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Exploring the Puzzle of Functional Homophily in New Venture Founding Teams

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by

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Table of Contents

List of Figures

List of Tables

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ABSTRACT OF THE DISSERTATION

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by

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Professor J. Stuart Bunderson, Chair

Despite the long-term benefits of establishing a founding team with diverse functional knowledge, many entrepreneurs assemble a team of cofounders who are homogenous with respect to functional background. I examine this phenomenon in two empirical settings. First, in a university incubator program that brings together faculty, students, and outside community members, I use survey and audio data to examine the team formation process. I found that entrepreneurs initiate contact with a range of potential cofounders: some of whom possess functional knowledge that is different from the entrepreneur and others who share the same functional background as the entrepreneur. However, conditional upon being approached by an entrepreneur, potential cofounders are more likely to join a functionally similar entrepreneur than a functionally dissimilar entrepreneur because potential cofounders view functionally similar entrepreneurs as more instrumentally attractive (i.e., competent) and interpersonally attractive (i.e., likeable). Cofounders' feelings of attraction to the entrepreneur and the venture idea, in turn, influence which venture they choose to join. Second, I supplement this initial study with a quasi-experiment conducted at a local entrepreneur meetup event designed to test one of the proposed mechanisms underlying cofounders' attraction to functionally similar entrepreneurs. In this study, I employ the speed dating research paradigm from the romantic relationships literature

to manipulate cofounders' social identity. I found that cofounders who invoke a broader superordinate social identity (i.e., seeing themselves as an entrepreneur) are more interpersonally attracted to functionally dissimilar entrepreneurs compared with cofounders who invoke a narrower functional identity (e.g., as a software developer). Together, these findings suggest that functional homophily in founding teams is influenced by potential cofounders' preference to work with functionally similar entrepreneurs and that cofounders' feelings of interpersonal attraction toward functionally dissimilar entrepreneurs can be enhanced by invoking a broader superordinate identity. This dissertation contributes to our understanding of new venture team formation, resource acquisition, and choice homophily.

Chapter 1: Introduction

New venture success often depends upon forming a founding team with functionally diverse backgrounds (Klotz, Hmieleski, Bradley, & Busenitz, 2014). Founding teams – i.e., the original members who created the firm (Beckman & Burton, 2008) – whose members possess a broad range of functional skills are more likely to create a highly innovative venture (Eisenhardt & Schoonhoven, 1990). As a result, new venture teams with diverse functional skills are more likely to attract investor funding and are more likely to reach an IPO (Beckman, 2006; Beckman & Burton, 2008; Beckman, Burton, & O'Reilly, 2007; Foo, Wong, & Ong, 2005; MacMillan, Siegel, & Narasimha, 1985; Riquelme & Watson, 2002; Zacharakis & Meyer, 1998).

Despite the potential value of establishing a founding team with diverse functional knowledge, past research has consistently shown that most founding teams are homogenous with respect to functional background (Ruef, Aldrich, & Carter, 2003; Ruef, 2010; Ruef, Bonikowski, & Aldrich, 2009). Initial qualitative work on the topic of new venture team formation revealed that entrepreneurs, in the process of building a founding team, do not consider functional diversity as a criterion for identifying a cofounding partner (Chandler & Lyon, 2001). Empirical work has shown that founding teams are actually more homogenous in terms of functional background than would be expected by random mixing, even after accounting for the tendency for former coworkers to start a venture together (Ruef et al., 2003). Subsequent research replicated this finding and revealed that the tendency toward functional homophily becomes even more pronounced for larger founding teams compared to smaller founding teams (Ruef, 2010; Ruef, Bonikowski, & Aldrich, 2009).

Thus, on the one hand, we know that functionally diverse founding teams are more likely to produce highly innovative ventures, and yet, on the other hand, founding teams tend to be composed of individuals who possess overlapping knowledge and skills. In trying to explain this phenomenon, scholars have speculated that perhaps entrepreneurs are too constrained by their social networks to find cofounders who possess needed skills (i.e., structurally-induced homophily) or, perhaps instead, entrepreneurs choose cofounders with redundant knowledge based upon a preference to work with similar others (i.e., choice homophily) (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006; Ruef et al., 2003). But because prior research has only sampled successfully formed founding teams, scholars have been unable to empirically test these explanations (Ruef, 2010).

This is problematic because past work has shown that founding team functional diversity has long-term implications for the venture by affecting investors' decisions to fund the venture, future structures, venture strategies, the ability to attract diverse employees, and ultimately, venture growth (Beckman & Burton, 2008; Beckman, Burton, & O'Reilly, 2007; Cyr, Johnson, & Welbourne, 2000; Franke, Gruber, Harhoff, & Henkel, 2008; Riquelme & Wilson, 2002). Given the lasting influence of founding team composition on the firm, a lack theory and research about the drivers of functional homophily in the founding process undermines our knowledge about the determinants of new venture success. This phenomenon also carries significant practical implications. In recent years there has been an explosion of interest and funding for programs that help entrepreneurs establish a cofounding team. Some of these platforms bring entrepreneurs and cofounders into contact with one another (e.g., cofounder meetup events), others help entrepreneurs assess the competence and functional fit of potential cofounders (e.g., cofounder "matchmaker" services). Each type of program is built upon different assumptions

about the primary barrier that inhibits functionally complementary founding teams. However, without scientific evidence on why founding teams are homogenous with respect to knowledge and skills, entrepreneurship policies may be misguided, investments aimed at stimulating entrepreneurial activity may be poorly allocated, and programs dedicated to promoting effective founding team composition may be not be achieving desired results. In light of these issues, there is a need for new theory and research on the drivers of functional homophily in new venture founding teams.

The objective of this dissertation is to explore the interpersonal processes that produce functional homophily in new venture founding teams. Whereas scholars have speculated that entrepreneurs prefer functionally similar cofounders from the outset, I argue that entrepreneurs are actually *more* likely to initiate contact with potential cofounders who possess dissimilar knowledge. However, in response to these interactions, potential cofounders are less attracted to functionally diverse entrepreneurs compared to those who share common functional knowledge. Given that many entrepreneurs desire functionally diverse founding teams, but struggle to assemble one, I also propose ways in which entrepreneurs can elicit feelings of attraction from functionally diverse potential cofounders.

I examine the conceptual model in two research contexts. First, I provide an initial test of the model in a university incubator program designed to help aspiring students, faculty, and outside community members to find cofounders, launch their ventures, and secure seed funding. On the first day of the program, individuals share their ideas and interact with each other during a two hour networking event. During that networking process, teams are formed. These teams then work together over a four month period – creating a business plan, validating customer demand, and developing a prototype. At the end of the program, venture teams present their

venture idea to a panel of investors. This program is an ideal context because many of the teams formed in this program go on to be highly successful. Of all the venture teams that form in this incubator program, 45 percent become legally established ventures with a founding team, raising an average of $875,000 in seed funding (Holekamp, 2015). In addition, since individuals must be enrolled in the program prior to team formation, this context allows me to measure the functional knowledge that is available in the opportunity structure and to directly observe and record the interactions that unfold during a two hour networking event.

I supplement this initial study with a quasi-experiment conducted at an entrepreneur meetup event held in a large Midwestern city. The event takes place at a local co-working space from 3-9pm each week and brings together roughly 200 individuals – entrepreneurs, mentors, investors – from the regional entrepreneurial ecosystem to provide a support community for entrepreneurs who are in the earliest stages of launching a new venture. Entrepreneurs attend these events to seek advice from their peers or mentors, to attend topical workshops that are related to starting a new business, to attract funding from potential investors, and to find potential others to cofound a venture. Within this context, I hosted two Cofounder Speed Dating workshop events. Individuals in search of a cofounder met and interacted in 7 minute intervals with others who were also looking for a business partner. This context allowed me to directly test one of the interpersonal mechanisms underlying potential cofounders' bias toward functionally dissimilar entrepreneurs, offered certain experimental controls that were not possible in the first study, and served as a replication of a main finding from the initial study in a new context.

This dissertation makes three primary theoretical contributions. First, the literature on new venture team formation has focused primarily on the documenting the extent of functional homophily in cofounding teams and its downstream consequences, without addressing *why*

founding teams are functionally homogenous in the first place (Klotz et al., 2014). Understanding the early-stage interpersonal processes that produce homogenous founding teams would ultimately provide insights into the determinants of new venture success. Second, research examining how entrepreneurs acquire resources has focused primarily on how new ventures accumulate financial capital (e.g., Chen, Yao, & Kotha, 2009; Hallen & Eisenhardt, 2012; Martens, Jennings, & Jennings, 2007). Considerably less work has examined the way in which entrepreneurs amass human capital during the team formation process. By focusing on the cofounding process, this dissertation will highlight how the development of cofounder relationships differs from the more widely studied entrepreneur-investor relationship. Third, this dissertation contributes to the choice homophily literature. Most work on the concept of choice homophily – the tendency for individuals to prefer interactions with similar others (McPherson, Smith-Lovin, & Cook, 2001) – has assumed both individuals in the dyad equally prefer relationships with similar others. I challenge that assumption by suggesting homophily can be observed even when only one side of the dyad (in this case, the potential cofounder) prefers forming ties with similar others. By isolating the source of choice homophily, we can better understand the drivers of this process and take targeted steps to stimulate the formation of more diverse ties. Along these lines, I identify ways in which entrepreneurs can overcome the social barriers to eliciting feelings of attraction with functionally dissimilar potential cofounders.

