

START-UP TEAMS: A MULTIDIMENSIONAL CONCEPTUALIZATION, INTEGRATIVE REVIEW OF PAST RESEARCH, AND FUTURE RESEARCH AGENDA

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Academic interest in start-up teams has grown dramatically over the past 40 years, with researchers from a wide variety of disciplines actively studying the topic. Although this widespread interest is encouraging, a review of the literature reveals a lack of consensus in how researchers conceptualize and operationally define start-up teams. A lack of consensus on the core phenomenon—a foundational part of a strong paradigm—has stifled the systematic advancement of knowledge about start-up teams, which has downstream implications for the viability of this field of research. To advance the development of a stronger paradigm, we present a multidimensional conceptualization of start-up teams that is derived from points of consensus in existing definitions. Our multidimensional conceptualization accounts for the fact that although all are under the umbrella of the concept of “start-up team,” start-up teams vary in a set of key ingredients—ownership of equity, autonomy of strategic decision-making, and entitativity. This conceptualization serves as a framework for reviewing and beginning to integrate past research on start-up teams. It also serves as a framework for guiding and informing an integrated program of future research on start-up teams. By introducing a multidimensional conceptualization of start-up teams, we highlight the value of considering the defining ingredients of start-up teams for furthering a stronger paradigm.

The concept of the “start-up team” is capturing global attention, with cities aspiring to develop thriving entrepreneurial ecosystems, universities investing in entrepreneurship programs, and Hollywood featuring start-up teams in movies and television shows. Concurrently, academic interest in start-up teams is burgeoning, with more than 150 articles addressing start-up teams published in just the last 10 years. A main objective of this work was to explain why some teams are more effective than others in launching and growing a new venture (Klotz, Hmieleski, Bradley, & Busenitz, 2014; Lazar, Miron-Spektor, Agarwal, Erez, Goldfarb, & Chen, in press). To answer this question,

researchers from diverse backgrounds have studied different facets of start-up teams, such as the pursuit of financial capital (e.g., Bernstein, Korteweg, & Laws, 2017), strategic decision-making (e.g., Jiang & Ruling, 2019), and internal small group dynamics (e.g., Ensley, Pearson, & Amason, 2002). With researchers across disciplines studying such varied topics, the literature does not lack for diversity of perspective.

What the literature does lack is a well-developed paradigm, which stifles the field’s ability to paint a clear picture of why some start-up teams are more effective than others. Through a review of the literature, we uncovered a fundamental barrier to paradigmatic development: ambiguity and disagreement in how researchers define the phenomenon of “the start-up team.” Scholars use dozens of terms to refer to a group of people working together to advance a new venture—terms such as “start-up team” (Franke, Gruber, Harhoff, & Henkel, 2008), “entrepreneurial team” (Kamm, Shuman, Seeger, & Nurick, 1990),

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“new venture team” (Klotz et al., 2014), “founding team” (Beckman, 2006), and “entrepreneurial top management team” (Ferguson, Cohen, Burton, & Beckman, 2016). But the problem is not just one of nomenclature; the problem is also one of conceptualization. Different authors mean different things even when they use the same term. The range of samples studied under the conceptual umbrella of the “start-up team” includes students taking on the role of founding teams in a classroom simulation (e.g., Jung, Vissa, & Pich, 2017), executives working together in the top management teams of ventures that have been in operation for several years (e.g., Ensley & Pearson, 2005), and the senior leaders of seemingly stable small- and medium-sized enterprises in operation for nearly a decade (e.g., Colombo & Grilli, 2005).

Without a shared conceptualization of what start-up teams are, it is difficult to achieve a coherent view of why some are more effective than others. As Kuhn (1970: 200) stated, “the practice of normal science depends on the ability...to group objects and situations into similarity sets which are primitive in the sense that the grouping is done without an answer to the question, ‘Similar with respect to what?’” Having a shared understanding of the meaning of core concepts has implications for a field’s capacity to formulate problems and develop solutions to those problems—“consensus is a necessary, although clearly not sufficient, condition, for the systematic advancement of knowledge” (Pfeffer, 1993: 600). Lacking consensus on the core phenomenon, the literature on start-up teams is fragmented. Studies that address overlapping questions rely on different terms and definitions, are scattered across a wide range of disciplines, and often reach different conclusions. For example, start-up team composition has been examined within finance (e.g., Bernstein et al., 2017), strategy (e.g., Fern, Cardinal, & O’Neill, 2012), and organizational behavior (e.g., Hmieleski & Ensley, 2007). Depending on which article one reads, the conclusion could be that start-up team diversity is beneficial, detrimental, or of no consequence (Zhou & Rosini, 2015). Although researchers across disciplines have interests that intersect, their theoretical models, methods, and findings seldom do—in part because different authors rely on different conceptualizations of what start-up teams are.

We address this critical issue by analyzing existing definitions and deriving a multidimensional conceptualization of start-up teams. Rather than conceptualizing start-up teams using a taxonomic model, we instead educe from existing definitions three continuous dimensions—ownership of equity, autonomy of strategic decision-making, and entitativity—that, in combination, define what differentiates start-up teams

from other organizational entities. This multidimensional conceptualization, grounded in past theory and research, provides a framework for making several contributions to the literature on start-up teams.

First, by reconciling differences in nomenclature and definition, a multidimensional conceptualization can strengthen the paradigm of start-up teams research. Central to Kuhn’s (1970) concept of a scientific paradigm is consensus on a lexical system, comprising terms and connections between terms and meanings. Only by having shared terms and meanings, according to Kuhn, can a field have a strong scientific paradigm (Kuhn, 1970; Sankey, 1998). A multidimensional conceptualization provides a framework—unencumbered by the limitations of typologies (Hollenbeck, Beersma, & Schouten, 2012)—for differentiating between variant forms of start-up teams. Rather than using discrete categories to differentiate, for example, a five-person self-funded team working to launch a venture from the senior team leading a 75-person venture capital (VC)-backed company, a multidimensional conceptualization directs attention to how the teams differ along those dimensions that undergird the concept of the start-up team. By strengthening the paradigm of research, a multidimensional conceptualization can thus aid in systematically advancing knowledge about start-up teams (Pfeffer, 1993).

Second, by providing a multifaceted understanding of the concept, a multidimensional conceptualization can guide an integrated understanding of past research on start-up teams. Our review revealed that, in seeking to answer the question of why some start-up teams are more effective than others, past research has considered three broader categories of topics that align with the three dimensions that emerged from our review of definitions. These thematic focal points in the literature comprise issues of *finance* (e.g., interactions with external investors and divisions of equity), *strategy* (e.g., strategic decision-making processes and positioning within industries or geographies), and *group dynamics* (e.g., trust, information exchange, and conflict). However, whereas our analysis of definitions suggests that start-up teams are multifaceted—and that answers lie at the intersection of these three focal points—our review reveals that past studies predominantly address just one focal point at a time.

Accordingly, after reviewing past research within each focal point, we illustrate how our multidimensional conceptualization can advance integrative theory and research by examining the effects of start-up team composition—a facet of start-up teams that repeatedly arises across focal points as an important input into start-up team effectiveness. Specifically, we

show how our multidimensional conceptualization weaves together the multiple mechanisms—involving aspects of finance, strategy, and group dynamics—through which start-up team composition relates to team outcomes. Moreover, integrating theory and research on team composition through the lens of our multidimensional conceptualization elucidates how effects may be strengthened or weakened depending on a team's ownership of equity, autonomy of strategic decision-making, and entitativity. This illustrative example highlights how our multidimensional conceptualization can aid in interpreting and integrating the variety of findings in past research.

Third, we use our multidimensional conceptualization to guide and inform future research on start-up teams. To advance knowledge in a more systematic way, we underscore the need for researchers to eschew using discrete and inconsistently defined terms to describe and classify the teams that they study. Instead, we highlight the benefits of using our multidimensional conceptualization of start-up teams for advancing a coherent and integrated body of research grounded in a consensus understanding of the phenomenon. To guide researchers in using our multidimensional conceptualization, we direct attention to three modes of inquiry that are generalizations of our more specific and illustrative consideration of start-up team composition. The first mode entails studying teams that are relatively homogeneous in ownership of equity, autonomy of strategic decision-making, and entitativity. For this mode, our multidimensional conceptualization provides a way for researchers to demarcate the boundary conditions of their work, which facilitates integrating across studies in a systematic way. The second mode of inquiry entails directly studying start-up teams that differ from one another in ownership, autonomy, and entitativity. By drawing on our multidimensional conceptualization, researchers adopting this mode of inquiry can derive and test predictions about how variance in the key ingredients of start-up teams alters focal relations in theoretically meaningful ways. The third mode of inquiry entails studying start-up teams as dynamic entities that change in ownership, autonomy, and entitativity. For this mode, our multidimensional conceptualization offers a new perspective for developing and testing theory about start-up team development, and focal relations and mechanisms may change over time.

SCOPE OF REVIEW

We conducted an expansive literature search—one that would be likely to find relevant research despite

terminological differences. Rather than starting with an *a priori* definition of start-up teams, we instead established the boundaries of our review using the integration of its two conceptual building blocks—*entrepreneurship* and *team*. Entrepreneurship is the discovery, evaluation, and exploitation of opportunities to create new products and services (Shane & Venkataraman, 2000: 219). A team is two or more people who work interdependently in the pursuit of common goals (e.g., Kozlowski & Ilgen, 2006). Intersecting these two elements bounded a broad space within which we searched for publications—articles, chapters, and books that examined or considered two or more people who work together interdependently to discover, evaluate, and exploit opportunities to create new products or services.

We began by performing an automated search for articles that mentioned any of a set of terms commonly used within the entrepreneurship literature, including start-up team, new venture team, nascent team, founding team, entrepreneurial team, and pre-founding team. We searched for these terms within the 50 journals on the 2018 *Financial Times* list, anytime from the start of a given journal through June of 2018. We supplemented this automated search in several ways. First, we conducted an automated search for the same terms within an additional 19 specialized journals not included on the *Financial Times* list but that have published prominent research on start-up teams. Second, we conducted a manual backward search of articles cited by reviews of research on start-up teams (e.g., Klotz et al., 2014). Third, we conducted a forward search of articles that cited prominent conceptual or review articles focused on start-up teams (e.g., Kamm et al., 1990). Fourth, we included scholarly books that focused on start-up teams and were cited in these resources (e.g., Ruef, 2010). This initial systematic review yielded a set of 773 publications. We opportunistically augmented this set of articles that we collected through our systematic review with any newly published academic materials that came to our attention during the publication process (e.g., Lazar et al., in press). We screened this broad pool of articles to determine whether they developed and/or tested theory about start-up teams, discussed start-up teams, or included measured attributes of start-up teams (e.g., start-up team size) in empirical analyses. In all, our review is based on 334 articles, books, and chapters that lie at the intersection of *entrepreneurship* and *team*. Roughly four-fifths (82.4 percent) of these were empirical works (69.2 percent quantitative, 9.6 percent qualitative, and 3.6 percent mixed

method). The remaining set (17.6 percent) comprised theoretical articles, qualitative reviews, and commentaries.

WHAT IS A “START-UP TEAM”?

Paradoxically, despite decades of interest in the topic, a precise definition of the concept of the start-up team has remained elusive. Scholars have long observed that authors often fail to explicitly define the concept (Ensley, Carland, Carland, & Banks, 1999; Schjoedt, Monsen, Pearson, Barnett, & Chrisman, 2013), assuming it is self-evident (Bruton & Rubanik, 2002) and that, when given, definitions are often inadequate (Schjoedt & Kraus, 2009) or in direct conflict (Cooney, 2005; Lockett, Ucbasaran, & Butler, 2006). Not surprisingly then, scholars have concluded that the question of what *is* a start-up team has been—and continues to be—a topic of considerable confusion and debate (Vanaelst, Clarysse, Wright, Lockett, Moray, & S’Jegers, 2006; Zhou & Rosini, 2015). Consistent with these observations, we realized early in the course of reviewing the literature that the concept of the “start-up team” suffered from a lack of conceptual clarity and scholarly consensus. Table 1 provides a representative sample of the variety of definitions we encountered in our review.

A first indicator of dissensus in the literature was the range of terms used to refer to start-up teams. We encountered 23 different root terms used to describe a team engaged in entrepreneurship, including “start-up team,” “entrepreneurial team,” “new venture team,” “founding team,” and “entrepreneurial top management team.” A second indicator of conceptual ambiguity and disagreement was the use of multiple terms within the same article. Some authors asserted that different terms refer to different entities (Beckman & Burton, 2008; Brinckmann & Hoegl, 2011; Cruz, Howorth, & Hamilton, 2013; Klotz et al., 2014). Other authors did not explain whether or not the different terms they used referred to different entities (Knockaert, Bjornali, & Erikson, 2015; Miozzo & DiVito, 2016; Ruef, 2010). And still others claimed that different terms all referred to the same entity (Franke, Gruber, Harhoff, & Henkel, 2006). A third indicator of a lack of consensus was a widespread absence of explicit definitions of start-up teams in empirical articles. Authors rarely explained what they meant when they used different terms to refer to the concept of the start-up team. Of the 334 publications we reviewed, only 60 (18 percent) contained a clear definition of

the nature of the start-up team under investigation. A fourth indicator of a lack of consensus was the fact that—among articles that did provide an explicit definition—there was considerable variance in the key attributes or characteristics used as definitional elements. Although some scholars have built on prior prominent definitions, such as Kamm et al.’s (1990) widely cited definition or Klotz et al.’s (2014) more recent definition, virtually none of the definitions we found were identical. And, in fact, some authors explicitly rejected key features of prominent definitions in service of advancing new definitions (Cooney, 2005; Harper, 2008; Klotz et al., 2014). Table 1 illustrates this lack of consensus with respect to the three attributes that appeared most consistently across past definitions of start-up teams.

