territorial marking	4.93	.80	-.10	.02	.00	.38*	-.03	(.89)							
7. Team identification	5.68	.69	-.07	.02	.03	.05	.42*	.22 <sup>+</sup>	(.71)						
8. Team ownership conflict	1.72	.73	.19	.07	-.15	-.18	-.24*	-.33*	-.25*	(.89)					
9. Collective ownership	5.86	.85	-.04	.03	.01	-.06	.30*	-.09	.54*	-.27*	(.97)				
10. Team performance (judge rated)	.06	.95	.18	.34*	.03	-.13	-.18	.04	.07	-.13	.23 <sup>+</sup>				
11. Team performance (self report)	6.11	.75	-.12	.07	.18	.01	.23 <sup>+</sup>	.06	.43*	-.39*	.67*	.36*	(.97)		
12. Team commitment (coder rated)	3.69	.76	.13	-.02	.09	-.01	-.13	.12	.16	-.22 <sup>+</sup>	.25*	.35*	.38*		
13. Team commitment (self report)	5.84	.79	-.25	.01	.00	.23 <sup>+</sup>	.09	.19	.51*	-.39*	.51*	.22 <sup>+</sup>	.61*	.29 <sup>+</sup>	(.96)

Note. N = 67 to 79 teams, pairwise deletion for missing data. Cronbach's alpha for multi-item scales is in parentheses along the diagonal.

\*  $p < 0.05$ , two-tailed

Table 2. Results of multilevel models predicting team identification and team ownership conflict.

	Predicting Team Identification			Predicting Team Ownership Conflict		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	5.71 (.08)**	5.67 (.07)**	5.68 (.07)**	1.74 (.09)**	1.78 (.08)**	1.79 (.07)**
Team size	-.02 (.04)	-.02 (.04)	-.02 (.04)	.07 (.05)	.07 (.04)	.09 (.04)*
Initial idea quality	.00 (.10)	.00 (.09)	.00 (.09)	-.01 (.10)	.01 (.09)	.00 (.08)
Creative lead entrepreneurial self-efficacy	.02 (.10)	.03 (.09)	.04 (.09)	-.13 (.11)	-.13 (.10)	-.09 (.09)
Creative lead psychological ownership	.02 (.06)	-.05 (.06)	-.03 (.06)	-.08 (.06)	.01 (.06)	.07 (.06)
Creative lead help seeking		.41 (.10)**	.42 (.10)**		-.35 (.11)**	-.31 (.10)**
Creative lead territorial marking		.21 (.11) <sup>+</sup>	.20 (.11) <sup>+</sup>		-.34 (.11)**	-.37 (.10)**
Help seeking × territorial marking			.10 (.12)			.42 (.12)**
Random Intercept	.00	.00	.00	.00	.00	.00
Random Residual	.47	.37	.37	.53	.43	.36
AIC	167.77	160.16	163.91	175.45	168.93	161.09
Deviance	136.42	118.03	117.25	144.71	127.80	114.05

Note. N = 68 teams. Entries are unstandardized coefficients, with standard errors in parentheses.

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$  two-tailed

Table 3. Results of multilevel models predicting collective ownership.

	Model 1	Model 2	Model 3	Model 4
Intercept	5.84 (.10)**	5.85 (.09)**	5.88 (.09)**	5.88 (.09)**
Team size	-.01 (.05)	.00 (.05)	.04 (.05)	.04 (.05)
Initial idea quality	-.03 (.12)	-.03 (.10)	-.03 (.11)	-.03 (.10)
Creative lead entrepreneurial self-efficacy	.04 (.12)	.01 (.11)	-.01 (.11)	-.02 (.10)
Creative lead psychological ownership	-.03 (.08)	-.01 (.07)	.01 (.08)	.02 (.07)
Creative lead help seeking	.39 (.14)**	.14 (.14)	.23 (.14) <sup>+</sup>	.03 (.14)
Creative lead territorial marking	-.02 (.14)	-.14 (.13)	-.22 (.15)	-.30 (.13)*
Help seeking × territorial marking	.21 (.16)	.15 (.14)	.43 (.16)*	.34 (.15)*
Team identification		.60 (.15)**		.54 (.15)**
Team ownership conflict			-.52 (.16)**	-.44 (.15)**
Random Intercept	.00	.00	.00	.00
Random Residual	.66	.53	.58	.47
AIC	198.32	188.40	192.87	184.35
Deviance	156.24	140.57	145.77	131.34

Note. N = 68 teams. Entries are unstandardized coefficients, with standard errors in parentheses.

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$  two-tailed.