Chapter 2: Literature Review

2.1 New Venture Founding Teams

While solo entrepreneurs grab headlines in the popular press, entrepreneurship scholars recognize that most new ventures are launched by a team. According to the Panel Study of Entrepreneurial Dynamics (PSED), more than 50% of all new businesses are legally incorporated by two or more individuals (Ruef, 2010) and other studies have shown that this number increases dramatically for technology-based ventures (Cooper, 1986; Schoonhoven & Romanelli, 2001). Teams are the more common form for venture founding because, even in instances where only one person generated the idea, a team is often necessary to implement the idea (i.e., the lead entrepreneur approach; Kamm & Nurick, 1993). Since individuals are inherently limited in the amount of information and knowledge they can possess, teams of individuals can better execute the idea (Lechler, 2001; Klepper, 2001; Roure & Madique, 1986; Shane, 2003). In addition, teams outperform individual entrepreneurs because they are better able to cope with the information processing demands of a rapidly changing competitive, regulatory, and technological landscape (Cooper & Bruno, 1977; Eisenhardt & Schoonhoven, 1990; Duchesneau & Gartner, 1990; Hansen & Allen, 1992).

Early work on new venture teams focused on comparing these collective entities to ventures started by an individual. More recently, however, scholars have begun focusing on the qualities that distinguish more effective founding teams from less effective ones. Factors such as entrepreneurial experience, social ties to resource holders, and managerial experience all

contribute to new venture team success (Klotz et al., 2014; Shane & Cable, 2002; Shrader & Siegel, 2007).

Somewhat less obvious, is the role of founding team functional complementarity in shaping venture outcomes. In some contexts, having a homogenous team can be beneficial, such as when the venture is pursuing an exploitative strategy (Beckman, 2006), when operational efficiency is critical to venture success (Knockaert, Ucbasaran, Wright, & Clarysse, 2011), or when the venture operates in a highly volatile industry environment (Amason, Shrader, & Tompson, 2006; Hmieleski & Ensley, 2007). However, innovation-oriented ventures pursuing an exploratory strategy tend to benefit in many ways from founding team functional complementarity (Beckman, 2006; Eisenhardt & Schoonhoven, 1990). First, a functionally diverse founding team is one of the most prominent cues VCs use to evaluate the viability of a venture (Cyr et al., 2000; Foo et al., 2005; MacMillan et al., 1985; Riquelme & Wilson, 2002). As a result, functionally heterogeneous founding teams are more likely to receive VC funding, receive it earlier in the process of venture formation, and receive large amounts of funding (Beckman & Burton, 2008; Beckman, Burton, & O'Reilly, 2007; Cyr, Johnson, & Welbourne, 2000; Franke et al., 2008). Second, diverse founding teams grow faster (Beckman, 2006; McGee, Dowling, & Megginson, 1995; Sine, Mitsuhashi, & Kirsch, 2006) because these ventures can attract better top management team talent and better employees beyond the TMT (Beckman & Burton, 2008). And third, functionally diverse teams are more likely to reach an IPO and tend to reach it faster than functionally homogeneous teams (Beckman & Burton, 2008; Beckman et al., 2007). Thus, even though functional heterogeneity may not be universally beneficial for all ventures, ventures attempting to be highly innovative often benefit - in terms of funding, growth, and exits - from establishing a diverse founding team. Given these nuances in the literature

relating functional heterogeneity to venture outcomes, I focus my theory on the cofounding process for entrepreneurs and potential cofounders who intend to develop highly innovative ventures.

2.2 New Venture Founding Team Formation

While entrepreneurial firms are often built by a team, they often begin with a lead entrepreneur, which is person who generated the idea for the venture (Cooper & Daily, 1997; Kamm & Nurick, 1993; Timmons, 1999). In the process of founding team formation, the lead entrepreneur seeks potential cofounders to join the venture. Initial theories of new venture team formation that describe how the lead entrepreneur approaches this process were grounded in resource dependence theory. Scholars suggested that lead entrepreneurs add team members on the basis of resource complementarity (Larson & Starr, 1993; Kamm & Nurick, 1993; Sandberg, 1992). According to this "resource-seeking" view, entrepreneurs identify resource gaps by comparing the needs of the venture to their own capabilities. Then, entrepreneurs seek cofounders who control resources (e.g., skills, knowledge, relationships) that are needed to grow the venture and are not currently possessed by the entrepreneur (Kamm & Nurick, 1993). These arguments suggest that intendedly rational entrepreneurs focus on identifying the best cofounding candidate to advance the venture (Forbes et al., 2006). However, despite the strategic advantages afforded by functional diversity, this theoretical perspective has not received any empirical support. Ucbasaran et al., (2003) proposed that teams become less functionally homogenous when they add a new member, but found no evidence for this prediction. In a qualitative study of new venture team formation, Chandler & Lyon (2001) found that functional diversity was not a key characteristic in the recruitment of new team members. Ruef et al., (2003) even found that teams are *more* functionally homogenous than would be expected by random mixing. Subsequent work

replicated this finding that founding teams tend to be functionally homogenous and that the effect is greater for larger teams compared to smaller teams (Ruef, 2010, Ruef et al., 2009).

This empirical work identified an interesting puzzle in the literature. Despite the strategic rationale for functional heterogeneity in ventures attempting to be highly innovative, founding teams are homogenous. To explain these results, scholars have turned to theories of homophily to understand the potential reasons for functional homogeneity in founding teams. According to these arguments, entrepreneurs end up with homogenous founding teams for two reasons. First, functionally diverse individuals may not be accessible in the entrepreneur's personal networks (Ruef, 2010). Second, choice homophily suggests that entrepreneurs may compose functionally homogenous teams simply because they prefer it. That is, when given the option to partner with a cofounder who possesses similar knowledge compared to a cofounder who possesses some non-redundant skill, entrepreneurs are likely to choose a cofounder with overlapping knowledge because the experience of working with these people is expected to be more enjoyable (Byrne, 1971), even if it means leaving economic value on the table.

Despite these speculations, three conceptual and empirical problems in the literature limit our understanding of functional homophily in founding teams. First, existing data do not allow these mechanisms to be tested directly. Since existing evidence does not capture the entrepreneur's entire network, it is unclear whether needed skills are available in the entrepreneur's network. Furthermore, research has yet to measure the entrepreneur's motivation for adding cofounders, so the entrepreneur's objectives and rationale for adding a particular member to the founding team are still unknown. Without this key information regarding the entrepreneur, it remains unclear whether these mechanisms – structure or choice – are driving functional homophily.

A second limitation in both theory and research on founding team formation is the marginalization of the prospective cofounder in this process. For example, Kamm & Nurick's (1993) model of team formation portrays the entrepreneur as controlling the process by choosing to add a cofounder, establishing criteria for identifying a cofounder, and then assembling the appropriate inducements to recruit them. In this situation the potential cofounder is not an active participant in the cofounding process but instead is passively responding to properly packaged incentives. This model, and others (Forbes et al., 2006), relegate the cofounder and depict team formation as a decision-making task from the vantage point of the entrepreneur. By portraying venture team formation as an intrapsychic phenomenon from the perspective of the entrepreneur, it remains unclear how the prospective cofounder shapes and influences the process. Given these conceptualizations of team formation, empirical work has yet to capture or test the way in which prospective cofounders think and act within this process.

Perhaps most problematic about the state of the current literature, is the failure to conceptualize cofounding as a social process, rather than an intrapsychic one. There is considerable evidence to support the idea that composing a founding team is a complex unfolding pattern of social interactions that ultimately culminate in cofounding. Presumably the entrepreneur is engaging in a variety of social interactions in trying to compose the founding team. Evidence also suggests that entrepreneurs struggle to navigate these social interactions (Ruef, 2010). For example, many entrepreneurs express frustration at the time devoted to assembling the founding team, as opposed to developing the venture itself (Timmons, 1999). Some entrepreneurs become so dissatisfied with the team formation process, that they abandon the venture altogether (Bruno & Leidecker, 1988). But, since the empirical data of founding team composition only samples successfully formed teams, we have limited insights into the many

twists and turns that unfold during the team formation process. In sum, the current literature does not offer definitive conclusions about why teams are functionally homophilous and therefore we do not know what can be done to help entrepreneurs increase functional heterogeneity in founding teams.

In trying to address these issues, I develop a theoretical model that depicts cofounding as a social process in which interactions between the entrepreneur and potential cofounder influence the likelihood of cofounding tie formation. One important feature of the model is the prediction that, contrary to theories of choice homophily, I argue that entrepreneurs are *more* likely to interact with prospective cofounders who possess diverse functional skills because entrepreneurs view these potential partners as more instrumentally attractive than those possessing similar skills as the entrepreneur. But once engaged in the interactions, prospective cofounders are less likely to be attracted to functionally dissimilar entrepreneurs. The model also portrays the interpersonal mechanisms that can help entrepreneurs overcome these barriers to cofounding a venture with functionally dissimilar individuals. This model draws attention to the acute difficulties that entrepreneurs face in developing feelings of attraction with those who originate from different functional backgrounds, compared to those who come from similar backgrounds and describes how these barriers can be overcome.

2.3 Entrepreneur and Potential Cofounder Roles

The process of cofounding often involves, at its most basic level, two critical roles: an entrepreneur who has an idea for a new venture and a potential cofounder who is considering

whether or not to join an entrepreneur[1] (Wasserman, 2012). To understand how individuals occupying these roles are likely to engage in the cofounding process, it is important to appreciate the primary distinction between an entrepreneur and a potential cofounder. Entrepreneurs, unlike potential cofounders, already have an idea for a new venture, prior to beginning the cofounding process. Below I describe how this distinction might influence the way in which each party approaches the formation of a cofounding relationship.

Scholars have long acknowledged that many ventures begin with a single individual who has an idea for a venture and then engages in the cofounding process to help implement that idea (Ensley, Carland, & Carland, 2000; Kamm & Nurick, 1993; Sandberg, 1992; Timmons, 1999). When entrepreneurs engage in the cofounding process *after* conceiving the venture idea (even if only at a very abstract level), the way in which entrepreneurs evaluate potential cofounders likely becomes more influenced (and constrained) by the nature of that idea. Entrepreneurship scholars have called this a resource-seeking view because entrepreneurs view cofounders primarily in terms of the resources that they bring to the venture. In this way, entrepreneurs are more likely to consider the functional skills that are needed to implement the idea (Sandberg, 1992) and, more specifically, whether or not specific potential cofounders possess the requisite functional knowledge (Kamm & Nurick, 1993). Thus, functional knowledge, among other important resources, frames how the entrepreneur is likely to search for a cofounder such that the entrepreneur is more likely to seek cofounders who can "fill in the gap" for missing functional skills (Larson & Starr, 1993).