Absent clarity on the distinction between start-up teams and other forms of teams, as well as among varying forms of start-up teams, the use of so many terms and definitions under the conceptual umbrella of the “start-up team” concept signals a weak paradigm. Rather than steady convergence in how start-up teams are conceptualized as the literature has grown, we instead encountered widespread avoidance (i.e., scholars not defining the concept) and persistent divergence (i.e., scholars using idiosyncratic definitions). The problem of ambiguity in the concept of the start-up team—one that has been long acknowledged (Ensley et al., 1999) and has been implicated as a reason for fragmentation (e.g., Misganaw, 2018)—is thus unresolved.

A Multidimensional Approach to Conceptualizing Start-Up Teams

To address this critical issue and advance the development of the paradigm underlying research on start-up teams, we followed a model advocated by other teams scholars for surmounting the limitations of taxonomies and typologies for differentiating teams (e.g., Hollenbeck et al., 2012; Kirkman & Mathieu, 2005). Much like our own analysis of the start-up teams literature, for example, Hollenbeck et al. (2012) found in the broader teams literature a proliferation of terms and definitions of different types of teams, with inconsistency in how terms were used. In response, Hollenbeck et al. (2012) advocated abandoning the use of typologies and taxonomies for classifying teams. These approaches often comprise complex systems of coarse, mutually exclusive categories and rely on a dichotomization of underlying continuous phenomena as the basis for classification. When there is disagreement about

TABLE 1
Analysis of Definitions of Start-Up Teams

Feature Ownership	Feature Autonomy	Feature Entitativity	% Feature Combination	Exemplary Definitions	Other Articles with This Combination
Yes	Yes	Yes	49%	<p>“Two or more individuals who jointly establish a business in which they have an equity (financial) interest. These individuals are present during the pre-start-up phase of the firm, before it actually begins making its goods or services available to the market.” (Kamm et al., 1990: 7)</p> <p>“Those who hold ownership and control positions (Kamm & Shuman, 1990; Gartner et al., 1994; Watson et al., 1995; Cooney & Bygrave, 1997; Chandler & Hanks, 1998; Ensley et al., 2000). [...] EFT members were defined as individuals who owned at least 10% of the equity in the venture. They also hold a key role in the strategic decision making of the venture at the time of its founding.” (Ucbasaran et al., 2003: 108)</p> <p>“Two or more persons who have an interest, both financial and otherwise, in and commitment to a venture’s future and success; whose work is interdependent in the pursuit of common goals and venture success; who are accountable to the entrepreneurial team and for the venture; who are considered to be at the executive level with executive responsibility in the early phases of the venture, including founding and prestart up; and who are seen as a social entity by themselves and by others.” (Schjoedt & Kraus, 2009: 515)</p> <p>“A group of people who share the ownership and management of a new venture (Cooney, 2005; Kamm & Nurick, 1993; Watson et al., 1995). Although there are more general definitions of teams in business activities, we think that ownership and management are essential aspects for defining entrepreneurial teams.” (Iacobucci & Rosa, 2010: 354)</p> <p>“Entrepreneurial team members work interdependently, share an equal interest in the new venture, collectively create the initial policies and procedures for the company, recruit the first intake of employees and shape organizational culture. Entrepreneurial teams have arguably greater managerial discretion and a broader latitude of action than other work teams.” (Chen et al., 2017: 935)</p> <p>“Two or more people formally establish and share their ownership of the new organization.” (Kamm & Nurick, 1993: 17)</p>	<p>Brinckmann & Hoegl (2011); Cooney (2005); Forsström-Tuominen et al. (2017); Lazar et al. (in press); Lechler (2001); Roure & Maidique (1986); Watson et al. (1995)</p>
Yes	Yes	No	8%		Ensley & Pearce (2001); Lockett et al. (2006)
Yes	No	Yes	3%		Hellerstedt, Aldrich, & Wiklund (2007)

TABLE 1
(Continued)

Feature Ownership	Feature Autonomy	Feature Entitativity	% Featuring Combination	Exemplary Definitions	Other Articles with This Combination
Yes	No	No	2%	“Individuals who work to some degree in the firm, invest in the firm, and can expect to obtain the proceeds of any profits from the firm (by the implication from the discussion of Cooper and Bruno, 1977).” (Brunton & Rubanik, 2002: 565)	None
No	Yes	Yes	15%	“The relatively small group of most influential executives at the strategic apex of a firm.” (Simsek et al., 2015: 466) “Those individuals who were founders of the firm and who worked full time for the firm in executive-level positions at the time of founding.” (Eisenhardt & Schoonhoven, 1990: 515)	Beckman & Burton (2008); Cardon et al. (2017); Forbes, Borchert, Zellmer-Bruhn, & Sapienza, (2006)
No	Yes	No	12%	“Individuals, regardless of job title, reporting directly to the top executive of a new venture, and these individuals have a significant impact on the strategies and practices of the firm (Leung, 2003; Leung, Zhang, Wong, & Foo, 2006).” (Leung, Foo, & Chaturvedi, 2013: 88) “The group of individuals that is chiefly responsible for the strategic decision-making and on-going operations of a new venture.” (Klotz et al., 2014: 227)	Jin et al. (2017); Reid et al. (2018)
No	No	Yes	8%	“The group of entrepreneurs who founded the new venture.” (de Jong et al., 2013: 1835)	Harper (2008); Sardana & Scott-Kemmis (2010)
No	No	No	2%	“The team in charge of exploiting the technological knowledge and of marketing it through a new company. The ‘entrepreneurial team’ emerges as those members of the research group who decide to become involved in the entrepreneurial initiative are joined by other non-university partners.” (Grandi & Grimaldi, 2003: 333)	None
Overall Percentages					
63%	85%	76%			

classification—with multiple competing definitions of the same groupings—typologies and taxonomies stifle paradigmatic research (Kuhn, 1970). In place of discrete classification, a multidimensional approach describes how start-up teams are similar to or different from one another along a set of theoretically meaningful, continuous dimensions. This approach thus sidesteps the use of arbitrary values—such as team members holding 10 percent equity—to draw boundaries between subtly different forms of start-up teams. Using continuous dimensions instead enables locating start-up teams in a multidimensional space. As an example, instead of viewing a corporate spin-off team as a different “type” of start-up team than an early stage founding team, a multidimensional approach would consider how the two teams are similar or different along a set of continuous dimensions. Thus, rather than attempting to articulate a new discrete definition of start-up teams—or a new typology of multiple categories of teams—we sought to identify the underlying continuous dimensions that distinguish between start-up teams and other organizational entities and that differentiate among different forms of start-up teams.

Deriving Dimensions from an Analysis of Existing Definitions of Start-Up Teams

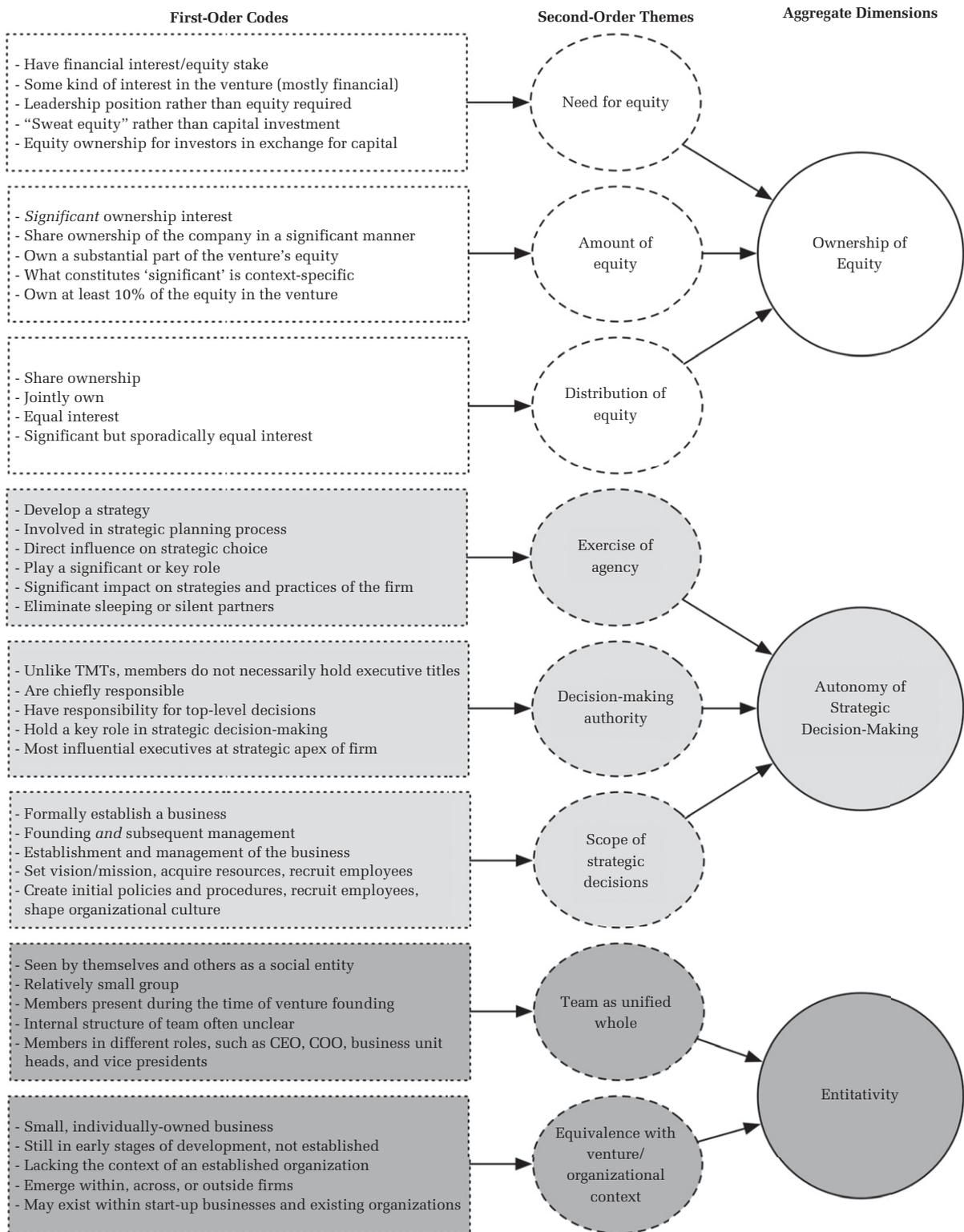
To achieve an integrative understanding of the key dimensions that underlie the concept of the start-up team, we took as a starting point the need to systematically analyze existing conceptualizations. Consistent with procedures outlined by Gioia, Corley, and Hamilton (2013), we first identified definitional statements regarding start-up teams from the publications we reviewed and used these to derive a set of first-order codes that captured core elements of the definitions. As thematically related first-order codes accumulated, we collapsed them into a set of first-order concepts, which served as the foundation of our emerging understanding of the start-up team. We then searched for similarities and dissimilarities among these first-order concepts to identify second-order themes that organized these concepts in a meaningful way. This process was iterative, in which we informed our interpretations with insights from the start-up teams literature. We subsequently collapsed these second-order themes into three overarching, aggregate-level dimensions that reflect the most common elements of prior definitions of start-up teams: ownership of equity, autonomy of strategic decision-making, and entitativity. Because we used prior definitions as the basis for our multidimensional conceptualization of start-up teams,

it is grounded in and reflective of past theory and research. Although not every definition in the literature explicitly incorporated all three of these higher order dimensions, these dimensions capture the most common definitional content across prior conceptualizations. Our analysis of definitions is visually depicted in Figure 1 and summarized in Table 1.

Ownership of equity. The first higher order dimension that we derived from past definitions represents how much team members have a vested financial interest in the team’s work. Despite this dimension featuring prominently in the literature (63 percent of the definitions mentioned ownership), we observed variability in (a) how much emphasis was placed on ownership as a defining attribute, (b) the particular amount of equity described as necessary for someone to be a start-up team member, and (c) the distribution of equity across team members. Specifically, although many definitions assert start-up team members must hold a financial interest in the venture (e.g., Ensley et al., 1999; Tihula, Huovinen, & Fink, 2009; Watson, Ponthieu, & Critelli, 1995), some authors do so tentatively, suggesting that members “usually” have an equity stake (Forsström-Tuominen, Jussila, & Goel, 2017) or that financial equity is one of several possible interests team members may have in the venture (Misganaw, 2018). Furthermore, some authors explicitly dismiss holding financial equity as a necessary criterion for someone to be a start-up team member, instead advocating that a more relevant criterion is whether someone holds a leadership position (e.g., Klotz et al., 2014) or suggesting that a team member can hold “sweat equity” rather than a financial stake in the venture (e.g., Cooney, 2005). Finally, some conceptualizations explicitly recognize that start-up teams often relinquish some of their equity ownership to investors in exchange for capital (Lim, Busenitz, & Chidambaram, 2013).