Table 4. Results of multilevel models predicting team performance.

	Predicting Team Performance (Judge)			Predicting Team Performance (Self)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	.04 (.11)	.07 (.11)	.07 (.11)	6.09 (.09)**	6.08 (.08)**	6.04 (.10)**
Team size	.03 (.06)	.08 (.06)	.07 (.06)	-.06 (.05)	-.04 (.05)	-.08 (.04)*
Initial idea quality	.31 (.13)*	.30 (.13)*	.31 (.12)*	.11 (.11)	.11 (.10)	.12 (.07)
Creative lead entrepreneurial self-efficacy	.07 (.14)	.00 (.13)	.02 (.13)	.17 (.11)	.13 (.10)	.14 (.08) <sup>+</sup>
Creative lead psychological ownership	-.04 (.08)	.01 (.09)	.00 (.09)	.01 (.07)	-.01 (.07)	-.02 (.05)
Creative lead help seeking		-.45 (.18)*	-.46 (.17)*		.03 (.13)	-.02 (.10)
Creative lead territorial marking		-.19 (.18)	-.08 (.19)		-.10 (.13)	.12 (.11)
Help seeking × territorial marking		.19 (.20)	.06 (.21)		.00 (.15)	-.23 (.12) <sup>+</sup>
Team identification		.20 (.19)	.03 (.21)		.41 (.14)**	.06 (.12)
Team ownership conflict		-.51 (.23)*	-.34 (.24)		-.30 (.15)*	-.03 (.12)
Collective ownership			.31 (.17) <sup>+</sup>			.62 (.10)**
Random Intercept	.00	.00	.00	.00	.00	.04
Random Residual	.85	.79	.76	.58	.46	.26
AIC	202.61	210.98	211.32	180.82	182.41	157.77
Deviance	174.28	163.44	159.45	150.51	129.07	95.05

Note. N = 67 teams for judge ratings and 68 teams for self ratings. Entries are unstandardized coefficients, with standard errors in parentheses.

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$  two-tailed

Table 5. Results of multilevel models predicting team commitment.

	Predicting Team Commitment (Coder)			Predicting Team Commitment (Self)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	3.68 (.10)**	3.70 (.09)**	3.69 (.09)	5.83 (.12)**	5.86 (.12)**	5.85 (.10)**
Team size	.06 (.05)	.11 (.06)	.10 (.06) <sup>+</sup>	-.11 (.05)*	-.08 (.04) <sup>+</sup>	-.09 (.04)*
Initial idea quality	-.08 (.11)	-.11 (.11)	-.10 (.11)	.16 (.11)	.16 (.08) <sup>+</sup>	.16 (.08)*
Creative lead entrepreneurial self-efficacy	.08 (.12)	.02 (.11)	.02 (.11)	.02 (.11)	-.03 (.09)	-.03 (.08)
Creative lead psychological ownership	.00 (.07)	-.02 (.08)	-.03 (.08)	.13 (.07) <sup>+</sup>	.14 (.06)*	.14 (.05)*
Creative lead help seeking		-.37 (.15)*	-.37 (.15)*		-.23 (.12) <sup>+</sup>	-.25 (.11)*
Creative lead territorial marking		.03 (.15)	.10 (.15)		-.18 (.12)	-.07 (.11)
Help seeking × territorial marking		-.07 (.17)	-.16 (.17)		.06 (.13)	-.08 (.13)
Team identification		.29 (.16) <sup>+</sup>	.16 (.18)		.65 (.13)**	.45 (.13)**
Team ownership conflict		-.27 (.17)	-.16 (.18)		-.35 (.13)*	-.19 (.13)
Collective ownership			.24 (.14) <sup>+</sup>			.37 (.10)**
Random Intercept	.00	.00	.00	.03	.05	.04
Random Residual	.62	.56	.55	.57	.35	.29
AIC	182.70	191.88	193.16	181.95	170.80	163.93
Deviance	152.95	140.96	137.67	152.05	115.95	102.38

Note. N = 67 teams for coder ratings and 68 teams for self ratings. Entries are unstandardized coefficients, with standard errors in parentheses.

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$  two-tailed

Table 6. Overview of creative teams studied in the qualitative investigation.