[1] It should be noted that investors often play a role in helping an entrepreneur assemble a founding team. Moreover, an entrepreneur may include two or more people seeking an additional cofounder, or it may include a single entrepreneur seeking multiple potential cofounders.

Potential cofounders, in contrast to the entrepreneur, do not have a specific venture idea in mind as they begin the cofounding process. And, without a specific venture idea anchoring their evaluation of a cofounding opportunity, potential cofounders are likely to evaluate entrepreneurs in a different way than entrepreneurs evaluate potential cofounders. Rather than looking for a partner who possesses a desired functional skill (as the entrepreneur does), potential cofounders may rely upon broader bases of attraction when deciding whether or not to join a venture. In the following section, I describe three bases of attraction that are likely relevant for potential cofounders evaluating whether or not to join an entrepreneur and how those feelings are influenced by the functional similarity of the entrepreneur.

2.4 Attraction and Cofounding

Attraction is one of the most widely studied topics in social psychology and is defined as an individual's positive evaluation of another person or object (Berscheid, 1985; Finkel & Baumeister, 2010). This topic has generated such interest because these feelings are seen as the preconditions for the formation of social relationships – friendships (Krackhardt, 1999), romantic relationships (Finkel & Baumeister, 2010), task relationships (Casciaro & Lobo, 2008, 2014), and presumably, cofounding relationships (Forbes et al., 2006). Entrepreneurship scholars have acknowledged that feelings of attraction appear to influence team formation. However, there has not been a systematic effort to define what attraction means in the context of cofounding relationships. Moreover, prior work on this topic has assumed that attraction works in virtually identical ways for the entrepreneur and potential cofounder (see Forbes et al., 2006). I build a theoretical model of attraction in a way that reflects the particularities of cofounding relationships in a way that helps to explain the presence of functional homophily in founding teams, describes when and how attraction influences and is influenced by aspects of the

cofounding process, the distinct ways in which attraction operates for entrepreneurs and potential cofounders, as well as identifying the interpersonal mechanisms that influence attraction processes and ultimately promote the formation of more functionally diverse founding teams.

2.3.1 Instrumental Attraction

Theory and research across psychology and sociology have suggested that feelings of attraction in work relationships have two dimensions: instrumental attraction and interpersonal attraction (e.g., Casciaro & Lobo, 2008, 2014). Instrumental attraction, describes the extent to which a person positively evaluates another individuals' specific capabilities in supporting the fulfillment of some instrumental objective. Instrumental attraction is especially important for founding team formation given that economic stakes for both the entrepreneur and potential cofounder. Often entrepreneurs and cofounders invest considerable personal savings at the outset and incur considerable opportunity costs in order to build a new business (Hamilton, 2000). In addition to the financial risk incurred by starting a new venture, the potential for pecuniary rewards is also great, if the venture ultimately succeeds. For these reasons, entrepreneurs and cofounders likely place an emphasis on whether they believe their counterpart possesses the skills and knowledge needed to help create a viable venture.

2.3.2 Interpersonal Attraction

Interpersonal attraction is largely based upon a person's expectation that interacting with another person will be psychologically rewarding (Asch, 1946; Byrne, 1971; Fiske & Taylor, 1991). In parallel to this psychological work, sociologists have described this dimension of relationships as the socio-emotional or affective component (Homans, 1961; Lawler, 2001). It is important to note that the instrumental aspect of relationships is conceptually and empirically distinct from interpersonal attraction (though they are often correlated, Ambady & Rosenthal, 1993). Whereas

interpersonal attraction reflects a person's perception of another's intentions (e.g., good or bad, cooperative or competitive, friendly or hostile), instrumental attraction refers to a person's perception about another's ability to implement or execute those intentions (Casciaro & Lobo, 2008). Furthermore, interpersonal attraction is more affect-laden; instrumental attraction is more calculative in nature (Casciaro & Lobo, 2014).

Interpersonal attraction is relevant for the formation of cofounding relationships because cofounder relationships are especially affect-laden given the amount of time spent working together (Ruef, 2010). In fact, the opportunity to choose their cofounder is one of the primary reasons why some entrepreneurs decide to launch a venture in the first place (Forbes et al., 2006). In other words, entrepreneurship provides individuals with the chance to work with someone with whom they choose, which is itself a valuable psychological reward that comes with starting an entrepreneurial venture. Therefore entrepreneurs and prospective cofounders who expect to enjoy working together as cofounders should be more likely to cofound a venture.

2.3.3 Idea Attraction

While past theory and research examining work relationships has focused exclusively on instrumental and interpersonal bases of attraction, cofounding relationships are unique in that both parties are also committing to developing a specific venture idea. As a result, there is a third basis of attraction that may be unique in the formation of cofounding relationships: a shared affinity for the venture idea, or "idea attraction". Idea attraction refers primarily to a desire to work on a venture idea. It is not simply an expectation that an idea will be highly successful. In this way, idea attraction is conceptually distinct from instrumental attraction because it focuses on the personal significance of the idea for the individual evaluating it. In many cases, entrepreneurs and cofounders pursue an idea not simply because of its profit potential but

because they are dedicated to the idea itself (DeTienne, 2010; Gimeno et al., 1997). Idea attraction is also conceptually distinct from interpersonal attraction, which focuses on the entrepreneur and potential cofounders' feelings toward each other as work partners. Instead, idea attraction refers to the entrepreneur and cofounder's feelings for the idea itself. Though these two concepts are likely to be positively related, it is possible that an entrepreneur and potential cofounder are interpersonally attracted to each other as potential partners but do not share a mutually interest in a specific venture idea. It is especially critical that the potential cofounder be attracted to the venture idea because pursuing a venture is fraught with setbacks and challenges along the way (Gimeno et al., 1997; DeTienne, 2010). Having a strong sense of attraction to the venture idea instills potential cofounders with a deeper sense of commitment to the venture beyond any immediate instrumental gain that may come from working on the venture.

Chapter 3: Theory and Hypotheses

3.1 Functional Diversity, Instrumental Attraction, and Entrepreneur-Initiated Contact

Contrary to the similarity-attraction principle, I expect that entrepreneurs will be more instrumentally attracted to, and therefore more likely to initiate contact with, potential cofounders who possess complementary functional skills. Since many entrepreneurs begin the search for cofounders after they have generated their new venture idea (Ensley et al., 2000), they are more likely to consider cofounders' functional skills that are needed to implement the idea (Sandberg, 1992) and whether or not specific potential cofounders possess the requisite functional knowledge (Kamm & Nurick, 1993). In this way, functional knowledge frames how the entrepreneur is likely to search for a cofounder such that the entrepreneur is more likely to seek cofounders who can "fill in the gap" for missing functional skills (Larson & Starr, 1993).

The notion that entrepreneurs would seek potential cofounders who possess complementary skills, rather than similar skills, is consistent with work in strategic management showing that in inter-organization alliances, there is a greater likelihood of tie formation among dissimilar entities because these organizations possess complementary assets that create surplus value beyond what either party could achieve in isolation (Mizruchi, 2000; Sorenson & Stuart, 2008; Westphal & Stern, 2007). And in studying collaboration among scientists, research has shown that scientists seek other scientists who have distinct backgrounds because adding redundant skills to the team brings only marginal benefits and adds coordination costs which can hinder the research team from creating new scientific knowledge (Jones, Wuchty, & Uzzi, 2008). Similarly, entrepreneurs should be likely to pursue and initiate contact with cofounders who have complementary knowledge because they see these potential cofounders are more instrumentally

attractive in advancing the venture from an abstract idea into a viable new business. Therefore, I expect that entrepreneurs are more likely to initiate contact with potential cofounders who possess diverse functional skills because entrepreneurs are more instrumentally attracted to these potential cofounders.

> *Hypothesis 1. Entrepreneurs are more likely to initiate contact with potential cofounders who possess dissimilar functional knowledge than potential cofounders who possess similar knowledge.*
>
> *Hypothesis 2. The positive relationship between potential cofounder functional knowledge dissimilarity and entrepreneur-initiated contact is mediated by entrepreneur feelings of instrumental attraction for functionally dissimilar potential cofounders.*

3.2 Three Traps of Functional Diversity: Potential Cofounder Reactions to Functionally Diverse Entrepreneurs

And while entrepreneurs may be more instrumentally attracted to, and therefore more likely to interact with, functionally diverse potential cofounders, these entrepreneurs may encounter challenges in eliciting feelings of attraction from functionally diverse potential cofounders. Unlike the entrepreneur, potential cofounders do not have a specific venture idea that they are attempting to implement. Therefore, potential cofounders engage in the cofounding process in a different way. Rather than looking for a partner who possesses a specific functional skill (as the entrepreneur does), potential cofounders are likely to evaluate whether or not to join a venture along broader bases of attraction, such as whether they believe the entrepreneur is generally competent (instrumental attraction), would be a pleasant colleague (interpersonal attraction, and is developing a meaningful and compelling venture idea (idea attraction). Given that potential cofounders are approaching interactions with entrepreneurs less concerned with the complementarity of their functional skills, potential cofounders may be more sensitive to the interpersonal challenges involved with establishing a new relationship with someone from a different background.