Among the definitions that do explicitly require equity ownership, there is variability in how much someone must possess to be classified as a start-up team member and how equity is distributed among team members. Many definitions assume that all members own equity, but are agnostic about the specific amount of equity that someone needs to own or about the distribution of equity among team members (e.g., Ensley et al., 1999; Tihula et al., 2009; Watson et al., 1995). Other definitions are more specific regarding the amount of equity, stating the members should have a “substantial” or “significant” ownership interest (e.g., Breugst, Patzelt, & Rathgeber, 2015; Ensley et al., 2000; Roure & Maidique, 1986) or identifying a precise minimum amount of equity,

FIGURE 1
Content Analysis of Definitions of Start-Up Teams



such as 10 percent (e.g., Ucbasaran, Lockett, Wright, & Westhead, 2003). Contrary to the latter, however, other authors propose that what constitutes a “significant amount” is context specific, such that no single amount can be universally applied to characterize start-up teams (e.g., Cooney, 2005). Furthermore, some definitions assume that members have an “equal” interest in the venture (e.g., Chen, Chang, & Chang, 2017), whereas others explicitly dismiss this notion, pointing out that financial interests are usually not equally distributed among team members (e.g., Cooney, 2005; Kamm et al., 1990).

Given the emphasis in most past definitions on team members holding a financial stake in the business, we thus identified *ownership of equity* as one core dimension that defines start-up teams. Rather than specifying a particular threshold of ownership that would be required—as would be done in a taxonomy or typology—we instead view this as a continuous dimension that ranges from a team with fully internal ownership (i.e., a team in which members own all equity) to a team with fully external ownership (i.e., the venture is wholly owned by a corporation or other external investors). In between these extremes lie most start-up teams—teams in which members retain some equity ownership but have exchanged some equity for external investment.

Autonomy of strategic decision-making. The second higher order dimension represents how much independence team members have to shape the strategic direction of the new venture, including making decisions about resource allocation, product development and introduction, and orientations toward the competitive environment (e.g., strategic alliances, joint ventures, and licensing). Although 85 percent of the definitions in the literature highlight or allude to autonomy of strategic decision-making as a distinguishing feature of start-up teams, this dimension arises in a few different ways. The first way is start-up team members’ exercise of agency, albeit with varying levels of intensity. Some definitions indicate that team members are merely “involved” in strategic decision-making (Grandi & Grimaldi, 2003; Lazar et al., in press; Misganaw, 2018), whereas others assume that members “actively participate” in (Klotz et al., 2014; Watson et al., 1995), “play a significant role” in (Ensley et al., 2000; Roure & Maidique, 1986; Ucbasaran et al., 2003), or have “a direct influence” on (Ensley et al., 1999) strategic decision-making. Along similar lines, some explicitly exclude “sleeping or silent partners” from their conceptualization of start-up teams (e.g., Cooney, 2005). The second way is start-up team members’

decision-making authority, characterizing them as being “chiefly responsible” for strategic-making (Klotz et al., 2014) or as having or sharing “executive responsibility” (Schjoedt & Kraus, 2009; Tihula et al., 2009). Similarly, Klotz et al. (2014: 228) described start-up teams as having a “greater managerial discretion and wider latitude of action than most teams.” Others, however, problematize this notion, pointing out that unlike top management teams, members of start-up teams do not necessarily hold executive titles (Beckman & Burton, 2008). The third way is the scope of strategic decisions that team members make, with some definitions focusing on the decision to formally establish a new venture (Ensley et al., 1999; Francis & Sandberg, 2000; Kamm & Nurick, 1993; Kamm et al., 1990) and others asserting that members’ decision-making extends to a venture’s ongoing management and operations (Klotz et al., 2014; Lazar et al., in press; Lechler, 2001; Tihula et al., 2009). Still others include a detailed specification of the nature of members’ decisions, such as setting the vision or acquiring resources (Klotz et al., 2014), developing initial policies and procedures, and recruiting employees (Chen et al., 2017).

As a second dimension underlying a multidimensional conceptualization of start-up teams, we thus identified *autonomy of strategic decision-making*, which accounts for the gradations of control that start-up team members have over decision-making in an entrepreneurial venture. Like ownership of equity, we conceptualize autonomy of strategic decision-making as a continuous dimension rather than as a discrete attribute or a property of a role. For example, a team of senior executives in a start-up without a board may be relatively free from constraints when making significant strategic decisions. The strategic decision-making process might be completely different in a start-up team that has a board of directors and bylaws mandating board sign-off on certain kinds of decisions. Although the executive roles in the two teams are the same, executives’ autonomy for making strategic decisions is different. This continuous dimension thus ranges from heteronomy (i.e., team members are subject to the preferences, guidelines, and superseding authority of external stakeholders) to full autonomy of decision-making (i.e., team members are able to make strategic decisions independently).

Entitativity

The third higher order dimension is entitativity—“that property of a group, resting on clear boundaries,

internal homogeneity, social interaction, clear internal structure, common goals, and common fate, which makes a group ‘groupy’” (Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007: 136). Although this dimension was prevalent, showing up in 76 percent of the definitions that we reviewed, it was manifest across definitions in different ways. First, some scholars draw on general definitions of work teams and specify that start-up team members must be viewed as an intact social entity by themselves and/or by others (Lechler, 2001; Schjoedt & Kraus, 2009). Instead of emphasizing subjectively perceived oneness, another subset of definitions focuses on the actual compositional unity of the team, as reflected in the number and/or type of individuals who are considered to be part of the start-up team. Some definitions narrow their focus specifically to the founding team, described as two or more individuals who “establish” the new venture (Ensley et al., 1999; Kamm & Nurick, 1993; Misganaw, 2018; Watson et al., 1995) and are “present” during the pre-start phase of the venture (Kamm et al., 1990; Lechler, 2001). Similarly, others characterize start-up teams as “relatively small groups” (Simsek, Jansen, Minichilli, & Escriba-Esteve, 2015). These definitions implicitly connote a simple, bounded, and unified entity. Contrary to this focus on a small, early-stage entity, other definitions assert that team membership is dynamic, with members joining after the pre-start-up phase (Lazar et al., in press). Francis and Sandberg (2000), for example, included people who join within the first 2 years of a firm’s operations, and Cooney (2005) included anyone who joins throughout a venture’s maturation. By emphasizing the fluidity of a team’s membership after its founding, these conceptualizations challenge the image of the start-up team as a simple, unitary entity. Besides team size and membership stability, other definitions feature role differentiation among members (or the lack thereof), with some suggesting that a start-up team’s internal role structure is often unclear (Breugst et al., 2015). Others, however, assert that members often occupy different roles (Kor, 2004). These contrasting notions clearly reflect different assumptions about whether the start-up team should be conceptualized as a unified entity.

A second way that definitions alluded to the entitativity of start-up teams was by referring to the (non) equivalence of the start-up team and the business venture or larger organizational context. Conceptualizations focusing on “founding teams” implicitly assume organizational equivalence between the team and the venture because the new venture is in the process of being created, and thus will not have grown beyond the team itself. As such, the start-up

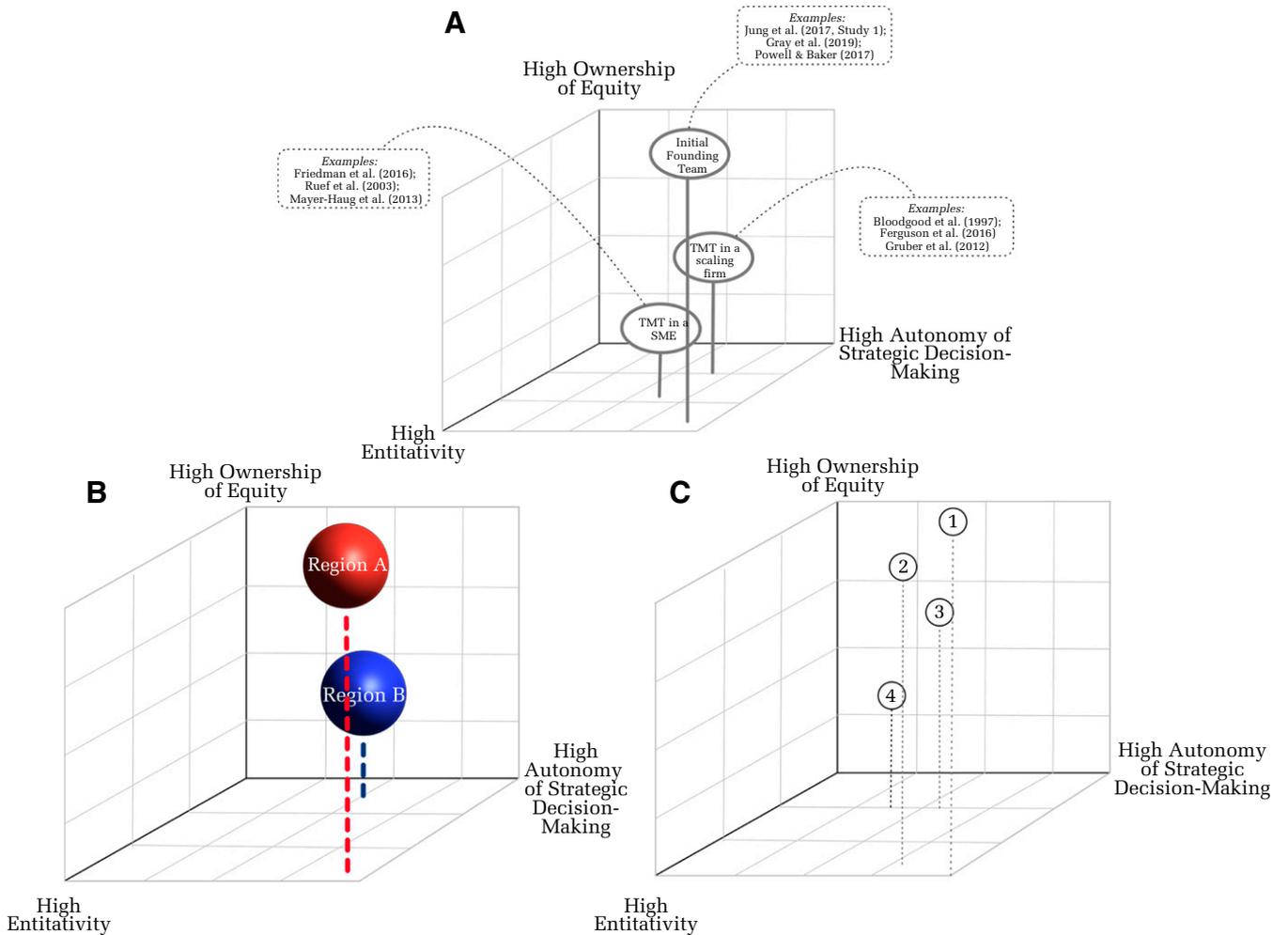
team is characterized as “lacking an established organizational context” (Breugst et al., 2015), and the venture is a “small, individually owned business” (Ensley et al., 2000) rather than a larger “established organization” (Cooney, 2005). Although most definitions portray start-up teams as unified and coherent collective entities, some emphasize teams as embedded within or connected to a larger organizational or systemic context (Ensley et al., 1999; Ruef, 2010; Tihula et al., 2009). Some scholars draw on general definitions of work teams and specify that start-up teams are inherently embedded within a larger organizational context (Lechler, 2001). Others, however, are more explicit and directly challenge the notion that the organization and the start-up team are equivalent. Harper’s (2008: 617) definition acknowledges, for example, that team entrepreneurship can “emerge within, across, or outside firms” and “need not necessarily occur through *de novo* startups.” Similarly, Cruz et al.’s (2013) conceptualization proposes that start-up teams “may exist within businesses and existing organizations.” These latter definitions clearly assume organizational nonequivalence between the team and the larger context.

Because of its prevalence in prior definitions, we thus derived *entitativity*, which accounts for the varying degrees to which a start-up team is a single, coherent, and unified organizational entity, with clear boundaries that separate the team from other entities and few internal divisions. We conceptualize entitativity as a continuous dimension. In the purest case, the start-up team and the new venture are equivalent constructs. Drifting away from this extreme, a start-up could have fuzzy boundaries with an external organization—for example, a corporate venture team or a skunk works project that is nested within a larger organization. Or a start-up could have meaningful internal subdivisions—for example, a scaling venture with a top management team overseeing several functionally specialized teams. Our conceptualization accounts for these possibilities by specifying entitativity as ranging from a team that is a weak or fragmented entity, where the team is a cluster of differentiated and interconnected subunits, to a strong and cohesive entity, where the team is a singular and undifferentiated form.

The Multidimensional Landscape of Start-Up Teams

When integrated, these three dimensions—ownership of equity, autonomy of strategic decision-making, and entitativity—define a multidimensional

FIGURE 2
A Multidimensional Conceptualization of Start-Up Teams



landscape, as depicted in Figure 2A, within which variant start-up teams can be located (Hollenbeck et al., 2012). Note that teams outside the scope of our review—which is bounded by the integration of the concepts of entrepreneurship and team—lie outside of this landscape. This conceptualization encapsulates entities that are composed of two or more individuals who are seeking to discover, evaluate, and exploit opportunities to create new products and services. Other teams—such as surgical teams or event planning teams—are excluded from this landscape. Teams that lie within the scope of our review, however, can be positioned on this landscape; teams’ scores on each dimension provide the coordinates for locating them within the landscape. A multidimensional landscape can advance paradigmatic development by serving as a common framework within which to locate the disparate start-up teams examined

in past research. Although our review of the literature indicated that researchers rarely provide explicit definitions or clarity regarding the underlying dimensions of their empirical samples, Figure 2A illustrates how some of the variant forms of start-up teams described in past research might be located on this landscape.