Team	Type	Team Size	Description of Creative Lead's Idea	# of Interviews	Evidence of High Creative Lead Marking	Evidence of High Creative Lead Help Seeking
ES	In vivo	4	Non-profit consulting service	2		
L	In vivo	3	Career planner for students	4		
LL	In vivo	3	School counseling service	6	•	•
NS*	In vivo	4	Self-charging wearable battery	6		
NZ	In vivo	4	Kidney surgical tool	9	•	•
OE*	In vivo	4	Office-in-a-box for startups	6		•
PR	In vivo	4	Personal relationship manager	2		•
PS	In vivo	3	GPS for parking spaces	1		
PT	In vivo	3	Virtual reality gaming device	3	•	•
S	In vivo	4	Automated worker time tracking	4	•	
SP	In vivo	4	Automated grocery shopping list	5		
WB*	In vivo	4	Mobile app for physicians	8	•	
YH*	In vivo	4	Outdoor social community	7	•	•
AF	Post-hoc	3	Cultural training for physicians	1	•	•
BP	Post-hoc	3	Beauty retail stores in Peru	2	•	
BT	Post-hoc	4	Biotechnology patent tracker	1		•
CC	Post-hoc	3	Adopt a cat for prison inmates	1	•	
E	Post-hoc	4	Concert planning and operations	1		•
F	Post-hoc	4	Farmers markets at universities	1		•
HB	Post-hoc	4	Portable greenhouses for urbanites	1	•	•
HH	Post-hoc	3	ERP for handymen	2	•	•
HL	Post-hoc	4	At-home blood test kit	1		
MV	Post-hoc	3	Vehicle self-diagnostic software	1		•
QZ	Post-hoc	3	Craigslist for university students	2	•	•
SF	Post-hoc	3	Job search tool	1		
V	Post-hoc	4	Automated dog park access	2	•	
VC	Post-hoc	4	Pop-up retail stores	1	•	
TOTAL	27			81	14	14

\* Team selected for observation and case history.

Figure 1. Conceptual model of the emergence of collective ownership in new creative teams.

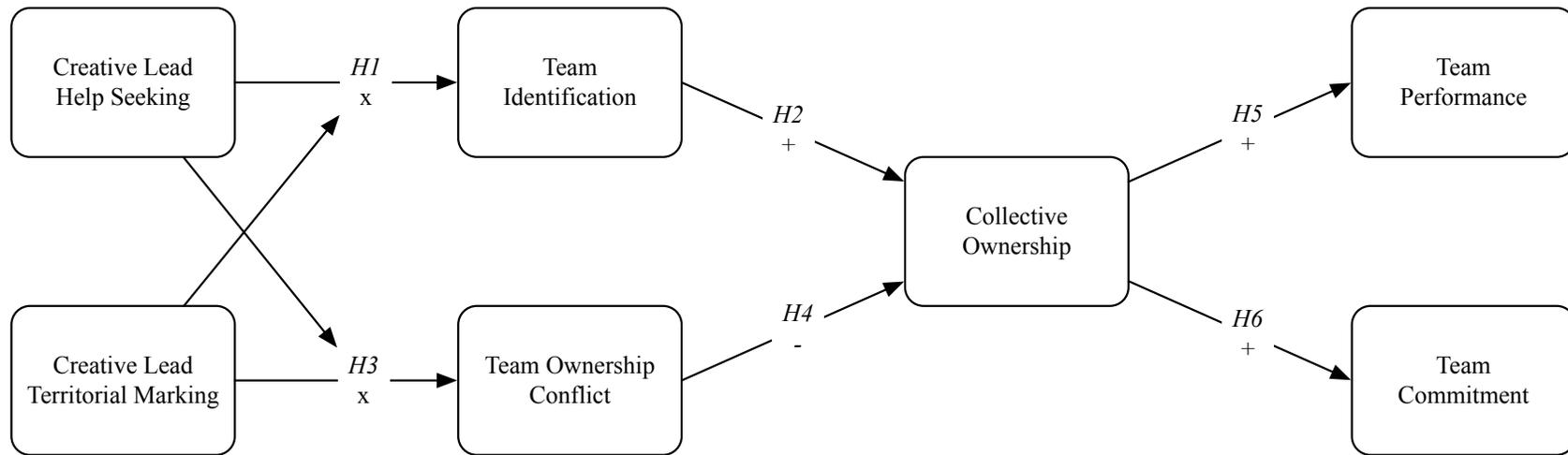
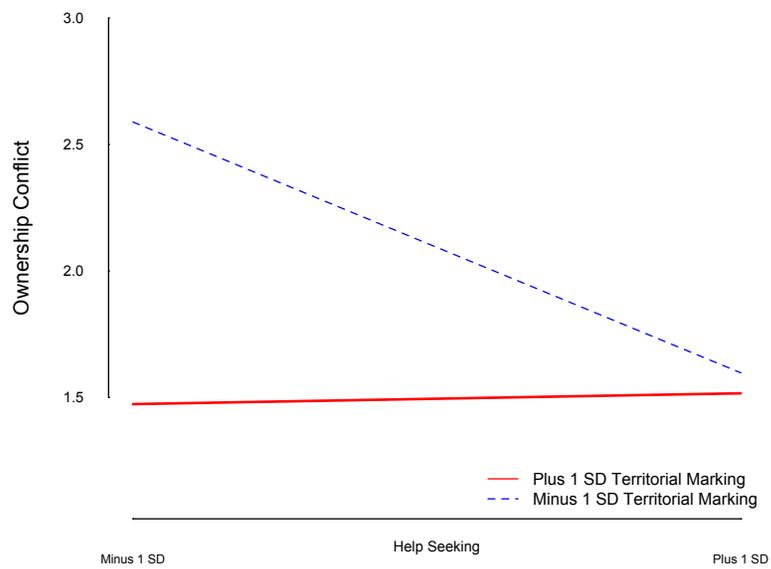
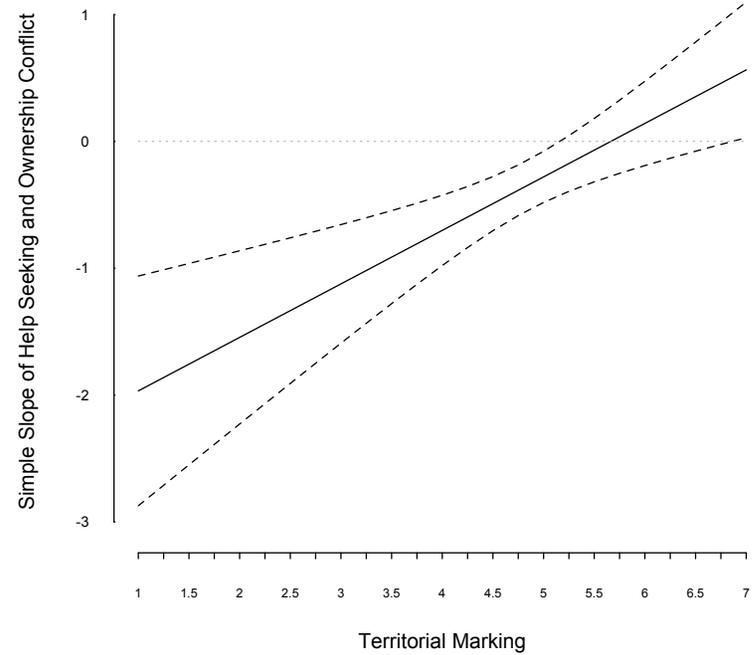