According to social identity theory, potential cofounders may struggle to develop feelings of interpersonal attraction for entrepreneurs who come from a different functional background (c.f., Bunderson & Sutcliffe, 2002; Caimo & Lomi, 2015; Dahlander & McFarland, 2013; Hansen, 1999; Kleinbaum, Stuart, & Tushman, 2013; Lomi, Lusher, Pattison, & Robins, 2014). People are driven to uphold a positive self-image and therefore tend to view ingroup members in a more favorable light than outgroup members (e.g., Brewer, 1979; Byrne & Griffitt, 1973; Tajfel, 1982; Tajfel & Turner, 1986). Since functional background is an especially salient social identity for those starting new ventures (Ashforth, Harrison, & Corley, 2008; Riketta & Van Dick, 2005), potential cofounders may be prone to outgroup biases during interactions with functionally dissimilar entrepreneurs. Theory and research has shown that individuals are biased in how they encode and retrieve information gleaned in social interactions with outgroup members (Howard & Rothbart, 1980; Park & Rothbart, 1982; Riek, Mania, & Gaertner, 2006). As a result, potential cofounders should be more likely to notice the positive qualities and traits during interactions with functionally similar entrepreneurs (Brewer, 1991). In contrast, potential cofounders may be more likely to experience anxiety when interacting with functionally dissimilar entrepreneurs which shifts their attention toward negative and potentially threatening cues from the encounter (Aquino & Douglas, 2003; Hewstone, Rubin, & Willis, 2002). Given that potential cofounders may be sensitive to the different functional identities that distinguish themselves from the entrepreneur, I expect that potential cofounders' will have stronger feelings of interpersonal attraction for functionally similar entrepreneurs compared to entrepreneurs who come from a different functional background.

> *Hypothesis 3. Potential cofounders are less interpersonally attracted to entrepreneurs with functionally dissimilar knowledge than entrepreneurs with similar functional knowledge.*

Likewise, potential cofounders may also discount their feelings of instrumental attraction for functionally diverse entrepreneurs. Why would a potential cofounder be less instrumentally attracted to an entrepreneur who comes from a different functional background? Theory and research on knowledge transfer is informative. Individuals with deep functional knowledge tend to develop specialized language to convey complex ideas (von Hippel, 1994). And while developing functionally specific terminology facilitates communication among those who share similar functional expertise, it poses challenges for interactions between people who come from different backgrounds (Hansen, 2002). Because individuals who originate from distinct functional backgrounds, in some sense, speak a different language, the ability to critically evaluate the competence of another individual becomes more challenging (Dokko et al., 2014; Lomi et al., 2014). The difficulty may be compounded by the fact that venture ideas are often quite complex and abstract (Shane & Venkataraman, 2000), which further amplifies the burden on entrepreneurs who are attempting to communicate with functionally diverse potential cofounders. Thus, the language barrier that exists between people from different functional backgrounds may undermine potential cofounders' ability to properly assess the entrepreneur's ability to develop the venture. Ultimately, as potential cofounders struggle to evaluate the entrepreneur's competence, it should inhibit their feelings of instrumental attraction. Thus, just as functional differences obstruct the ability to evaluate diverse knowledge in established organizations (Hansen, 1999), I also expect that functional differences will make it more difficult for potential cofounders to become instrumentally attracted to functionally diverse entrepreneurs.

> *Hypothesis 4. Potential cofounders are less instrumentally attracted to entrepreneurs with functionally dissimilar knowledge than entrepreneurs with similar functional knowledge.*

Finally, potential cofounders may also be less attracted to the venture ideas proposed by functionally diverse entrepreneurs. Theory and research on motivation suggests that the functional background of the potential cofounder may play a role in influencing which types of ideas potential cofounders find appealing. People who come from different functional backgrounds value different objectives (Baer et al., 2012) and these motivational differences persist even in the absence of formal incentives that prioritize functional goals (Teigland & Wasko, 2009). Specifically, functional background appears to influence individuals' valence for certain tasks and outcomes, suggesting that people who share a similar functional background are more likely to be motivated in similar ways than those who possess different functional knowledge. Some scholars have suggested that this is a result of similarly motivated people selecting into specific functional roles (cf. Schneider, 1987). Other scholars argue that, in addition selection effects, there is a kind of functional imprinting that occurs as individuals become socialized into particular functional domains (Bermiss & Murmann, 2015). Thus, through both selection and socialization processes, potential cofounders should be more attracted to the ideas of entrepreneurs who come from the same functional background as themselves.

> *Hypothesis 5. Potential cofounders are less attracted to the venture ideas of entrepreneurs with functionally dissimilar knowledge than the venture ideas of entrepreneurs with similar functional knowledge.*

3.3 Potential Cofounder Attraction and Cofounders' Decision to Join an Entrepreneur

These three bases of attraction likely influence whether or not potential cofounders decide to join a new venture. First, since pursuing entrepreneurial activities requires significant personal and financial risk (Hamilton, 2000), potential cofounders are likely to join entrepreneurs whom they believe are competent and capable of building a successful venture. Second, due to the significant amount of time that potential cofounders are likely to spend with the entrepreneur,

potential cofounders' interpersonal attraction is likely an important basis of whether to cofound a venture. And third, potential cofounders may emphasize the personal meaning and significance they attach to the venture idea to guide their decision of whether or not to join the entrepreneur since they will be devoting their time and energy to help implement it. Thus, I hypothesize that these three forms of attraction likely influence whether a potential cofounder is likely to launch a venture with an entrepreneur.

Hypothesis 6a. Potential cofounder interpersonal attraction is positively related to the potential cofounder's decision to join the entrepreneur's venture.

Hypothesis 6b. Potential cofounder instrumental attraction is positively related to the potential cofounder's decision to join the entrepreneur's venture.

Hypothesis 6c. Potential cofounder idea attraction is positively related to the potential cofounder's decision to join the entrepreneur's venture.

3.4 Influencing Potential Cofounder Feelings of Attraction toward Functionally Dissimilar Entrepreneurs

Even though functionally diverse potential cofounders encounter unique social barriers compared to potential cofounders with the same functional background as the entrepreneur, certain interpersonal behaviors may be employed to increase these feelings of attraction. In this way, entrepreneurs may be able to engage in certain behaviors that make it easier to establishing a cofounding relationship with a functionally dissimilar potential cofounder. In the following section, I focus on understanding how entrepreneurs can attenuate the otherwise negative relationship between functional dissimilarity and potential cofounders' feelings of interpersonal attraction and the negative relationship between functional dissimilarity and potential cofounders' feelings of idea attraction.

If indeed social identity processes obstruct the development of cofounders' interpersonal attraction toward functionally dissimilar entrepreneurs, the common ingroup identity model

offers a clear prescription for how entrepreneurs and potential cofounders can overcome this barrier (Gaertner & Dovidio, 2000). To the extent that either entrepreneurs invoke a common ingroup identity (e.g., we are both entrepreneurs) it should reduce the effects of intergroup bias (Gaertner et al., 1993). The common ingroup identity model proposes that explicitly stating a superordinate identity is likely to transform entrepreneur and potential cofounders' perceptions from "us" and "them" to an inclusive "we". Recategorizing according to a superordinate identity increases individuals' liking of outgroup members and their belief that outgroup members will behave in a cooperative manner (Gaertner et al., 1989). In addition, explicitly stating a common ingroup promotes other processes related to interpersonal attraction. For instance, Dovidio et al. (1993) found that declaring a common ingroup increased helping behavior and self-disclosure, which together increased feelings of interpersonal attraction. The common ingroup identity model is unequivocal in suggesting that if functionally dissimilar entrepreneurs invoke a superordinate identity with potential cofounders should mitigate the potential for outgroup bias.

> *Hypothesis 7. Entrepreneurs who re-categorize to invoke a shared identity weaken the positive relation between functional similarity and potential cofounders' feelings of interpersonal attraction.*

As described above, potential cofounders may be less attracted to the venture ideas of functionally dissimilar entrepreneurs because these individuals may be motivated in different ways. I introduce a behavior – functional reframing – that may help entrepreneurs overcome this barrier to eliciting feelings of idea attraction from functionally dissimilar potential cofounders. Functional reframing involves the entrepreneur describing the idea in a way that highlights aspects of the idea related to the potential cofounder's functional background. Consider an illustrative example of functional reframing for an entrepreneur with a marketing background who has an idea for a social networking app that is geared toward connecting parents of children

who attend the same elementary school. In this specific example, the entrepreneur may naturally describe the venture idea through the lens of their own functional background, e.g., highlighting a unique approach to customer acquisition that serves as a competitive differentiator. This way of describing the venture idea is less likely to appeal to potential cofounders who come from a different functional background (e.g., software development). Functional reframing involves the entrepreneur describing the venture idea in terms of the unique challenges and opportunities the venture idea creates from the perspective of the potential cofounder. In this case, if the potential cofounder is a software developer, the entrepreneur may describe the idea for her networking application in terms of how she hopes to integrate data from multiple interfaces to create a seamless user experience.

The narrative or symobolic management perspective of resource acquisition suggests that by reframing the venture idea in terms of the opportunities and challenges it presents for the potential cofounder's functional background, the entrepreneur may at once be able to improve the value that the software developer places on the idea. Since attraction to a venture idea is a highly subjective judgment, it can be readily influenced by the manner in which the idea is described (Lounsbury & Glynn, 2001). In particular, entrepreneurs who customize their message to particular audiences are more successful in acquiring resources (Zimmerman & Zeitz, 2002). One reason why entrepreneurs who customize their message are more successful is because it promotes greater understanding between the entrepreneur and the audience about the idea itself and the specific request that is being made (Zott & Huy, 2007). Extending this logic to cofounding relationship formation, adapting the description of the venture idea – through functional reframing – is likely to enhance the value that potential cofounders place on the venture idea. Such signals regarding knowledge of the potential cofounder's background

motivate greater interest and urgency as cofounders see more clearly how their knowledge can positively influence the development of the venture idea (Hallen & Eisenhardt, 2012). Thus, to the extent that entrepreneurs adapt the way in which they describe their venture idea to match potential cofounders' functional background they are more likely to build feelings of attraction to the entrepreneur's idea.