USING A MULTIDIMENSIONAL CONCEPTUALIZATION TO REVIEW AND INTEGRATE PAST RESEARCH

With enhanced clarity on what start-up teams are, we now turn to a review of the substance of past research. In reviewing the expansive literature on start-up teams, we found that theory and research have clustered around three focal points of interest. These thematic focal points—finance, strategy, and group

dynamics—connect to the dimensions that our definitional analysis suggested are intrinsic to start-up teams. Paralleling ownership of equity, one cluster of articles focuses on the financial side of start-up teams and, in particular, the acquisition of external financial capital. Paralleling autonomy of strategic decision-making, a second focal point of past research is the strategic side of start-up teams, comprising strategic decision-making and the positioning of a venture within its competitive environment. And, paralleling entitativity, a third focal point is the internal, interpersonal functioning of the start-up team as a small group.

Figure 3 visually summarizes how past research has considered each of these focal points in isolation and together in combination. To derive the percentage values in Figure 3, we coded the articles included in our literature review for whether they addressed research questions or offered theoretical or empirical explanations relevant to each focal point. Rather than sorting articles into discrete and mutually exclusive categories, we coded the three focal points independently, which allowed a given article to simultaneously address multiple focal points of interest. As Figure 3 shows, although each focal point has attracted much interest, the financial side of start-up teams has received relatively less interest than either the strategic side or interpersonal side. What is most revealing, however, is the fact that roughly two-thirds (68 percent) of publications address just one focal point. Fewer than one quarter (24 percent) of publications address questions or offer explanations that lie at the intersection of two focal points. And, a paucity of publications address questions at the intersection of all three focal points (8 percent).

According to our definitional analysis, the intersection of three dimensions distinguishes start-up teams from other organizational entities. If this is the case, then a full understanding of start-up teams requires theory that integrates financial, strategic, and interpersonal mechanisms. In the following section, we first briefly review past research within each focal point at a mid-range level of theoretical abstraction, summarizing conceptual answers to core questions and highlighting key conclusions. Then, we illustrate how our multidimensional conceptualization of start-up teams aids in formulating integrative theory. To do so, we integrate past research on the effects of team composition—a ubiquitous aspect of start-up teams that arises within each focal point. We show how our multidimensional conceptualization (a) integrates mechanisms discussed in research on

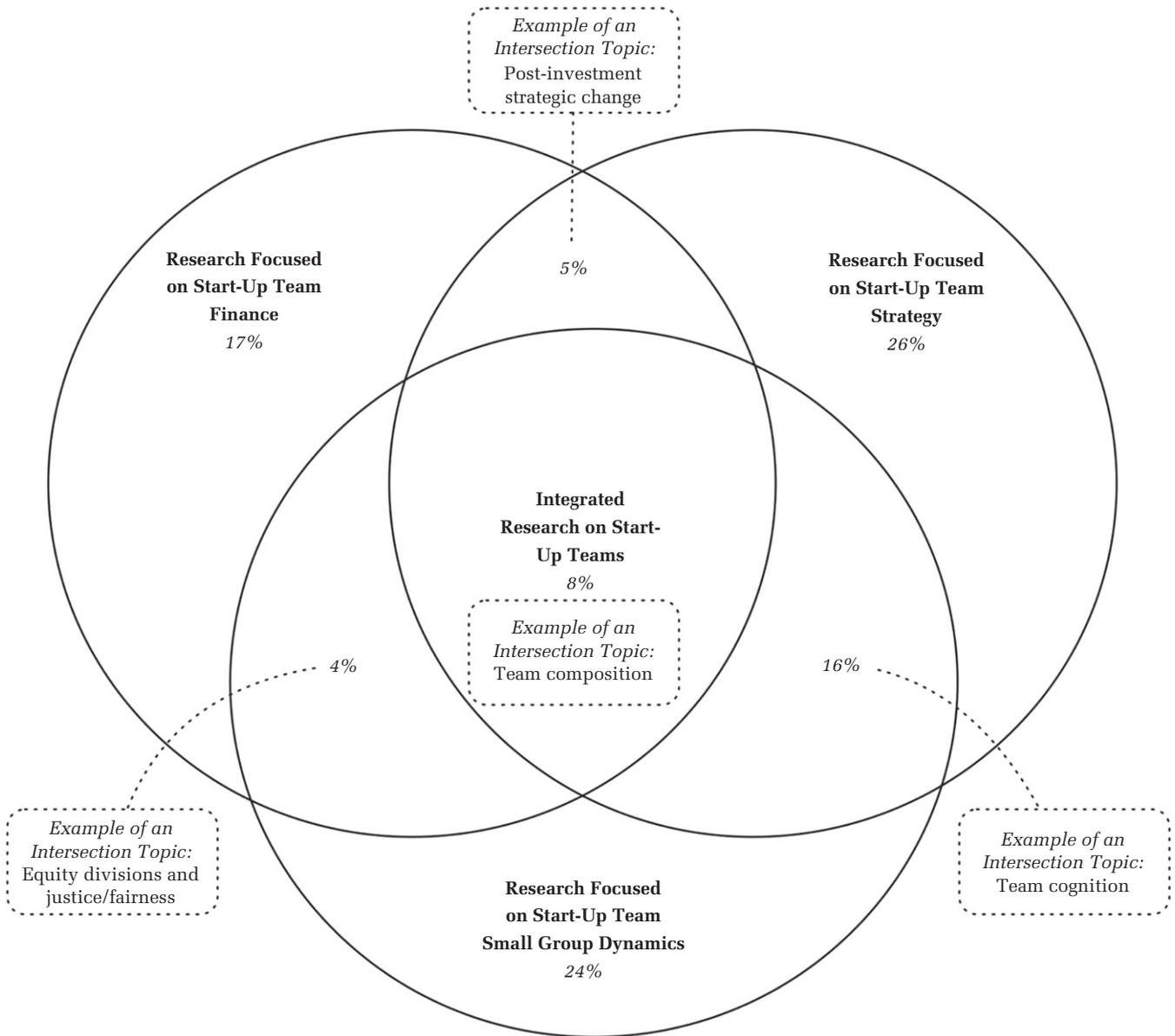
finance, strategy, and group dynamics and (b) explains why effects differ for teams that vary in ownership of equity, autonomy of strategic decision-making, and entitativity.

Finance as a Focal Point of Past Research

Entrepreneurship scholars have long underscored the importance of financial resources for a start-up's survival and growth (Chrisman, Bauerschmidt, & Hofer, 1998). Past research has addressed how team members fund a venture with their own personal financial resources (e.g., Hvide & Møen, 2010), with bank loans (e.g., Eddleston, Ladge, Mitteness, & Balachandra, 2014), through bootstrapping (e.g., Grichnik, Brinckmann, Singh, & Manigart, 2014), or the use of crowdfunding platforms (e.g., Ahlers, Cumming, Günther, & Schweizer, 2015). All of these financing approaches have implications for team members' retention of equity ownership. However, the center of gravity for past research on the financial side of start-up teams is the pursuit of financing from external investors (e.g., angel, VC) who exchange financial capital for an equity stake in the business. Table 2 summarizes past research on the financial focal point, which has focused especially on understanding (a) which teams get funded and why and (b) what happens to a team once it receives external investment.

Which teams get funded and why? To answer this question, researchers have relied on a human capital explanation and a social capital explanation, as well as considered how these two explanations intertwine. With respect to human capital, researchers have examined how start-up team composition influences external investors' evaluations of and decisions to invest in a new venture. Theorists suggest that team composition acts as a signal or cue (Spence, 1973) that investors use to fill an information asymmetry between investors and team members regarding the quality of the venture (e.g., Plummer, Allison, & Connelly, 2016). Although some research has considered team members' demographic characteristics (e.g., Eddleston et al., 2014) or team functional diversity (e.g., Beckman, Burton, & O'Reilly, 2007), most studies have examined the sum total of team members' task-relevant characteristics—such as education (e.g., Becker-Blease & Sohl, 2015; Franke et al., 2008), entrepreneurial experience (e.g., Beckman et al., 2007), industry experience (e.g., Becker-Blease & Sohl, 2015), or leadership experience (e.g., Beckman et al., 2007; Franke et al., 2008; Hoening & Henkel, 2015)—as a signal of the quality of the venture. Highlighting the

FIGURE 3
Three Focal Points of Past Research on Start-Up Teams



complexity of the effects of team composition on investors' evaluations, research has found that the strength of task-relevant expertise as a signal of venture quality depends on a range of factors, including the industry environment (e.g., Mannor, Matta, Block, Steinbach, & Davis, 2019; Townsend & Busenitz, 2015), the match with an investor's characteristics (e.g., Aggarwal, Kryscynski, & Singh, 2015; Franke et al., 2006), an investor's experience (e.g., Bernstein et al., 2017; Franke et al., 2008), and the venture's maturity (Hallen, 2008; Kaplan, Sensoy, & Omberg,

2009; Zott & Huy, 2007). Past findings thus suggest nuanced effects of team composition on external investment.

Past research has also considered how a start-up team's social capital—the relationships that team members have with investors, corporate partners, and other entities—influences external investment. In particular, researchers have considered two mechanisms through which social capital aids in attracting external financing. The most direct is the interpersonal relationship between team members

TABLE 2
Finance as a Focal Point of Research on Start-Up Teams

Core Questions and Common Answers	Broader Conceptual Lenses	Example Predictor Variables	Example Criterion Variables	Example Empirical Samples	Key Citations
1. Which teams get funded and why?					
Teams with more human capital get more funding	Signaling theory	Average team experience (entrepreneurial, industry)	Whether and type of financing received (e.g., angel, VC)	Start-up teams funded by a particular VC, varying from 0 to 10+ years out at time of study	Baum & Silverman (2004); Beckman et al. (2007); Bernstein et al. (2017); Franke et al. (2006, 2008); Kaplan et al. (2009); Plummer et al. (2016); Shane & Cable (2002)
Teams with more social capital get more funding	Institutional theory and legitimacy	Average team education	Financing round received and speed to round (e.g., Series A and B)	Experimental, scenario-based study of investors	
Teams whose human capital matches the industry and investor get more funding	Social network theory	Relations with investors Interaction between education and industry	Investors' perceptions		
2. What are the implications of receiving external funding?					
Funding enables growth, survival, and performance	Institutional theory	Type of financing (e.g., angel, VC)	Sales growth	Survey of firms that have received VC funding	Barney et al. (1996); Davila et al. (2003); Hellmann & Puri (2002); Huang & Knight (2017); Wasserman (2003, 2006)
Funding alters team composition and leadership	Agency theory	Financing round received (e.g., Series A and B)	Hiring and turnover	Small businesses with less than 500 employees	
Funding increases professionalization			Presence of focal roles (e.g., HR)	Internet firms with around 30 employees and \$16M valuations	
Funding changes equity ownership			Use of practices (e.g., financial management)		
			Team members' compensation		

and a particular investor (Huang & Knight, 2017). A social tie with an investor can mitigate the information gap that exists between team members and a prospective investor by increasing trust and serving as a channel through which the two parties can learn about one another (e.g., Batjargal & Liu, 2004; Kim, Steensma, & Park, 2019; Shane & Cable, 2002; Shane & Stuart, 2002; Zhang, Soh, & Wong, 2010). Like the team composition effects described earlier, external investors may be particularly likely to invest in start-up teams when they share common expertise with team members because shared knowledge precipitates a more positive and trusting relationship (e.g., Aggarwal et al., 2015; Franke et al., 2006). In addition to direct ties between team members and external investors, researchers have also suggested that a start-up team's social capital serves a signaling function, influencing investors' judgment of the underlying quality of the venture. Those ventures with connections to high-status partners receive a boost in the eyes of investors, which increases the likelihood of financial investment (Hoenig & Henkel, 2015; Shane & Stuart, 2002; Stuart, Hoang, & Hybels, 1999). With both composition and relationships believed to act as signals of a venture's underlying quality,

researchers have also found that investors use them in combination as a way of triangulating on the underlying quality of a venture (e.g., Bapna, 2019; Baum & Silverman, 2004; Florin, Lubatkin, & Schulze, 2003; Packalen, 2007; Plummer et al., 2016).

What happens to start-up teams that are funded? The most direct consequence of receiving funding is a boost in the venture's stock of resources—both financial and nonfinancial (Huang & Knight, 2017). There is disagreement, however, regarding the causal effect of external investment on a venture's long-term performance and survival—due both to the endogeneity of investment with a venture's intrinsic quality and conflicting findings regarding the value of the advice or mentoring that external investors provide and the conditions under which they do so (e.g., Barney, Busenitz, Fiet, & Moesel, 1996; Busenitz, Fiet, & Moesel, 2004; Higashide & Birley, 2002; Lim et al., 2013). Nonetheless, past research has shown that investment events trigger substantive changes in start-up teams. One type of change is in the membership of the team itself—that is, its composition. External investment events trigger changes in a team's composition through both hiring and attrition. With respect to

hiring, external capital provides the financial means for a start-up to bring new talent into the venture. In addition, the backing of prominent external investors serves as a signal to the labor market of the venture's quality, which can attract the interest of talented employees (e.g., Davila, Foster, & Gupta, 2003; Vanacker & Forbes, 2016). External funding also, however, increases the likelihood that early team members—particularly those designated as “founders”—leave the venture or, at the very least, abdicate key leadership positions (e.g., Jain & Tabak, 2008; Wasserman, 2003). External financing events thus precipitate churn in team composition and leadership as newer personnel join the venture and older personnel depart.