Figure 2. Plots of the relationship between creative lead help seeking and team ownership conflict at different levels of territorial marking.

A. Simple slopes at +1 SD and -1 SD



B. Simple slopes and confidence bands at all values of the moderator.



## **Appendix: Survey Measures**

### **Creative Lead Help Seeking (Time 2)**

1. The person who pitched the idea approaches team members for help and assistance with redefining the idea.
2. The person who pitched the idea invites team members to give their input and suggestions for changing the idea.
3. The person who pitched the idea seeks our assistance with how to improve the idea, not just how to execute it as is.

### **Creative Lead Territorial Marking (Time 2)**

1. The idea represents an important part of identity of the person who pitched the idea.
2. The person who pitched the idea often highlights how his/her personal experiences have led to the idea.
3. The person who pitched the idea personally identifies with the idea.
4. The person who pitched the idea leaves no doubt that the idea is really his / her idea.
5. I sense that the person who pitched the idea is telling who has real ownership of the idea.
6. The person who pitched the idea makes it clear whose idea this is.

### **Team Identification (Time 3)**

1. I am very interested in what others think about the group.
2. This group's successes are my successes.
3. When someone praises this group, it feels like a personal compliment.

### **Team Ownership Conflict (Time 3)**

1. How much tension is there about who owns the idea?
2. How often do people have disagreements about who controls the idea?
3. How much conflict is there about to whom the idea belongs?

### **Collective Ownership (Time 4)**

1. The team really has ownership of the idea.
2. The idea we are working on really is ours.
3. I think I can speak for everyone when I say, "this is our idea."
4. Everyone in this team feels like they own a piece of the idea.

### **Team Commitment (Self Report, Time 4)**

1. I am willing to put in a great deal of effort to help this idea be successful.
2. This idea really inspires the very best in me.
3. I really care about the fate of this idea.
4. I intend to continue working on this idea.

### **Team Performance (Self Report, Time 4)**

1. My group performed at a high level.
2. My group was able to complete its tasks in an effective manner.
3. My group produced excellent work.