> *Hypothesis 8. Entrepreneurs' functional reframing of the venture idea weakens the positive relationship between functional similarity and potential cofounders' idea attraction.*

Chapter 4: Study 1 – University Incubator Program

4.1 Research Context

I collected survey and social interaction data from individuals participating in a 12-week incubator program offered through a private Midwestern university. This program is open to local residents, university faculty, and students (who can enroll for course credit). Program participants represent a broad range of functional backgrounds (e.g., engineering, finance, operations, marketing, software development, and basic research). This particular incubator program is unique because program participants do not have a team formed beforehand. On the first day of the program, individual entrepreneurs share their venture ideas with other program participants and teams form organically around the most popular ideas through a two hour networking event that takes place in an open courtyard that includes refreshments and appetizers. Because teams are formed within the bounds of the program, this context also allows me to measure the functional skills available within the opportunity structure (all those who participate in the program). Once formed, team members work together for roughly four months to create a prototype and business plan. At the end of the program, teams present their ventures to a panel of investors. The overarching purpose of the incubator program is to provide a context in which aspiring entrepreneurs can find and work with potential cofounders to launch a venture and secure seed funding at the investor pitch presentation.

This program is an ideal context because individuals can interact with whomever they wish, which allows me to disentangle several elements of the cofounding process. First, this context allows me to measure the functional skills available within the opportunity structure. This makes it possible to control for entrepreneurs' structural access to potential cofounders who possess diverse functional skills. Second, I can examine with whom entrepreneurs interact (and

with whom they do not interact), which allows me to model how entrepreneurs, among a pool of potential cofounders, selectively choose to engage with specific potential cofounders. And third, I can examine how potential cofounders respond to entrepreneurs and, ultimately, whether they decide to join the entrepreneur.

4.2 Sample and Procedure

I collected data from 51 individuals (12 entrepreneurs, 39 potential cofounders) who engaged in 103 interactions and formed 39 cofounding ties. Research participants were on average 25.21 years old (SD = 5.60), mostly male (71 percent), had an average of 1.15 years of entrepreneurial experience (SD = 1.55), and represented a diverse set of functional skills (operations: 13 percent, basic research: 10 percent, software: 13 percent, engineering: 12 percent, finance: 21 percent, marketing: 31 percent).

Prior to individuals sharing their venture ideas, I administered an online survey to each participant enrolled in the program. This survey gathered information about each person's functional background and various control variables including: gender, ethnicity, personality, and any existing relationships with others in the program. Response rate for this online survey was 98 percent.

At the start of the networking event, entrepreneurs present their idea to potential cofounders in a 3-minute pitch presentation (25 percent of those enrolled in the incubator program pitched an idea). Between each pitch presentation, potential cofounders rated their feelings of instrumental, interpersonal, and idea attraction for that particular entrepreneur.

After the pitch presentations and before individuals go to the networking event, I equipped each individual with an audio recording device, which captured the content of their conversations. While distributing the audio recording device, which participants wore around

their neck (as a lanyard), I noted the device number to pair each recording with each participant's name.

After the networking event, entrepreneurs and potential cofounders rated their interactions with each other. Entrepreneurs answered questions regarding their feelings of instrumental attraction and interpersonal attraction for the potential cofounder. Potential cofounders again rated their feelings of instrumental attraction, idea attraction, and interpersonal attraction (response rate: 100%). To assist with recall, participants relied on a photo-based roster to help them remember each interaction partner. Even with the photo-based roster, however, there is still a concern that participants may struggle to remember conversations that occurred earlier in the networking event. For this reason, I rely on cofounder ratings of entrepreneurs following the pitch presentations. However, it is worth noting that the post-networking event survey responses produce a similar pattern of results.

Three days following the networking event, the administrator of the incubator program provided an official roster indicating which potential cofounder joined which entrepreneur. Two potential cofounders chose not to join a team and did not participate in the program.

4.3 Measures

Unless otherwise noted, participants responded to survey items using a 7-point Likert-type scale (1 = *Disagree strongly*, 7 = *Agree strongly*). See Appendices B and C for scale and item details.

Cofounder Decision to Join. This is operationalized based upon whether or not the potential cofounder agreed to join the entrepreneur, as indicated in the official team roster for the incubator program. If the cofounder decided to join the entrepreneur, they were coded as a "1" and those that did not are coded as a "0".

Cofounder Instrumental Attraction. I measure instrumental attraction using a three item scale adapted from Casciaro & Lobo (2008). A sample item is, "This person will be successful in developing this venture." I operationalize instrumental attraction as the mean of the potential cofounder's responses for a specific entrepreneur across the three items (alpha = 0.89).

Cofounder Interpersonal Attraction. I measure interpersonal attraction using a three item scale adapted from Casciaro & Lobo (2008). A sample item is, "This person would be pleasant to work with on a venture". I operationalize interpersonal attraction as the mean of the potential cofounder's responses for a specific entrepreneur across the three items (alpha = 0.88).

Cofounder Idea Attraction. I measure idea attraction using a three item scale adapted from Casciaro & Lobo (2008). A sample item is, "I find this venture idea to be very appealing." I operationalize idea attraction using the mean of the potential cofounder's responses for a specific venture idea across the three items (alpha = 0.93).

Entrepreneur-Initiated Contact. I measure entrepreneur-initiated contact using data from audio recordings. Each conversation from the networking event was transcribed using a professional transcription service. I determined who was talking to the entrepreneur based upon the name that their interaction partner used when introducing themselves. In cases in which a name was not used, I used the transcriptions from potential cofounders' audio devices to determine who was speaking to the entrepreneur. I also listened to each of the entrepreneurs' audio recordings to determine the accuracy of the transcriptions and found no errors.

After confirming with whom each entrepreneur was talking, I needed to determine whether an interaction was initiated by the entrepreneur or, instead, whether the potential cofounder approached the entrepreneur. I operationalize entrepreneur-initiated contact based

upon whether or not the entrepreneur was the first individual to introduce themselves at the beginning of the conversation. In some cases, introductions were informal, suggesting that perhaps both parties already knew each other, e.g., "Hey, how's it going, John?" In other cases, introductions were more formal, e.g., "Hello, my name is Jane." I use introductions to determine who started the conversation because past work on communication patterns suggests this is a reliable indicator of initial contact (e.g., Berger & Calabrese, 1975).

Entrepreneur Instrumental Attraction. I measure instrumental attraction using a three item scale adapted from Casciaro & Lobo (2008). A sample item is, "This person will be successful in developing this venture." I operationalize instrumental attraction as the mean of the entrepreneur's responses for a specific potential cofounder across the three items (alpha = 0.94).

Functional Similarity. I use multiple operationalizations of functional similarity in an attempt to both follow approaches used in prior work on this topic while also offsetting the limitations of each individual approach to measuring functional similarity. First, I follow the operationalization employed by Ruef and colleagues who originally identified the functional homophily effect in founding teams and replicated the finding across multiple samples (Ruef et al., 2003, 2009, 2010). Individuals responded by selecting their primary functional background based upon the following categories: finance/accounting, marketing/sales, operations/logistics/production, software, engineering, and basic research. Individuals whose primary functional backgrounds are the same are coded as a "1" and individuals with different functional backgrounds are coded as a "0". I denote this operationalization in the models and results as "Functional Similarity$_{primary}$".

Despite its widespread use (see Bunderson & Sutcliffe, 2002), this operationalization has two inherent limitations. First, it does not properly account for the fact that individuals can have experience across multiple functional domains. By only focusing on individuals' dominant or primary functional background, it obscures the potential influence of secondary bases of functional knowledge possessed by an entrepreneur or potential cofounder. This is problematic since prior work shows that intrapersonal functional knowledge diversity, i.e., knowledge beyond the person's dominant functional knowledge domain, facilitates information sharing (Bunderson & Sutcliffe, 2002). Presumably, these other peripheral bases of functional knowledge may affect the quality of interactions between entrepreneurs and potential cofounders.

To address this possibility I use a profile similarity index, which measures the correlation between the entrepreneur's functional knowledge profile (across the six domains mentioned above) relative to potential cofounders' functional knowledge profile (Caldwell & O'Reilly, 1990; Chatman, 1991; O'Reilly, Chatman, & Caldwell, 1991). The profile similarity index is essentially a transformation of the Euclidean distance measure in which two entities are compared along *k*-dimensions (Edwards, 1993). I denote this operationalization in the models and results as "Functional Similarity$_{profile}$" to reflect that fact that this measure captures the entire functional knowledge profile of both actors, rather than simply their primary functional area.

The functional similarity$_{primary}$ and functional similarity$_{profile}$ both rely on difference scores in describing their relationship to attraction. This poses several problems. First, difference scores conceal the individual contribution of each component (e.g., entrepreneur functional background vs. potential cofounder functional background) in explaining variance in the outcome variable (Edwards, 1994). Second, important information about the absolute level on

the two components is discarded (Edwards, 2002). And third, difference scores impose several restrictive constraints in explaining the relationship between X (component 1), Y (component 2), and Z (outcome), which in reality should be hypotheses to be tested, rather than assumed (Edwards, 1993). For example, consider the algebraic difference score of $Z = b_0 + b_1(X-Y)$, which expands to be $Z = b_0 + b_1X – b_1Y$. One constraint imposed by the difference score method is that b1 is assumed to be equal in magnitude and opposite in direction in how X and Y each relate to Z. However, in reality this assumption is rarely satisfied (see Edwards & Harrison, 1994). These same issues apply to profile similarity indices as well (Kristof, 1996).

Polynomial regression techniques are a solution to the difference score problem (Edwards & Parry, 1993). Using this approach, the relationship between two entities (e.g., entrepreneur and potential cofounder functional knowledge) and an outcome variable (e.g., interpersonal attraction) is represented in three dimensions which allows for more complex relationships to emerge from the data. Polynomial regression involves retaining X (e.g., entrepreneur finance knowledge) and Y (e.g., potential cofounder finance knowledge) as separate predictors of Z (e.g., interpersonal attraction). In addition, higher order terms are also included in the model: X^2, Y^2, and XY (see Equation 1). Using the coefficients from these five terms, it is possible to represent a more complex relationship among entrepreneur functional knowledge (X), potential cofounder functional knowledge (Y), and cofounder interpersonal attraction (Z).