Research has also found that receiving external funding alters the way that a start-up team organizes and internally functions. Externally funded teams become “professionalized,” adopting and implementing formal roles, systems, and practices (Hellmann & Puri, 2002). When new ventures are backed by VC funding, for example, research suggests that they are more likely to adopt formal human resource policies, formalize an executive-level marketing role, and implement stock option plans (Cyr, Johnson, & Welbourne, 2000; Hellmann & Puri, 2002). Receiving VC funding is also associated with subsequently hiring a financial manager and adopting formal management accounting systems (Davila & Foster, 2005)—practices that would formally oversee an external investor's financial resources. Concurrent with professionalization, team members' compensation may change after a start-up team accepts external investment (Hellmann & Wasserman, 2017; Wasserman, 2006). The revision in compensation occurs through changes in the equity stakes held by team members, which usually decrease, and an increase in team members' cash compensation. Although external investment is linked to an overall increase in team members' compensation, Wasserman (2006) described a “founder discount” in which founding members who retain a higher percentage of equity earn less cash compensation following external investment than other non-founding team members.

Strategy as a Focal Point of Past Research

The strategic choices that start-up team members make play an important role in the long-term success of the venture (Li & Atuahene-Gima, 2001). In line with the tenets of upper echelons theory, which asserts that a business's top management team shapes its performance (e.g., Hambrick & Mason, 1984), theory and

research on start-up teams have explored how team characteristics and processes shape strategic decision-making. Although researchers have explored a variety of topics, most past research addresses two broad issues—(a) the factors that influence the process and content of strategic decision-making and (b) how strategic decisions interact with the external environment to influence new venture outcomes. Table 3 summarizes past research on strategy as a focal point.

What factors influence strategic decision-making?

Past research portrays start-up team strategic decision-making to be a function of internal and external factors (Boeker, 1989; Eisenhardt & Schoonhoven, 1990). Internal factors comprise characteristics of the team itself, such as its composition and leadership. Building on upper echelons theory, researchers have suggested that a team's composition is linked to the cognitive frames through which team members view and approach strategic decisions (Ding, 2011; Gruber, MacMillan, & Thompson, 2012; Wiersema & Bantel, 1992). In particular, past research has assumed that the combination of team members' education and work experiences before their involvement in a given venture shapes the kinds of strategies that the team adopts and pursues. When team members have prior international or multinational work experience, for example, their venture is more likely to open international lines of business early in its life (McDougall, Oviatt, & Shrader, 2003). Or, similarly, when team members have research-focused educational backgrounds, their ventures are more likely to pursue open science strategies (Ding, 2011).

Although much past research has treated team composition as an additive concept, focusing on the sum total or average level of team members' experiences, two streams of research have eschewed this view of composition. Rather than an additive view, one stream has considered the diversity of team members' prior experiences and expertise as an input into strategic decision-making (Eisenhardt & Schoonhoven, 1990). Again in line with upper echelons theory, this stream of research typically postulates that a team composed of members with diverse expertise or prior experiences possesses heterogeneous cognitive frames for analyzing strategic problems and considering strategic opportunities (Beckman, 2006; Beckman et al., 2007; Eisenhardt & Schoonhoven, 1990). Heterogeneous cognitive frames and information pools, in turn, enhance a team's ambidexterity and novelty in strategic decision-making.

A second stream has acknowledged that some members—and, in particular, one or more founders or early leaders—may have a greater effect on a start-up team's strategy than others. This idea is consistent

TABLE 3
Strategy as a Focal Point of Research on Start-Up Teams

Core Questions and Common Answers	Broader Conceptual Lenses	Example Predictor Variables	Example Criterion Variables	Example Empirical Samples	Key Citations
<p>1. What factors influence strategic decision-making?</p> <p>External threats trigger risk adverse decisions</p> <p>Internal resources and social capital encourage novel strategic choices</p> <p>Connections to other entities shape decision-making</p>	<p>Upper echelons theory</p> <p>Institutional theory</p> <p>Social capital theory</p> <p>Resource-based View</p> <p>Imprinting</p>	<p>Market conditions and context (e.g., uncertainty and competition)</p> <p>Team composition (e.g., diversity and experience)</p> <p>Affiliations with other firms or stakeholders</p>	<p>Strategic decision quality</p> <p>Strategic choices (e.g., alliances, internationalization, and exploitation vs exploration)</p>	<p>Semiconductor firms tracked through a period of scaling over many years</p> <p>Spin-off firms in their first year or two of existence with less than 10 employees</p>	<p>Agarwal, Campbell, Franco, & Canco (2016); Beckman (2006); Beckman et al. (2014); Fernhaber & Li (2013); Jiang & Ruling (2019); McDougall et al. (2003); Schoonhoven et al. (1990)</p>
<p>2. How does strategic decision-making influence start-up team outcomes?</p> <p>Well-planned and comprehensive decisions help performance</p> <p>Strategic decisions closely aligned with environmental factors help start-up performance</p>	<p>Upper echelons theory</p> <p>Strategic consensus</p> <p>Institutional theory</p>	<p>Type and timing of business planning</p> <p>Dissensus and comprehensiveness</p> <p>Timing of market entry</p> <p>Fit of strategic approach with environment</p>	<p>IPO</p> <p>Growth (revenues and employees)</p> <p>Survival</p>	<p>Technology ventures that have been together for ~5 years and have more than 100 employees</p>	<p>Atuahene-Gima & Li (2004); Liao & Gartner (2006); Roure & Keeley (1990); Sapienza et al. (2006); Wasserman (2017); Zhao et al. (2013)</p>

with early work in entrepreneurship that described the role of lead entrepreneurs—individuals “who clarify the firm’s vision and craft the dream and strategy for the rest of the team to follow” (Ensley et al., 2000: 60). Most notably, past research has indicated that a venture’s strategy is a function of lead entrepreneurs’ goals (Dunkelberg, Moore, Scott, & Stull, 2013), identity (Fauchart & Gruber, 2011), and institutional logic (Almandoz, 2012, 2014). Lead entrepreneurs implement their goals, identity, and logic through the choices they make regarding organizational design (e.g., roles and processes) and partnerships (e.g., supplier relations and technology licensing), and through how they pursue or spurn external financing. These choices have long-term consequences for a team’s development as it grows into a larger organization (Beckman & Burton, 2008; Boeker, 1989; Burton & Beckman, 2007).

In addition to these internal factors, past research has also examined how external factors—aspects of the environment in which a team is embedded—may motivate start-up teams to make certain kinds of strategic decisions or supply the resources needed to take advantage of opportunities. One type of external factor is the market or industry in which a team operates. When operating in an uncertain market, for example, team members may be more likely to make novel and exploratory strategic decisions than when operating in a more stable and predictable market (Autio, George, & Alexy, 2011; Jiang & Rülting, 2019). The level of competitiveness within an industry also can influence strategic decision-making. Highly competitive markets may prompt team members to not only use more aggressive and riskier strategies but also take steps to reduce their vulnerability by forming more strategic alliances (Eisenhardt & Schoonhoven, 1996; Schoonhoven, Eisenhardt, & Lyman, 1990).

Characteristics of the geography in which a start-up team is located also influence strategic decision-making. Central to past research on geography as an external factor is the notion that the resources available within a given geography can motivate and support opportunity seeking. For example, connected to the idea that the intensity of competition in a given industry influences start-up team strategy, being located in a region with moderate clustering motivates teams to pursue international strategies and also provides the resources needed to execute such strategies (Fernhaber, Gilbert, & McDougall, 2008). Similarly, start-up teams located in emerging economies are more likely than those in developed economies to pursue

international strategies, which can help build their domestic reputation (Yamakawa, Khavul, Peng, & Deeds, 2013). Pursuing an international strategy is associated with a cluster of other strategic choices, such as adopting more aggressive approaches characterized by an emphasis on quality, innovation, and differentiation (McDougall et al., 2003).

A third set of external factors that past research has examined comprises the set of formal and informal relationships that start-up teams have with other companies and outside stakeholders. Consistent with a social network perspective, these relationships not only provide opportunities for but also impose constraints on the strategic decisions that team members make. As one example of this stream of research, independent ventures adopt and implement different policies, practices, and strategies than do corporate ventures or spin-offs (Fryges & Wright, 2014; Müller, 2010; Phillips, 2002; Woolley, 2017). Decision-making in the latter teams is influenced by connections to “parent” firms. Similarly, strategic alliances influence the kinds of strategic decisions that start-up teams make (Fernhaber & Li, 2013; Howard, Steensma, Lyles, & Dhanaraj, 2016; Yu, Gilbert, & Oviatt, 2011). As agency theory would predict, teams’ strategic positions are also shaped by external stakeholders, such as investors (Hsu, 2006; Park & Tzabbar, 2016) and boards of directors (Beckman, Schoonhoven, Rottner, & Kim, 2014).

How does strategic decision-making influence start-up team outcomes? The second key question addressed within the strategy focal point concerns the connection between start-up team decision-making and the development and performance of the venture. Researchers have considered how both the *content* of strategic decisions—such as whether to internationalize—and the *process* underlying those decisions—such as the formalization of the decision-making process—relate to outcomes. Before discussing research on either of these facets, however, it is important to note that there is significant variability in the conceptualization and measurement of start-up team performance (Klotz et al., 2014). Some researchers have assessed performance as a team’s progression through milestones, such as the time it takes to introduce a product to the market (e.g., Knockaert, Ucbasaran, Wright, & Clarysse, 2011). Others have relied on quantitative or financial metrics, such as new venture sales growth (e.g., Eisenhardt & Schoonhoven, 1990). Because findings regarding the relations between strategic decision-making and outcomes vary as a function of different outcome measures (e.g., Mayer-Haug, Read,

Brinckmann, Dew, & Grichnik, 2013), this is a source of uncertainty in past research.

We described earlier how past research has sought to understand what leads teams to adopt and implement certain kinds of strategic approaches (i.e., strategic decision content). Underlying this work is a presumption that a given strategy is related to outcomes. However, past research on the performance implications of internationalization (e.g., Lyles, Saxton, & Watson, 2004; Mudambi & Zahra, 2007; Sapienza, Autio, George, & Zahra, 2006), growth strategies (e.g., Chrisman et al., 1998; Littunen, 2000; Zhao, Song, & Storm, 2013), and product strategies (e.g., Bruno, Mcquarrie, & Torgrimson, 1992; Carter, Stearns, Reynolds, & Miller, 1994; Katila, Chen, & Piezunka, 2012; Roure & Keeley, 1990) reveals a set of complicated and nuanced findings. One higher order conclusion that can be drawn from past research on the relation between the content of a team's decision-making and its performance is that there is no "one size fits all" strategic approach. Instead, the efficacy of a given strategic choice depends on a host of factors, including aspects of the team itself, the external environment in which the team is embedded, and the fit of a team's strategy with attributes of its external environment.

Recognizing that the effects of any strategic choice are contingent on other factors, researchers have suggested that what may best predict start-up team outcomes are aspects of the *process* that members use to make strategic decisions. With a higher quality process, this stream of research suggests team members are more likely to identify and pursue the right strategic direction, given their internal resources and the characteristics of the external environment. For example, researchers have examined how the use of formal strategic planning processes, such as business planning, influences start-up team outcomes. The results of meta-analyses suggest that a formal strategic planning process is, in general, associated with better performance (Brinckmann, Grichnik, & Kapsa, 2010; Mayer-Haug et al., 2013). And, furthermore, there is some evidence that formal business planning is particularly impactful when performed early (Delmar & Shane, 2004) or when teams are operating in an uncertain environment (Liao & Gartner, 2006). Using a formal process increases the likelihood that start-up teams take early strategic steps, such as initiating marketing and promotion and advancing product development (Delmar & Shane, 2004).

Two other aspects of the strategic decision-making process that past research suggests relate to team outcomes are comprehensiveness and strategic dissensus.

Comprehensiveness is the degree to which the decision-making process is exhaustive and considers an expansive set of alternatives (Fredrickson & Mitchell, 1984). The benefits of comprehensiveness may come at the cost of time, however. So, past research suggests that start-up teams operating in certain kinds of industries benefit from comprehensiveness, whereas others are harmed by comprehensiveness. Atuahene-Gima and Li (2004) found that comprehensiveness is beneficial in markets with high demand uncertainty, but not in markets with high technological uncertainty. Research has found similarly nuanced effects of strategic dissensus—the degree to which team members disagree with one another about strategic choices. Much like the idea that the value of comprehensiveness depends on the environment surrounding a team, research indicates that strategic dissensus is associated with beneficial outcomes when start-up teams operate in dynamic environments or are in an uncertain period of their development (West & Meyer, 1998). However, because dissensus brings costs—particularly in terms of time and relational friction—it can detract from start-up team performance (Drori, Honig, & Sheaffer, 2009).