Eq. 1 $$Z = b_0 + b_1(X) + b_2(Y) + b_3(X^2) + b_4(XY) + b_5(Y^2) + e$$

Despite the advantages of polynomial regression, however, it is limited in representing complex concepts that have multiple sub-dimensions (e.g., finance, marketing, and engineering functional knowledge areas). Consider as an example, Edwards & Cable (2009) who studied the downstream effects of employee/organization value congruence, which was measured along

eight value sub-dimensions (e.g., altruism, pay, autonomy, and authority). In their study, they created eight separate regression equations, one for each value sub-dimension (e.g., $C = b_{co} + b_{c1}O + b_{c2}I + b_{c3}O^2 + b_{c4}OI + b_{c5}I^2 + e_c$, where C = Communication, I = individual values along one of the eight sub-dimensions, O = organizational values along one of the eight sub-dimensions). After creating eight separate regression equations (and response surfaces) for each value sub-dimension, Edwards & Cable (2009) then averaged the coefficients across all value sub-dimensions to create an aggregated "individual values" and "organizational values" model.

This approach poses two problems as it relates to functional similarity. First, it masks sub-dimensional differences by aggregating the coefficient terms across all sub-dimensions. If, for example, finance functional knowledge similarity has a different relationship to interpersonal attraction than marketing functional knowledge similarity, this approach would not be appropriate since these differences are discarded through aggregation. Second, this model assumes equal weighting among all entrepreneur-potential cofounder functional knowledge comparisons. Comparisons between the entrepreneur's primary functional background and the potential cofounder's functional knowledge on that domain are treated exactly the same as a comparison between the entrepreneur's sixth base of functional knowledge and the potential cofounder's knowledge in that domain. Therefore, entrepreneurs and potential cofounder dyads who are similar along a highly peripheral set of functional knowledge are equivalent to dyads in which the entrepreneur and potential cofounder are similar in the entrepreneur's dominant functional knowledge category. Despite these challenges, polynomial regression is still useful in generating new insights that are not possible using either the primary or profile operationalizations because it removes the restrictive assumptions imposed by difference scores. I therefore use polynomial regression to model the relationship among potential cofounder

functional knowledge, entrepreneur functional knowledge and an outcome variable (e.g., cofounders' feelings of attraction for the entrepreneur).

I employ polynomial regression techniques in two ways. First, to test hypotheses regarding the direct effects and indirect effects of functional similarity, I created a single block variable that is a composite of the five quadratic regression coefficients (Igra, 1979). Block variables are used in regression models and path analysis to summarize the effects of a set of conceptually related variables to depict nonlinear effects in terms of a single predictor variable (Jagodzinski & Weede, 1981). Importantly, replacing the five quadratic terms with a single block variable does not alter the coefficients of the other predictors, and "the variance explained by the equation using the block variable is identical to that explained by the equation using the original quadratic terms, given that the block variable is computed from the coefficient estimates for the quadratic terms themselves" (Cable & Edwards, 2009: 660). The block variable coefficients allow me to determine the extent to which functional similarity relates directly to attraction and indirectly to cofounders' decision to join.

I construct the block variable by regressing a dependent variable (e.g., cofounder feelings of interpersonal attraction) on a set of independent variables (e.g., the five quadratic terms), and use the predicted value of the dependent variable in place of the independent variables (Cable & Edwards, 2004, 2009; Heise, 1972; Marsden, 1982). For each of the six functional knowledge sub-dimensions (e.g., finance, marketing), I regressed the outcome variable (e.g., cofounder interpersonal attraction) on the five quadratic terms (Igra, 1979). Then, I averaged the block variables across all six functional knowledge areas to create a single block variable (Cable & Edwards, 2004, 2009), which I denote as functional similarity$_{\text{polynomial}}$.

Second, I use polynomial regression to represent cofounder functional knowledge, entrepreneur functional knowledge, and an outcome (e.g., interpersonal attraction) in three dimensional space by using response surface methodology. The coefficients from the five quadratic terms can be used to plot three-dimensional surfaces in which cofounder functional knowledge and entrepreneur functional knowledge comprise perpendicular horizontal axes and the dependent variable (e.g., interpersonal attraction) is represented on the vertical axis (Edwards & Parry, 1993). A surface representing a theoretically idealized similarity effect is depicted in Figure 1. On the floor of the figure are two conceptual references: a congruence line which runs along X = Y and an incongruence line which runs along X = -Y. Examining the response surface in relation to these lines is the basis for evaluating whether the data suggest a similarity effect.

Insert Figure 1 about here

There are three conditions for evaluating whether or not a response surface indicates a similarity effect. First, the surface is curved downward along the incongruence line, such that the dependent variable decreases when entrepreneur and cofounder functional knowledge differ from each other in either direction. This condition is satisfied when $b_3 - b_4 + b_5 < 0$ (Edwards, 2007). Second, the ridge (also called the principal axis) that describes the peak of the surface runs along the congruence line (X = Y), such that the dependent variable is maximized when entrepreneur and cofounder functional knowledge is the same. This condition is met when the intercept of the principal axis = 0 and the slope of the principal axis = 1. Third, the surface is flat along the congruence line such that the level of the outcome variable is the same regardless of whether entrepreneur and potential cofounder knowledge are high or low in absolute terms. This condition is satisfied when $b_1 + b_2 = 0$ and $b_3 + b_4 + b_5 = 0$. Thus, in addition to using the block

variable to evaluate a functional similarity effect, I also adopt response surface methodology and to depict the relationship among cofounder functional knowledge, entrepreneur functional knowledge and each outcome variable.

Control Variables. Recent guidance on using controls in organizational research (i.e., Becker, 2005; Carlson & Wu, 2011; Spector & Brannick, 2011) advocates a theoretically-driven approach for choosing control variables and cautions against including "impotent" controls. I included the Big 5 personality traits as individual level control variables because certain traits, such as extraversion, agreeableness, and neuroticism have been shown to influence social relationships (Asendorpf & Wilpers, 1998). I use entrepreneurs' Big 5 personality traits in the main models because I am concerned primarily with ruling out any alternative explanations that are based upon entrepreneur-based variables. In addition, past work has shown that homophily on ascriptive characteristics (ethnicity, age, and gender) and achieved characteristics (entrepreneurial experience) influence social interactions (McPherson et al., 2001), so I included these variables to help ensure that it is functional similarity rather than these other more widely studied bases of homophily driving these results. Finally, given that interactions are more likely among individuals who already know each other (Ingram & Morris, 2007), I administered a roster-based survey prior to team formation in which participants rated their relationship with others in the program.

4.3.1 Discriminant Validity of Attraction Measures

Given that interpersonal attraction and instrumental attraction tend to be positively correlated, I conducted a confirmatory factor analysis to examine the discriminant validity of idea attraction—a form of attraction that I argue is emic to cofounding relationships. A three-factor model fit the data well ($\chi^2_{24} = 140.74$, CFI = 0.97, RMSEA = 0.09, SRMR = 0.04) and had

significantly better fit than a one-factor model ($\Delta\chi^2_3 = 1144.60$, $p < 0.001$) or any two-factor model—instrumental and idea attraction items on one factor and interpersonal items on the second ($\Delta\chi^2_2 = 756.18$, $p < 0.01$), instrumental and interpersonal attraction items on one factor and idea items on the second ($\Delta\chi^2_2 = 424.64$, $p < 0.01$), or interpersonal and idea attraction items on one factor and instrumental items on the second ($\Delta\chi^2_2 = 545.6$, $p < 0.01$). These results indicate that idea attraction, in the cofounding context, is distinct from interpersonal and instrumental attraction.

4.4 Analyses

I tested these hypotheses at the dyadic level by examining whether the theoretical and control variables described above increase the likelihood of entrepreneur-initiated contact (H1 and H2), how potential cofounders felt about a specific entrepreneur and idea (H3, H4, and H5), and which venture cofounders chose to join (H6). The primary concern when analyzing dyadic data is the interdependence of the observations. I addressed this interdependence using cross-nested random effects regression to account for the fact that each observation is nested within an entrepreneur and a potential cofounder.

To test Hypotheses 1 and 2, I use cross-nested random effects logistic regression since the outcome (i.e., entrepreneur-initiated contact) is a binary directional dyadic variable that is nested within an actor (i.e., the entrepreneur) and a partner (i.e., the potential cofounder). The risk set for these models involves dyads in which the initiator, i.e. the actor, is an entrepreneur and the partner is a potential cofounder, which yields a total of 468 dyads (12 entrepreneurs, 39 potential cofounders). Entrepreneur-entrepreneur dyads (n = 144), potential cofounder-potential cofounder dyads (n = 1521), and dyads in which the initiator is a potential cofounder and the

partner is an entrepreneur (n = 468) were excluded from this analysis since including dyads not at risk of entrepreneur-initiated contact can bias the results (Kleinbaum & Tushman, 2014).

The models used to test Hypothesis 1 are represented in Equation 2. These models include Level 1 control variables that are intended to account for the potential for entrepreneur personality to influence interactions with potential cofounders (in robustness checks I also consider the effects of cofounder personality and personality similarity between the entrepreneur and cofounder using a profile similarity index). In addition, Equation 2 includes several Level 2 dyadic variables that have been shown to influence interaction, including homophily on the basis of ascriptive characteristics such as gender, ethnicity, age, and achieved characteristics, such as entrepreneurial experience (McPherson et al., 2001). I also included whether or not the entrepreneur and potential cofounder had a prior relationship, since familiarity greatly affects the likelihood of social interactions (Ingram & Morris, 2007). Finally, I include the predictor variable – functional similarity – as a Level 2 variable in the model.