Small Group Dynamics as a Focal Point of Past Research

As a small group of people working together in pursuit of a shared goal—launching and advancing a new business—it is unsurprising that one of the three focal points in the literature is how interpersonal interactions among team members contribute to the success or failure of a new venture. As would be expected, our review of articles within this area surfaced the topic of start-up team formation—the process through which a new team emerges. Because Lazar et al. (in press) provided a recent review of research on this specific topic, we focus in the following text on studies that have examined what happens once a start-up team has already formed. In line with the input-process-output framework that dominates the literature on small groups and teams, past research on the internal and interpersonal dynamics of start-up teams can be organized around the linkage between inputs and group processes, on the one hand, and the linkage between group processes and group outcomes on the other (Klotz et al., 2014; Lazar et al., in press). As summarized in Table 4, two broad categories of processes—cognitive and socio-emotional—have featured prominently in past research as the mechanisms that transform start-up team inputs into outputs. Cognitive mechanisms reflect the ways in which team members process information together.

TABLE 4
Small Group Dynamics as a Focal Point of Research on Start-Up Teams

Core Questions and Common Answers	Broader Conceptual Lenses	Example Predictor Variables	Example Criterion Variables	Example Empirical Samples	Key Citations
1. What shapes small group dynamics in start-up teams?					
Depth and breadth of expertise enhance team cognition Familiarity and positive relationships improve information sharing Leadership shapes outcomes through cognitive and socio-emotional processes	Similarity-attraction Team diversity as a double-edged sword	Average team experience (entrepreneurial and industry) Average team education Team functional diversity Prior relationships (e.g., family and friend) Visionary leadership	Team shared mental models Decision-making quality Team task conflict Team relationship conflict Team trust Team cohesion	Firms from registries (e.g., Inc. 500 and Dun & Bradstreet) Teams in an entrepreneurship competition or incubator working together for less than 1 year	Cardon et al. (2017); de Mol et al. (2015); Ensley et al. (2006); Hmieleski et al. (2012); Maurer & Ebers (2006); Perry-Smith & Coff (2011)
2. How do small group dynamics influence start-up team outcomes?					
Cognitive structures and processes facilitate team decision-making Positive interpersonal relationships among members positively influence outcomes	Information-processing view of small groups Similarity-attraction	Team task conflict Team relationship conflict Team shared mental models Team decision-making Team trust Team cohesion	Venture growth Performance (profit, revenue, and perceptions) Survival Self-assessed performance	Firms from registries (e.g., Inc. 500 and Dun & Bradstreet) Teams in courses working together over a few months Teams in start-up competitions or incubators working together for less than a year	Ensley & Hmieleski (2005); Ensley et al. (2002); Francis & Sandberg (2000); Jung et al. (2017); Zheng (2012)

Socio-emotional mechanisms comprise the relational and emotional bonds that connect members to one another and to the purpose of the team.

What influences small group dynamics in start-up teams? Past research has most heavily studied three inputs into cognitive and socio-emotional processes. The first and most ubiquitous input theoretically posited to shape interpersonal processes is team composition, particularly with respect to demographic characteristics (e.g., age and gender) and task-relevant attributes (e.g., education, work experience, and functional specialty). Past research on start-up team composition has been guided by the premise that the depth and breadth of members' expertise enable them to more comprehensively process information, but potentially at the cost of coordination problems or unproductive conflict. Although many studies have examined a direct relationship between team composition and

outcomes, very few have studied the full causal chain presumed to underlie this connection (Klotz et al., 2014; Lazar et al., in press; Zhou & Rosini, 2015). The presumed underlying causal chain is one in which composition (e.g., functional diversity) shapes cognitive (e.g., task conflict) and socio-emotional (e.g., cohesion) mechanisms, which then influence team outcomes (e.g., team performance). Rather than empirically studying this full chain, however, most studies either infer variance in team processes and emergent states or leave effects on a team's internal functioning to be a "black box" (Klotz et al., 2014: 248).

The second set of factors that past research has considered as inputs into a start-up team's internal group dynamics comprises the relationships—prior company affiliations, friendship ties, and family ties (e.g., kin and marriage)—that team members have with one another when they found the venture.

Theoretically, this work is grounded in the idea that positive relationships equip people to cooperate and persist together in the pursuit of their goals (e.g., Jehn & Shah, 1997). This is precisely the rationale that leads entrepreneurs to frequently cofound ventures with friends, family members, or prior work associates (Beckman, 2006; Ruef, 2010). Prior shared experiences give team members a common language that helps them communicate with one another more effectively. Past research indicates that shared prior experiences do positively influence cognitive mechanisms, such as a team's transactive memory system (Zheng, 2012), and socio-emotional mechanisms, such as team members' trust for one another (Francis & Sandberg, 2000). Researchers have made similar arguments for the value of strong interpersonal relationships, such as familial ties (Brannon, Wiklund, & Haynie, 2013; Ruef, 2010; Schjoedt et al., 2013). One potential downside of strong prior relationships among team members, however, may be restricted access to novel resources and perspectives (Lazar et al., in press).

The third input into a start-up team's group dynamics that past research has examined—and, consistent with the idea of the disproportionate influence of a “lead entrepreneur” (Ensley et al., 2000)—is leadership (Reid, Anglin, Baur, Short, & Buckley, 2018; Watson et al., 1995). A few studies have examined how a leader's individual demographic characteristics (Yang & del Carmen Triana, 2019), passion (Baum & Locke, 2004), and personality (de Jong, Song, & Song, 2013) relate to interpersonal processes within start-up teams. And, a few studies have compared and contrasted shared versus vertical leadership models (Ensley, Hmieleski, & Pearce, 2006; Foo, Sin, & Yiong, 2006). However, most past research on start-up team leadership has focused on how a leader's overarching style and behavior drive the cognitive and socio-emotional mechanisms described earlier (Gray, Knight, & Baer, in press; Hmieleski, Cole, & Baron, 2012; Hmieleski & Ensley, 2007). Several studies have shown that by communicating a clear vision, start-up team leaders can cultivate among team members a shared understanding of primary objectives, which catalyzes coordinated action in pursuit of those goals (Baum & Locke, 2004; Baum, Locke, & Kirkpatrick, 1998; Ensley et al., 2000; Friedman, Carmeli, & Tishler, 2016).

How do small group dynamics shape start-up team outcomes? As described earlier, past research on group dynamics within start-up teams has featured cognitive and socio-emotional mechanisms as the conduits through which inputs shape start-up team outcomes. Research on cognitive mechanisms is rooted in an information-processing perspective (e.g., Hinsz,

Vollrath, & Tindale, 1997; Kozlowski & Ilgen, 2006), which envisions groups as engines that integrate diverse information and perspectives to make high-quality decisions. Past research has considered cognitive mechanisms both as something that start-up team members have (i.e., cognition as a structure) and as something that members do (i.e., cognition as a process). With respect to the first, research has examined the degree to which a range of cognitive structures are related to start-up team performance, including shared cognition, shared mental models, and transactive memory systems (de Mol, Khapova, & Elfring, 2015). Scholars have suggested that these cognitive mechanisms may be important in start-up teams because of the inherent ambiguity and uncertainty of their work (Bryant, 2014; de Mol et al., 2015; West & Meyer, 1998). But, although predictions align with the more general literature on team cognition, the findings of research on shared cognition within start-up teams are mixed (de Mol et al., 2015).

Whereas the findings of research on shared cognition—something that team members *have*—have been relatively mixed, there has been more consistent support for the value of team cognition as a process—something that team members *do together*. As a guiding premise, researchers have argued that start-up teams are likely to perform well when members exchange information with one another in a comprehensive way, reconciling their different views and integrating their diverse perspectives (Amason, Shrader, & Tompson, 2006). One specific cognitive process studied in start-up teams is task conflict—disagreements geared toward resolving differences of opinion about ideas or solutions (Jehn, 1995). Theoretically, task conflict enables a team to make comprehensive and well-informed decisions by aligning the richness of the decision-making process with the complexity of the work. In accordance with this idea, researchers have found a positive relationship between task conflict and start-up team performance (de Jong et al., 2013; Ensley & Pearce, 2001).

Research on how socio-emotional mechanisms relate to start-up team outcomes presumes that when team members feel identified with and connected to one another and the team, they are prone to invest significant time and effort in pursuit of the team's objectives and persist in the face of the inevitable roadblocks or setbacks that characterize entrepreneurship (Blatt, 2009; Cardon, Post, & Forster, 2017; Gray et al., in press; Powell & Baker, 2017). Past research has focused on concepts such as cohesion (e.g., Ensley & Hmieleski, 2005; Ensley et al., 2002), identification (e.g., Gray et al., in press), and trust (e.g., Dai, Roundy,

Chok, Ding, & Byun, 2016; Zheng, 2012), suggesting that these emergent states are positively related to team members' motivation and cooperation. When team members share positive interpersonal bonds, they are inclined to share information with one another and coordinate effectively. By contrast, when team members are skeptical of one another's intentions or engaged in regular emotionally charged conflicts, they are more disposed to behave in self-interested ways (Blatt, 2009; Powell & Baker, 2017). Scholars have also considered collective affect, although there is limited empirical work on the topic (e.g., de Mol, Cardon, de Jong, Khapova, & Elfring, *in press*; Perry-Smith & Coff, 2011).

Using a Multidimensional Conceptualization to Integrate Past Research: An Illustration Using the Effects of Start-Up Team Composition

As Figure 3 shows, past research has rarely considered the intersection of all three focal points. However, as the preceding review of research within each focal point makes evident, and as Figure 3 shows, there are aspects of start-up teams that do emerge across multiple focal points as intersecting topics. One particularly ubiquitous characteristic cited in past research is start-up team composition, which consistently arose in research on finance (e.g., Bernstein et al., 2017), strategy (e.g., Beckman, 2006), and group dynamics (e.g., Jung et al., 2017). Yet, although team composition is ubiquitous in the literature on start-up teams, the literature lacks consensus around the mechanisms through which composition influences outcomes and the conditions under which these effects are likely to be significant. Reviewers of research on start-up team composition have concluded that there is “no clear relationship” (Klotz et al., 2014: 247), that the literature is “inconclusive” (Zhou & Rosini, 2015: 33), and that “conflicting results in the literature create uncertainty as to whether and to what extent these characteristics relate to new venture performance” (Jin, Madison, Kraiczy, Kellermanns, Crook, & Xi, 2017: 744).

Team composition thus offers an opportunity to illustrate how a multidimensional conceptualization of start-up teams, in conjunction with our review of past research, can integrate past findings. Our multidimensional conceptualization offers two broad explanations for the incoherence of past findings about start-up team composition. First, our review of past research suggests that team composition might influence team outcomes through a multifaceted set of mechanisms. However, perhaps because research on start-up team composition has emerged

from disciplinary silos—specifically, from economics, sociology, and psychology (Lazar et al., *in press*)—accounts of the effects of team composition on team outcomes rarely consider how it simultaneously influences aspects of finance, strategy, and group dynamics. Second, our multidimensional conceptualization suggests that inconsistent effects of team composition on team outcomes may stem from researchers studying teams that differ from one another in important ways. Jin et al. (2017) specifically considered team type as a possible moderator of the effects of team composition, classifying studies as examining “new venture top management teams,” “entrepreneurial/new venture teams,” and “founding teams.” However, perhaps because of the classification challenges underscored by our review of definitions, they did not find that team type significantly explained inconsistent findings across studies.

Table 5 illustrates how our multidimensional conceptualization enriches understanding of the effects of start-up team composition by addressing these two issues. The rows comprise the multifaceted mechanisms—involving aspects of start-up team finance, strategy, and group dynamics—that connect composition to outcomes. Each row describes how past research within a given focal point has explained the effects of team composition on team outcomes. The columns describe how key differences in samples of start-up teams that past research has studied—which vary in their ownership of equity, autonomy of strategic decision-making, and entitativity—may moderate the effects of team composition on outcomes. Each column explains how a given dimension implicates broader range organizational theory that helps to formulate predictions about the forms of start-up teams in which composition effects are likely strongest.

Table 5 could be a guide for understanding the moderating effects of a single dimension (i.e., the columns) on the relationship between start-up team composition and team outcomes across multiple mechanisms. Or Table 5 could explain how multiple dimensions moderate the effects of team composition on a single mechanism (i.e., the rows). The real value of our multidimensional conceptualization, however, stems from considering all three mechanisms and all three moderators simultaneously, as we illustrate in what follows. To do so, it is useful to envision past research on start-up team composition as lying within the three-dimensional space defined by our multidimensional conceptualization as depicted in Figure 2B. Few past studies of start-up

TABLE 5
Using a Multidimensional Conceptualization to Integrate Past Research on Start-Up Team Composition

Mechanisms Described in Past Research on Team Composition	Ownership of Equity: The more ownership the team members have, the more the start-up team is individuated and the less bureaucracy the team has.	Autonomy of Strategic Decision-Making: The more the team members have autonomy, the less the team is shaped by outside stakeholders.	Entitativity: The more entitativity a team has, the greater the meaning and relevance of the team is as a collective unit.
Finance: Team composition influences the acquisition of external capital, which positively relates to venture outcomes, because composition is a signal of the venture's quality and legitimacy.	Team composition decreases in salience as a signal of venture quality and legitimacy as a venture becomes less individuated and more professionalized. Instead, investors look to formal indicators of legitimacy.	As autonomy decreases, team members' characteristics decrease in relevance as a signal that investors use. Instead, investors look to the characteristics of those to whom team members are beholden (e.g., the board, partners, and other investors).	As entitativity decreases, the meaning of the "team" as a grouping factor for characterizing the venture dissipates. This neutralizes team composition as a salient signal of venture quality for investors.
Strategy: Team composition influences team outcomes through strategic choices, which are a function of team members' backgrounds and expertise.	As team members' equity ownership decreases, strategic decision-making is governed by formal rules and processes, which constrain the effects of team members' individual characteristics on strategic choices.	As autonomy decreases, any major strategic decisions that a team makes are overseen by external advisors, investors, or board members. This constrains the extent to which team members' characteristics drive strategic choices.	The team declines as the locus of strategic decision-making as entitativity decreases. Instead of a single team, decision-making is distributed across a system comprising other units. The interests and goals of other units constrain team decision-making.
Group Dynamics: Team composition influences team outcomes through cognitive and socio-emotional mechanisms.	As ownership decreases, and the team is professionalized, interactions among team members are governed by formal roles and policies. This creates a stronger situation that weakens the effect of team composition.	The presence of a board of directors increases situation strength by serving as an external authority to whom team members are accountable. This weakens the effects of team composition on socio-emotional and cognitive mechanisms.	As the boundaries of the team as a collective unit weaken, the conceptual validity of "team composition" becomes error-laden. In the language of situation-strength, the meaning of the "person" variable is diluted.

team composition provide sample-level detail regarding ownership of equity, autonomy of strategic decision-making, or entitativity. However, based on the available information—particularly regarding organizational size and the prevalence of outside investment—we surmise that a majority of studies in past research on start-up team composition lie within two crudely defined regions of the landscape. These general regions are marked in Figure 2B.