Eq. 2 Level 1: $\text{Entrepreneur-Initiated Interaction}_{ij} = b_{0j} + b_{1j}(\text{ent\_conscientiousness}) + b_{2j}(\text{ent\_openness}) + b_{3j}(\text{ent\_neuroticism}) + b_{4j}(\text{ent\_agreeableness}) + b_{5j}(\text{ent\_extraversion}) + b_{6j}(\text{ent\_instrumental\_attraction}) + r_{ij}$

Level 2: $b_{0j} = \gamma_{00} + \gamma_{01}(\text{functional similarity}) + \gamma_{02}(\text{same gender}) + \gamma_{03}(\text{same ethnicity}) + \gamma_{04}(\text{age similarity}) + \gamma_{05}(\text{experience similarity}) + \gamma_{06}(\text{prior relationship}) + u_{0j}(\text{potential cofounder}) + u_{0i}(\text{entrepreneur})$

The models used to test Hypothesis 2 are represented in Equation 3. These linked models examine the proposed mediator – entrepreneur instrumental attraction – in the relationship between functional similarity and entrepreneur-initiated interaction. Equation 3a examines whether functional similarity is related to entrepreneur feelings of instrumental attraction. Equation 3b examines the direct effect of functional similarity on entrepreneur-initiated

interaction and the indirect effect of functional similarity through entrepreneur feelings of instrumental attraction. To test for mediation, I follow Preacher & Hayes (2004) bootstrap method with 1,000 draws.

Eq. 3a Level 1: Entrepreneur Instrumental Attraction$_{ij}$ = b_{0j} + b_{1j}(ent_conscientiousness) + b_{2j}(ent_openness) + b_{3j}(ent_neuroticism) + b_{4j}(ent_agreeableness) + b_{5j}(ent_extraversion) + b_{6j}(ent_instrumental_attraction) + r_{ij}

Level 2: b_{0j} = γ_{00} + γ_{01}(functional similarity) + γ_{02}(same gender) + γ_{03}(same ethnicity) + γ_{04}(age similarity) + γ_{05}(experience similarity) + γ_{06}(prior relationship) + u_{0j}(potential cofounder) + u_{0i}(entrepreneur)

Eq. 3b Level 1: Entrepreneur-Initiated Interaction$_{ij}$ = b_{0j} + b_{1j}(ent_conscientiousness) + b_{2j}(ent_openness) + b_{3j}(ent_neuroticism) + b_{4j}(ent_agreeableness) + b_{5j}(ent_extraversion) + b_{6j}(ent_instrumental_attraction) + r_{ij}

Level 2: b_{0j} = γ_{00} + γ_{01}(functional similarity) + γ_{02}(same gender) + γ_{03}(same ethnicity) + γ_{04}(age similarity) + γ_{05}(experience similarity) + γ_{06}(prior relationship) + u_{0j}(potential cofounder) + u_{0i}(entrepreneur)

The models used to test Hypotheses 3, 4, and 5 are represented in Equation 4, which examine each of the three forms of attraction. I use cross-nested random effects regression since the outcome (i.e., potential cofounder attraction) in these models uses an interval scale and each observation is nested within an entrepreneur and a potential cofounder. The risk set for these models includes dyads in which the actor is a potential cofounder who is rating an entrepreneur in terms of interpersonal attraction, instrumental attraction, and idea attraction. I use the post-pitch cofounder responses because it allows me to capture all cofounders ratings of every entrepreneur and it addresses concerns about recall bias that might affect post-networking surveys. This produces a total of 468 ratings. Entrepreneur post-pitch ratings of other entrepreneurs (n = 144) were available but excluded from this analysis. Similar to the models described above I included both directional (Level 1) and non-directional (Level 2) dyadic

variables as controls. Likewise, functional similarity is entered as a Level 2 predictor of cofounder attraction.

Eq. 4 Level 1: Potential cofounder attraction$_{ij}$ = b_{0j} + b_{1j}(ent_conscientiousness) + b_{2j}(ent_openness) + b_{3j}(ent_neuroticism) + b_{4j}(ent_agreeableness) + b_{5j}(ent_extraversion) + r_{ij}

Level 2: b_{0j} = γ_{00} + γ_{01} (functional similarity) + γ_{02} (same gender) + γ_{03} (same ethnicity) + γ_{04} (age similarity) + γ_{05} (experience similarity) + γ_{06} (prior relationship) + u_{0j} + u_{0i}

To test Hypothesis 6, which examines the relationship between cofounder feelings of attraction and cofounders' decision to join a venture, I used a multinomial discrete choice regression, which is a specialized logit model. I use the discrete choice model, rather than a traditional logit model, because my theory assumes that a potential cofounder can join only one venture. Discrete choice models allow me to account for the fact that if a potential cofounder 1 joins entrepreneur 1, she cannot also join entrepreneur 2. Thus, the cofounders' decision to join a particular venture precludes them from joining others. To account for this interdependence among cofounder choices, a multinomial logit differs from a standard logit model by estimating a fixed effect for each unique choice option (i.e., entrepreneur 1, entrepreneur 2, and so on) (see Equation 5).

Eq. 5 Level 1: Potential cofounder decision to join$_{ij}$ = b_{1j}(ent_1) + b_{2j}(ent_2) + b_{3j}(ent_3) + b_{4j}(ent_4) + b_{5j}(ent_5) + r_{ij}

Level 2: b_{0j} = γ_{00} + γ_{01} (functional similarity) + γ_{02} (same gender) + γ_{03} (same ethnicity) + γ_{04} (age similarity) + γ_{05} (experience similarity) + γ_{06} (prior relationship) + u_{0j} + u_{0i}

In addition to these regression models, I also examine features of the response surface for Hypotheses 3-5 to determine whether the conditions of a functional similarity effect are met. According to Cable & Edwards (2004, 2009), three conditions of the response surface can be evaluated for a similarity effect. First, the surface must be curved downward along the

incongruence line (X = -Y), meaning that the dependent variable should be lowest when entrepreneur and cofounder functional knowledge are dissimilar. If condition 1 is satisfied, $b_3 - b_4 + b_5$ (from Eq. 1) should be negative. Second, the ridge of the surface should run along the congruence line (X = Y). For condition 2 to be satisfied, the slope of the principal axis (denoted as p11) should equal 1, and the intercept of the principal axis (denoted as p10) should equal 0. This parameter calculation for the slope is shown in Equation 6 and the formula for calculating the intercept is displayed in Equation 7. In Equation 7 the terms X_0 and Y_0 refer to the stationary point of the surface, which represents the exact X, Y coordinate at which the dependent variable (Z) is maximized. Visually, the stationary point can be thought of as the highest point on the ridge of the surface. Each of the stationary point coordinates is also calculated using a combination of the quadratic terms (see Equation 8 and Equation 9). And the third condition requires that the surface should be flat along the ridge such that the level of the outcome is the same at all levels of entrepreneur and potential cofounder functional knowledge. For condition 3 to be satisfied $b_1 + b_2 = 0$ and $b_3 + b_4 + b_5 = 0$.

Eq. 6 $p11 = (b_5 - b_3 + sqrt((b_3 - b_5)^2 + b_4^2)) / b_4$

Eq. 7 $p10 = Y_0 + p11(X_0)$

Eq. 8 $Y_0 = (b_1b_4 - 2b_2b_3) / (4b_3b_5 - b_4^2)$

Eq. 9 $X_0 = (b_2b_4 - 2b_1b_5) / (4b_3b_5 - b_4^2)$

The first and third conditions can be tested using procedures for testing linear combinations of regression coefficients (Cohen & Cohen, 1983). I use the "multcomp" package in R (Hothorn et al. 2016) to extract the coefficients from the polynomial regression models and combine them according to the conditions described above. For example, for condition 1, I created a parameter for the following linear combination $b_3 - b_4 + b_5$ and then tested whether the

parameter was less than 0. The "multcomp" package and "glht" function produce an estimate for the linear combination and a 95% confidence interval. The second condition involves nonlinear combinations, so I used bootstrapping methods with 10,000 bootstrap samples to determine whether the intercept of the principal axis (p10) was significantly different from 0 and whether the slope of the principal axis (p11) was significantly different than 1. If the confidence intervals included these critical values then the second condition was met. Finally, for all polynomial models, I followed Edwards' (1994) guidance to scale center the variables, which allows me to avoid the potential for collinearity while also retaining the absolute values of the predictor variables, an important feature of response surface methodology.

4.4.1 Criteria for Concluding Support for a Hypothesis

To evaluate the statistical significance of these hypotheses, I set alpha at 0.05 and conduct a two-tailed test. I report unstandardized coefficients, standard errors, test statistics (either t or Z values, depending upon the analysis), and exact p-values. I do not consider p-values < 0.10 as constituting support for a hypothesis.

To evaluate the results of tests involving the response surfaces (H3-H5), I follow Edward & Cable's (2009) guidelines. They note that the response surface shown in Figure 1 depicts an idealized similarity effect and that the conditions needed to support this are stringent. Therefore, they conclude that failure to meet all three conditions does not warrant rejecting a similarity effect. They offer more nuanced guidance in interpreting tests of these three conditions.

They suggest that the first condition – that requires a downward curvature along the incongruence line – is necessary to claim support for a value congruence effect. The second condition requires that the dependent variable is maximized when entrepreneur and cofounder functional knowledge is equivalent. However, "failure to support this condition does not

necessarily preclude a value congruence effect," (Edwards & Cable, 2009: 661). For instance, if the surface in Figure 1 was rotated but the ridge crossed the congruence line then a similarity effect would be supported at that intersection point. And if the third condition is rejected this simply means that the maximum value of the outcome changes based upon functional knowledge being either high or low. For these reasons, the first condition is a requirement for a similarity effect. However, if the second condition is not met but the principal axis intersects the congruence line within the range of the scale, then that particular point is noted in discussing the results. Failing to meet the third condition is not grounds to reject the similarity hypotheses.

To evaluate Hypotheses 3, 4, and 5, I perform multiple tests: three separate regression models (one for each functional similarity operationalization) and one evaluation of the response surface. Given that each of these tests individually is limited and yet collectively they offset each other's limitations, I infer support for a hypothesis if: a) the functional similarity coefficients for two out of the three regression models is significant ($p < 0.05$) and b) the response surface meets Cable & Edward's (2009) guidelines (support for Condition 1 & 2).