Past studies that lie in Region A are ones whose samples typically comprise small, young, and self-funded teams (e.g., Foo, Wong, & Ong, 2005; Jung et al., 2017). For example, Hoogendoorn and colleagues (Hoogendoorn, Oosterbeek, & van Praag, 2013; Hoogendoorn, Parker, & van Praag, 2017) used teams formed as part of an entrepreneurship curriculum, which were charged with launching real businesses, to study the impact of start-up team composition on team outcomes. Like these teams, those that lie in Region A have almost complete ownership of equity. Furthermore, teams in Region

A likely do not have a board of directors; as such, team members have significant autonomy of strategic decision-making. They have the freedom and independence to decide which products to develop, who their primary customers are, and which markets to enter without consulting or seeking the approval of external stakeholders. Finally, teams in Region A are small, unified, and equivalent to the venture itself—they are not teams nested or embedded within a large firm and, thus, they are high in entitativity.

Past research that lies in Region B studies teams sampled from registries or lists, such as Dun & Bradstreet or Inc 500's list of fast-growing companies (e.g., Ensley & Hmieleski, 2005). Or research in Region B samples teams from the records of VC firms (e.g., Gruber, MacMillan, & Thompson, 2008) or archival records of firms that have completed an initial public offering (IPO) (e.g., Bloodgood, Sapienza, & Almeida, 1996). Consider, for example, the teams that Bloodgood et al. (1996) studied, drawn from the registry of VC-backed firms that completed an IPO in

1991 and were younger than 5 years. Similar to these teams, those that lie in Region B have taken on some amount of external—and, usually, VC—financing, which reduces the degree to which team members hold ownership of equity. Furthermore, teams in Region B operate under the governance of not only external investors but also usually a formal board of directors or advisors, which reduces their autonomy of strategic decision-making. Finally, rather than operating as a unitary and bounded entity like the teams within Region A, teams in Region B typically comprise the top management team of a much larger firm. Companies in Bloodgood et al.'s (1996) sample, for example, ranged in size from 18 to 47,000 employees. Accordingly, these teams are also relatively lower in entitativity.

Guided by Table 5, studies of teams in Region A are likely to observe stronger effects of start-up team composition than those of teams in Region B. Our multidimensional conceptualization can facilitate integrative explanations of these differences across start-up teams that lie in disparate regions because the dimensions connect to broader range organizational theories. We illustrate this by, for each column, walking down the rows in Table 5.

Ownership of equity and team composition effects. Consider the moderating role of ownership of equity across the mechanisms implicated by past research on finance, strategy, and group dynamics. When members have a high degree of equity ownership, the start-up team is individuated—that is, there is a strong and close legal and psychological attachment in the team between the business and the specific individuals who possess or hold significant equity positions. By contrast, when team members have a low degree of equity ownership, this attachment is weaker and more distal. Past research on professionalization (e.g., Hellmann & Puri, 2002) suggests that when equity is transferred to outside investors, the team adopts formal bureaucratic elements—roles and formal policies and practices—that classic theory asserts depersonalize organizations (Weber, 1978). Because they are less individuated, composition likely has weaker effects—across mechanisms implicated in past research on finance, strategy, and group dynamics—for teams in Region B than in Region A. For *finance*, a primary explanation is that composition is a signal that investors use to assess the quality or legitimacy of new venture (Baum & Silverman, 2004; Bernstein et al., 2017; Franke et al., 2008). With the de-individuation that accompanies low ownership, however, the combination of individual members' characteristics is a less reliable indicator of the quality

of a venture. Instead, investors likely focus on other more stable signals, such as the roles or processes that a team has implemented (e.g., Brinckmann, Salomo, & Gemuenden, 2011; Cyr et al., 2000; Homburg, Hahn, Bornemann, & Sandner, 2014). For *strategy*, a primary explanation is that team members' characteristics shape the strategic choices that team members consider and make (Fauchart & Gruber, 2011; Wasserman, 2017). When, however, a team is professionalized—which research suggests occurs when team members have low ownership—decision-making is likely shaped instead by formal processes such as financial management (Brinckmann et al., 2011) and business planning (Mayer-Haug et al., 2013). Finally, for *group dynamics*, explanations of team composition effects focus on interpersonal socioemotional and cognitive mechanisms. The formal roles and processes that comprise professionalization, however, likely create a strong situation that constrains the degree to which members' individual characteristics are expressed in ways that shape information sharing (Mischel, 1973). Indeed, the basic function of bureaucracy is to inhibit people's personal characteristics, relationships, and emotions from entering into an organization's functioning (Weber, 1978). Because team members with high equity ownership operate within less formal environments, it is more likely that the constellation of their characteristics influences the cognitive and socioemotional processes that comprise small group dynamics.

Autonomy of strategic decision-making and team composition effects. Autonomy of strategic decision-making also likely moderates the effects of team composition across the mechanisms described in past research on finance, strategy, and group dynamics. Much like ownership of equity, the potency of composition as a predictor of team outcomes is likely stronger for start-up teams in Region A, which have relatively higher autonomy, than for teams in Region B, which have relatively lower autonomy. As upper echelons theory suggests, the effects of team composition on the outcomes of a business are strongest when team members have discretion (Hambrick, 2007). Consider, first, how differences in autonomy might influence the connection between team composition and *finance* mechanisms, such as the acquisition of external investment. When a team has high autonomy, investors likely attribute a close connection between their individual characteristics—their education and experience—and the quality of their decisions. Accordingly, team composition is a more relevant signal of a venture's quality when a team has high autonomy than when a team has low autonomy. When a team is constrained in strategic

decision-making, prospective investors may instead consider as meaningful signals the attributes of board members or other third parties (e.g., investors and partners) who shape the team's strategic positions (Baum & Silverman, 2004; Plummer et al., 2016). For mechanisms examined in past *strategy* research, the implications of autonomy are clear and direct, as described earlier. The effects of composition are diluted when a team's discretion is constrained (Hambrick, 2007). Finally, for *group dynamics*, if a team's autonomy is constrained—perhaps by an external board of directors—members work together under a higher degree of situation strength. Accountability to an external authority may decrease the extent to which team composition influences cognitive mechanisms. And, it may weaken the connection between both cognitive and socioemotional mechanisms and team outcomes. External governance may supplant the relational mechanisms that past research suggests serve as conduits through which composition relates to outcomes.

Entitativity and team composition effects. The effects of start-up team composition are strongest when a team is high in entitativity. Entitativity reflects the strength and coherence of the team as a meaningful collective unit. A guiding premise of theory and research on entitativity is that it is what gives a collection of individuals explanatory power at a collective level—in shaping outsiders' perceptions and the behavior of people within the group (Campbell, 1958; Hogg et al., 2007). Absent entitativity, the collective properties of an aggregate of individuals—such as team composition—have less explanatory power. Consider, for *finance*, team composition as a signal of the venture's quality to outside investors. If a team is relatively high in entitativity, the constellation of members' characteristics is imbued with greater meaning at the collective level for outsiders perceiving the group (Campbell, 1958). Furthermore, when a start-up team is equivalent to the venture, team members constitute a full and complete picture of the venture, which likely augments the value of their characteristics as a signal of the venture's quality. For the mechanisms within past research on *strategy*, the team itself is a primary locus of decision-making when a team is high in entitativity—the fate of the team and the fate of the venture are equivalent. As such, the constellation of team members' characteristics is a primary input into the strategic decision-making process. For teams low in entitativity, by contrast, strategic decision-making is distributed, crossing the permeable boundaries of the start-up

team. With team members representing the interests of different functions, divisions, or product groups, a broader distribution of stakeholders likely shapes the strategic decision-making process. This would reduce the potency of team composition as a driver of strategic choices. The implications of entitativity for *group dynamics* are the clearest. In alignment with theory and research on entitativity as described earlier, team composition likely has the strongest effects on cognitive and socioemotional mechanisms when start-up teams are high in entitativity. As bounded and coherent entities, team characteristics serve as direct inputs into team processes (Kozlowski & Ilgen, 2006). When the boundaries of a team are more permeable and it is embedded within a larger organizational system, however, the very concept of “team composition” is imbued with less meaning. Rather than being shaped solely by members' individual characteristics as grouped within the collective structure of the team, socioemotional and cognitive interaction patterns likely become dyadic, relational, and system-spanning.

This discussion of start-up team composition effects illustrates how our multidimensional conceptualization provides a framework for integrating and making sense of past research. Our multidimensional conceptualization underscores that team composition influences outcomes through multifaceted mechanisms and suggests theoretically grounded reasons for why different studies may observe stronger or weaker effects of team composition. As we detail, our multidimensional conceptualization thus directs attention to three modes of inquiry that can advance a systematic program of integrative research on start-up teams in the future.

USING A MULTIDIMENSIONAL CONCEPTUALIZATION TO GUIDE FUTURE START-UP TEAMS RESEARCH

Theory and research on start-up teams have burgeoned over the past decade. Yet, our review of this broad and diverse literature identified a formidable barrier to the systematic advancement of an integrated understanding of start-up teams: Ambiguity and dissensus in how scholars conceptually define and operationalize the core phenomenon. Lacking consensus in what it means for something to be a start-up team, past theory and research offer few clear conclusions regarding why some teams are more effective than others in launching, scaling, and further developing a new business venture. This dearth of firm conclusions is predictable, and

without action is likely to persist, given the centrality of consensus in the meaning of core concepts to a strong scientific paradigm (Kuhn, 1970; Pfeffer, 1993). A clear implication that flows from our review is thus an exhortation for conceptual and operational clarity regarding start-up teams in future research.

The most important contribution of this article, which we offer as a way to remedy this problem, is a multidimensional conceptualization of start-up teams that can serve as a framework for providing conceptual clarity and guiding future research efforts. To derive this multidimensional conceptualization, we analyzed dozens of past definitions and identified points of consensus to reveal the underlying ingredients—ownership of equity, autonomy of strategic decision-making, and entitativity—that, in combination, make the start-up team a unique phenomenon. Our conceptualization recognizes that start-up teams differ from other entities of interest in the organizational sciences (e.g., surgical teams). However, it also acknowledges and accounts for the variability that exists among subtly different forms of start-up teams by conceptualizing the start-up team as a pluriform phenomenon. As a concise statement of our multidimensional conceptualization, we offer the following definition for future research:

A start-up team is a group of two or more people who work together interdependently to discover, evaluate, and exploit opportunities to create new products or services and who collectively have some ownership of equity, some autonomy of decision-making, and some entitativity.

This statement clearly draws a boundary around the concept of the start-up team, with the first part differentiating any start-up team from other organizational actors (e.g., solo entrepreneurs) and more conventional work teams (e.g., cockpit crews). But, with the second part, it also permits researchers to more precisely describe the focus of their research along the defining dimensions of start-up teams. Indeed, we believe that the provision of a concise definitional statement—something we found to be rare in past research—to be a necessary, but insufficient, step for advancing paradigmatic future research on start-up teams. Given the variation intrinsic to this field of study, future researchers should also explicitly situate their scholarship within the multidimensional landscape depicted in Figure 2. Using our multidimensional conceptualization helps to avoid the problems that arise from inconsistently applied terms and coarse taxonomies (i.e., Hollenbeck et al., 2012) and provides the clarity and precision needed

for the systematic advancement of scientific knowledge (Kuhn, 1970).

As the aforementioned illustrative examination of start-up team composition exemplifies, however, a multidimensional conceptualization offers the potential for more than just clarity and precision. It also can serve as a vehicle for developing novel theory to explain how the functioning of start-up teams varies across the multidimensional landscape, particularly with respect to mechanisms implicated by past research on finance, strategy, and group dynamics. To further expand on this potential, we direct attention to three basic modes of inquiry—of progressively increasing complexity—through which our multidimensional conceptualization can guide and enhance a paradigmatic and integrative program of future research.

Examining Start-Up Teams within a Single Region of the Landscape

The first mode of inquiry—research focused on start-up teams that lie within a particular region of the multidimensional landscape depicted in Figure 2—is conceptually straightforward. In some instances, researchers may have a specific interest, for either theoretical or practical reasons, in teams that have relatively similar levels of equity ownership, autonomy, and entitativity. For example, revisiting the topic of team composition, researchers who study how founders compose a team may be interested in new member attraction and selection, especially when cofounders are the sole owners of equity and make decisions as an autonomous collective. Targeting start-up teams that lie within a particular region of the landscape—in this case, start-ups that lie in Region A of Figure 2B—would afford the opportunity to isolate the mechanisms that matter most for teams in that region. Because, as explained earlier, the dynamics of composition may be quite different for teams that lie in other regions, sampling teams from a broad swath of the landscape could inject noise into a targeted investigation. By conducting narrow research within a single region of the landscape, researchers can develop precise theoretical models for that particular region and formulate practical recommendations that are relevant for start-up team leaders and members whose ventures lie within that region.

Realizing the potential of this mode of inquiry requires that researchers maximize the homogeneity of a given sample with respect to ownership, autonomy, and entitativity. Several past studies—such as those that sample from structured entrepreneurship events (e.g., Gray et al., in press), a university program (e.g., Hoogendoorn et al.,

2017), or a single incubator or accelerator program (e.g., de Mol et al., in press)—suggest strategies that future researchers could use to conduct research on teams that are relatively proximal to one another on the multidimensional landscape. Common across the contexts examined in these past studies is the presence of a selection system or regulations that pre-screen teams, usually along attributes that would relate to the dimensions underlying the landscape. Business plan competitions, university programs, and incubators often specify the inclusion criteria involving external investment, team size, the maturity of teams' product offerings, and teams' formal ties to other organizational entities. By sampling teams from a given program, researchers increase the likelihood that they are studying teams within a bounded region of the multidimensional landscape.

To ensure that this mode of inquiry contributes to the systematic advancement of knowledge about start-up teams, researchers should clearly identify where on the landscape their samples lie. Using our multidimensional landscape to locate a study within a particular region—when a sample is relatively homogeneous—provides avenues for integrating across studies and more systematically taking stock of findings as they accumulate. Similar to the aforementioned example of team composition, this could be done by qualitatively comparing and contrasting the findings of primary studies that focused on disparate regions. However, it also could enable using meta-analysis to quantitatively aggregate the findings of multiple studies and compare and contrast effects across the landscape. Provided that researchers carefully situate their research within the landscape, this first mode of inquiry thus supplies the raw material needed to systematically integrate findings across studies.

Comparing Start-Up Teams that Reside in Different Regions of the Landscape

The second mode of inquiry aided by our multidimensional conceptualization involves directly comparing and contrasting, within a single study, start-up teams that lie in relatively disparate regions of the landscape. Whereas within-sample variance in ownership, autonomy, and entitativity would be viewed as noise in the first mode of inquiry described earlier, sampling teams that lie in different regions is potentially revelatory in the second mode. As we illustrated earlier with team composition, our multidimensional conceptualization can serve as a framework for integrative scholarship that draws from broader range organizational theories to advance understanding of start-up

teams. When researchers compare and contrast start-up teams that lie in different regions of the landscape, they can test the conditions under which certain input factors or mechanisms may matter more or less for team effectiveness. Our aforementioned assertions that the effects of composition are stronger for start-up teams that are relatively higher in all three dimensions is but one example of how an input factor might matter more for teams in some regions than others. Researchers could similarly develop and test theory about the conditions under which personal relationships among team members (e.g., Francis & Sandberg, 2000) or the presence of specific role structures (e.g., Jung et al., 2017) more or less strongly influence start-up team outcomes, depending on where teams are situated.

One approach commonly used in past research on start-up teams that may support this mode of inquiry is the use of representative samples of entrepreneurs within a given country (e.g., Ruef, 2010; Steffens, Terjesen, & Davidsson, 2012). When a sampling effort maximizes representativeness along the demographics of a population, the dataset is likely to comprise start-up teams that are dispersed across the multidimensional landscape. Similarly, when researchers rely on large registries (e.g., Dun & Bradstreet) with broad inclusion criteria for an investigation (e.g., de Jong et al., 2013), they are likely to assemble a dataset of teams that vary significantly in ownership of equity, autonomy of strategic decision-making, and entitativity.

Whereas implementing the first mode of inquiry requires a clear characterization of start-up teams at the sample level, the second mode of inquiry requires that researchers assess the three dimensions that comprise our multidimensional conceptualization at the team level. To aid in these efforts, we suggest a few perceptual or archival methods for situating a given team within the multidimensional landscape. For assessing *ownership of equity*, one approach could be to directly solicit this information from team members (e.g., Wasserman, 2006). Lacking direct access to team members, researchers could investigate whether a start-up team has accepted external financing by using published datasets, web-based resources such as CrunchBase and Pitchbook, or ventures' own websites, which often contain information about external sources of funding (e.g., Hallen, 2008; Kenney & Patton, 2015). Although these indirect approaches may lack full information regarding ownership of equity, they could help researchers to approximate where a given team scores on this dimension. To assess *autonomy of strategic decision-making*, researchers could draw from past approaches to measure similar concepts in both the micro and macro literatures. From a micro perspective,

researchers with direct access to team members could adopt existing survey measures of team autonomy (e.g., Langfred, 2005). Or from a macro perspective, researchers could adopt existing measures in the upper echelons tradition of managerial discretion (e.g., Boyd & Gove, 2006). To measure *entitativity*, researchers could adapt existing self-report survey measures (e.g., Denson, Lickel, Curtis, Stenstrom, & Ames, 2006) or, lacking access to team members, use web-based resources such as CrunchBase or a venture's own website to approximate the team's organizational structure. This could serve as an indicator of how much the focal team is a unitary entity versus an entity that is either nested within a larger firm or interconnected with other entities, like functional units or divisions.

Each of the measurement approaches described earlier focuses on the higher order, aggregate dimensions that emerged from our analysis of definitions. However, as depicted in Figure 1, researchers could also consider assessing the second-order themes that emerged from our analysis. For example, researchers could assess not only the total or overall amount of equity held internally but also the distribution of equity across team members (e.g., Breugst et al., 2015). Or, considering entitativity, researchers could use social network analysis to assess the presence of cliques, subgroups, or clustering (Borgatti, Mehra, Brass, & Labianca, 2009), which may more precisely assess the degree to which a team is undifferentiated internally.

Studying Start-Up Teams as Dynamic Entities that Move Across the Landscape

The third mode of inquiry is not only the most challenging to implement but also perhaps the most promising for using our multidimensional conceptualization to advance understanding of start-up teams in an integrative way. Rather than viewing teams as static entities that are anchored to a single region of the landscape, this third mode views start-up teams as dynamic entities that move across the landscape over time. Viewed in this way, our multidimensional conceptualization opens the door to studying start-up team development in novel ways. Implicit in some past operational definitions of start-up teams—and explicit in the term itself—is the idea that they are business entities in some initial period of development. As our analysis of definitions suggests, and as informed by the broader entrepreneurship literature, scholars have long tried to classify new ventures according to their maturity. Yet, there has been little consensus regarding how to specify the boundaries between different periods of development. Past research has generally

followed two approaches to conceptualizing start-up team development—each of which is limited for studying teams as dynamic entities.

The first approach that researchers have used is a time-based approach, in which a team's age serves as the barometer of its development. The presumption underlying this approach is that it is through the passage of time that start-up teams undertake developmental activities, such as refining their business models and introducing products to the market. This approach is seen most clearly in the inclusion criteria and measurement of developmental phases in past research. For example, Littunen (2000) classified teams between 1 and 3 years old as in the “start-up phase” and teams between 4 and 6 years old as in the “operational phase.” The second way that researchers have conceptualized start-up team development is using an event- or problem-based approach. This approach considers the role of discrete occurrences in the life of a team as demarcating categorically different stages of development during which it confronts different problems (e.g., Kazanjian, 1988). Commonly employed milestones include legal incorporation, the hiring of a first employee, and the timing of a first product sale (e.g., Lazar et al., in press). The guiding assumption underlying this second approach for conceptualizing development is that these events are associated with—either as manifestations or catalysts—particular sets of problems, challenges, and activities (Huang & Knight, 2017).

Notwithstanding the operational feasibility of these approaches, each has limitations that may stifle academic progress. Most significantly, and similar to the aforementioned critique of taxonomic approaches, there is no compelling reason why a company that is 10 years old should be treated as categorically different from a company that is 9 years old. Depending on their activities, and perhaps strategic orientation, there can be considerable heterogeneity in companies that are exactly the same age or that have progressed through similar milestones. As an example, consider two companies—the e-commerce companies Zappos and Stitch Fix—when each was 3 years post-founding. At this point, each had legally incorporated, had introduced a product to market, and had hired employees. But, notwithstanding their equivalence as viewed through either a time-based or an event-based perspective, the two start-ups were dramatically different. Zappos, at this point in its life in 2001, was reliant on cash infusions from its CEO to stay afloat and was contracting to a small and core set of employees (Hsieh, 2010). By contrast, at this point in its life in 2013, Stitch Fix had closed Series A and Series B

rounds of VC investment and was growing to employ hundreds of people (Stitch Fix, 2018).

Our multidimensional conceptualization of start-up teams offers a novel way to conceptualize and empirically study the dynamics of development that surmounts the limitations of past approaches. Rather than viewing teams as morphing into different discrete types as time passes or as they reach important milestones, our conceptualization depicts teams as moving around a three-dimensional landscape. Figure 2C depicts, as an example, a start-up team as it passes through common discrete milestones. Early in its life, it could be represented as (1), with high degrees of each of the ingredients. Perhaps, team members then (2) raise capital through equity crowdfunding, losing some ownership of equity, but not sacrificing much of the other ingredients. If the team next accepts direct angel investment (3), team members might not only lose equity but also be compelled to consult and consider the perspectives of significant angel investors before making strategic decisions. Finally, if the venture accepts a round of VC funding (4), team members might give up a significant portion of equity ownership and be required to form a formal board that will review key strategic decisions. Through each of these milestones, the team is likely decreasing in entitativity, as the infusion of capital allows the team to grow by adding new talent in ways that require internal role-based differentiation.

Depicting development as movement across a landscape could enrich research on the dynamics of start-up teams in several ways. First, it accommodates existing time-based and event-based conceptualizations of development. As time passes—to the extent that a team's activities truly do change—a team might shift in its ownership of equity, autonomy of strategic decision-making, and entitativity. If properties of a team are static as time passes, however, the team would stay in the same location. But, if the team changes as it passes through milestones—such as accepting external financing—it would move on the landscape to the degree warranted by the event. Second, and related, a multidimensional conceptualization enables researchers to study changes that differ in magnitude, which may occur over time or across events. Accepting external financing from one angel investor may be less consequential than accepting financing from another, depending on the terms of the deal. Some events may thus prompt incremental change, such that a team moves very slightly on the landscape; other discrete events, however, may prompt radical change, such that a team jumps across

the landscape to a distant location. Third, our multidimensional conceptualization opens the door to studying development as more than just maturation. Past time- and event-based approaches have largely portrayed start-up team dynamics as a linear and sequential *progression*, in which the team becomes increasingly mature and closer in its development to an established company. This ignores, however, that start-up teams often undergo *regression*. The example of Zappos, described earlier, is instructive. After experiencing early growth, Zappos faced funding shortfalls that required shrinking the number of full-time employees to a small group and shifting from cash-based to equity-based compensation for core team members (Hsieh, 2010). Our conceptualization flexibly accommodates this type of change, which represents a return to a previously occupied part of the landscape, and provides a common framework for understanding how start-up teams evolve or devolve over time.

In addition to studying moves across the landscape as byproducts of other events in a start-up team's life, our multidimensional conceptualization also provides a framework for studying firms' proactive efforts to retain the feeling of a start-up even as a venture scales (e.g., Gulati & DeSantola, 2016). That is, researchers could study leaders' efforts to anchor a scaling firm in one part of the landscape. Several tactics intended to preserve an entrepreneurial culture that have been popularized by successful companies directly address the three dimensions of our conceptualization. For example, employee stock option programs are efforts to increase organizational members' financial interest in a business's outcomes. Or, policies such as Google's provision of "20 percent time," in which employees have discretion over their work (Schmidt & Rosenberg, 2014), calls to mind the dimension of autonomy of strategic decision-making. With respect to entitativity, the use of small, product-focused teams that are segregated from others in the company—like those that Apple reportedly uses (Lashinsky, 2012)—are intended to create the feeling of a unitary entity that shares a common fate. A multidimensional conceptualization of start-up teams provides a new way to study whether certain initiatives or policies might enable a new venture to preserve the essence of a start-up team, even as it develops and scales.

CONCLUSION

The concept of the start-up team has captured the interest of a wide variety of researchers, practitioners,

and policy-makers. Yet, our review of the literature revealed a widespread lack of consensus regarding what start-up teams are. Consensus—especially in the meaning of core concepts—is central to a strong paradigm; and, a strong paradigm is essential for the systematic advancement of knowledge (Kuhn, 1970; Pfeffer, 1993). To progress toward consensus and advance a more integrated understanding of start-up teams in a systematic way, we suggest that researchers conceptualize start-up teams as teams engaged in entrepreneurship, in which members own some equity, have some autonomy in making strategic decisions, and possess some entitativity. By considering these dimensions, and by situating start-up teams on a multidimensional landscape, researchers can better integrate research findings and systematically advance a program of inquiry in the future.

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