4.5 Results

4.5.1 Descriptive Statistics

Table 1 provides descriptive statistics for and correlations among study variables used to test Hypotheses 1 and 2, which examine the odds of entrepreneur-initiated contact (N = 468 entrepreneur-potential cofounder dyads). With regard to the first hypothesis, I did not find a significant relationship between functional similarity$_{primary}$ and entrepreneur-initiated contact (r = 0.04, $p = 0.19$), functional similarity$_{profile}$ and entrepreneur-initiated contact (r = 0.04, $p = 0.21$), nor functional similarity$_{polynomial}$ and entrepreneur-initiated contact (r = 0.01, $p = 0.63$). Related to Hypothesis 2, I also did not observe a significant correlation between functional similarity$_{primary}$

and entrepreneur instrumental attraction (r = 0.04, p = 0.19), functional similarity$_{profile}$ and entrepreneur instrumental attraction (r = 0.01, p = 0.67), nor functional similarity$_{polynomial}$ and entrepreneur instrumental attraction (r = 0.02, p = 0.54). However, I did find a positive relationship between entrepreneur instrumental attraction and entrepreneur-initiated contact (r = 0.16, $p < 0.01$).

Table 2 provides the descriptive statistics for and correlations among study variables used to test Hypotheses 3-6. Consistent with the model, functional similarity$_{primary}$ was positively related to potential cofounders' interpersonal attraction (r = 0.18, $p < 0.001$), idea attraction (r = 0.10, p = 0.04), and instrumental attraction (r = 0.10, p = 0.03). In addition, functional similarity$_{profile}$ was positively related to potential cofounders' interpersonal attraction (r = 0.09, p = 0.10), idea attraction (r = 0.14, p = 0.01), and instrumental attraction (r = 0.13, p = 0.01). Functional similarity$_{polynomial}$ was positively related to potential cofounders' interpersonal attraction (r = 0.20, $p < 0.001$), idea attraction (r = 0.17, $p < 0.001$), and instrumental attraction (r = 0.17, $p < 0.001$). And, feelings of interpersonal attraction (r = 0.18, $p < 0.001$), idea attraction (r = 0.19, $p < 0.001$), and instrumental attraction (r = 0.19, $p < 0.001$) were positively related to cofounding tie formation.

Insert Tables 1 & 2 about here

4.5.2 Hypothesis Tests

Table 3 presents the results of cross-nested random effects logistic regression models used to test Hypothesis 1 which predicted that entrepreneurs would be more likely to initiate contact with functionally dissimilar potential cofounders. I did not find evidence for an association between functional similarity and initial contact, with the primary operationalization (B = 0.30, SE = 0.40, Z = 0.75, p = 0.45), the profile approach (B = 0.40, SE = 0.32, Z = 1.25, p = 0.21), or the

polynomial measure (B = -0.14, SE = 0.34, Z = -0.40, p = 0.69). Collectively, these data suggest that Hypothesis 1 is not supported.

The second hypothesis tested whether instrumental attraction mediates the relationship between functional similarity and initial contact. I did not find evidence of an indirect effect of instrumental attraction on the relationship between functional similarity$_{primary}$ and initial contact (Est. = -0.02, 95% CI = [-0.08, 0.02]), functional similarity$_{profile}$ and initial contact (Est. = -0.01, 95% CI = [-0.04, 0.03]), or functional similarity$_{polynomial}$ (Est. = -0.01, 95% CI = [-0.07, 0.05]). Hypothesis 2 was not supported.

Insert Tables 3 & 4 about here

Table 4 is used to test Hypotheses 3, 4, and 5. Hypothesis 3 states that potential cofounders are more interpersonally attracted to functionally similar entrepreneurs than functionally dissimilar entrepreneurs. Model 1 of Table 4 shows that functional similarity$_{primary}$ is positively related to cofounders' interpersonal attraction for an entrepreneur (B = 0.32, SE = 0.14, t = 2.33, p = 0.02). When cofounders share the same primary functional background with entrepreneurs, cofounder interpersonal attraction increases by 0.32, relative to cofounder feelings of interpersonal attraction for entrepreneurs who not come from the same primary functional background. However, Model 2 shows that the relationship between functional similarity$_{profile}$ and cofounders' interpersonal attraction is not significant (B = 0.13, SE = 0.10, t = 1.30, p = 0.19). Model 3 shows a positive relationship between functional similarity$_{polynomial}$ and cofounder interpersonal attraction (B = 0.43, SE = 0.14, t = 3.08, p = 0.002).

Insert Figure 2 about here

Figure 2 shows the relationship between the functional similarity and interpersonal attraction using response surface techniques. Supporting the first condition of a similarity effect, I found that the surface slopes down and away from the congruence line such that the low points of the surface fall along the incongruence line (X = -Y). Model 1 in Table 5 shows support for the requirement that b3 – b4 + b5 < 0 (B = -0.20, SE = 0.10, Z = -1.99, p = 0.04, 95% CI[-0.37, -0.03]). Second, the principal axis does not run along the congruence line. Even though the intercept of the principal axis is equal to 0 (p10 = -0.15), the slope of the principal axis is not equal to 1 (p11 = 0.30). Thus, rather than running along the congruence line, the principal axis intersects with the congruence line when X and Y are both negative, meaning that the functional similarity effect operates when entrepreneur and potential cofounder functional knowledge are both low. The third condition stipulates that the ridge along the principal axis is flat at low and high levels of functional knowledge. To meet this condition, b1 + b2 must equal 0 and b3 + b4 + b5 must equal 0. Even though there appears to be a dip in the curve at moderate levels of functional knowledge, this drop is not statistically significant. The ridge is considered flat along the principal axis (b1 + b2 = 0: B = 0.23, SE = 0.13, 95% CI[-0.02, 0.47]; b3 + b4 + b5 = 0: B = -0.13, SE = 0.10, 95% CI[-0.33, 0.08]). The, the first and third conditions were fully supported. The second condition was supported only when cofounder and entrepreneur functional knowledge were low.

Insert Table 5 about here

In sum, I found that functional similarity$_{primary}$ and functional similarity$_{polynomial}$ were positively related to interpersonal attraction. In addition, two of the three conditions from the response surface method were satisfied, also supporting a similarity effect. However, I did not

find evidence supporting a positive relationship between functional similarity$_{profile}$ and interpersonal attraction, and the second condition of response surface methodology was supported by only at low levels of entrepreneur and potential cofounder functional knowledge. Together these findings suggest evidence in support of Hypothesis 3.

Models 4-6 in Table 4 are used to test Hypothesis 4 which states that functional similarity is positively related to cofounder feelings of instrumental attraction. Model 4 shows there is no relationship between functional similarity$_{primary}$ and cofounders' instrumental attraction for an entrepreneur (B = 0.18, SE = 0.11, t = 1.66, p = 0.097). Model 5 shows a positive result for the relationship between functional similarity$_{profile}$ and cofounder instrumental attraction (B = 0.18, SE = 0.09, t = 1.99, p = 0.047). Model 6 also indicates a positive relationship between functional similarity$_{polynomial}$ and cofounder instrumental attraction (B = 0.33, SE = 0.13, t = 2.46, p = 0.01).

Table 5 shows the polynomial regression results for instrumental attraction, and Figure 3 shows the corresponding response surface. The surface slopes down and away from the congruence line, as indicated by the fact that instrumental attraction is lowest when potential cofounder and entrepreneur functional backgrounds are not similar (condition 1: b3 – b4 + b5 < 0: B = -0.22, SE = 0.06, 95% CI[-0.33, -0.11]). Second, the principal axis is situated along the congruence line as the intercept of the principal axis is no different than 0 (p10 = 0.30) and the slope is no different than 1 (p11 = 0.75). And third, the slope along the ridge line is flat (condition 3a: b1 + b2 = 0: B = 0.10, SE = 0.13, 95% CI[-0.03, 0.23] and condition 3b: b3 + b4 + b5 = 0: B = -0.15, 0.10, 95% CI[-0.35, 0.10]), supporting the third condition.

To summarize, I found that functional similarity$_{profile}$ and functional similarity$_{polynomial}$ were both positively related to cofounder instrumental attraction and all three conditions of the response surface tests were met, fulfilling Cable & Edwards (2009) criteria for a similarity effect.

However, I did not find support for the relationship between functional similarity$_{primary}$ and instrumental attraction. Given these findings Hypothesis 4 is supported.

Insert Figure 3 about here

Models 7-9 are used to test Hypothesis 5. Model 7 shows no relationship between functional similarity$_{primary}$ and cofounders' attraction to the entrepreneur's venture idea (B = 0.09, SE = 0.16, t = 0.56, p = 0.58) or between functional similarity$_{profile}$ and cofounders' idea attraction (B = 0.23, SE = 0.12, t = 1.88, p = 0.06). However, I did find a positive relationship between functional similarity$_{polynomial}$ and cofounders' idea attraction (B = 0.34, SE = 0.13, t = 2.58, p = 0.01).

Insert Figure 4 about here

Figure 4 shows the relationship between functional similarity and cofounders' feelings of idea attraction and Table 5 includes the relevant quadratic terms. I found that the surface is curved slightly downward on either side of the congruence line, with the two lowest points falling near the incongruence line (condition 1: b3 – b4 + b5 < 0: B = -0.26, SE = 0.12, 95% CI[-0.47, -0.05]). Second, the ridge of the surface must align with the congruence line (X = Y). And while the intercept of the principal axis is no different than 0 (p10 = -0.10), the slope of the principal axis (ridge) is only slightly positive (p11 = 0.13), rather than the required p11 = 1.00, suggesting that the ridge is rotated off of the congruence line such that the principal axis crosses the congruence line when entrepreneur and potential cofounder functional knowledge is low. The third condition states that the odds of contact should not vary along the line of congruence (i.e., the slope of the ridge is flat). I did find that the ridge of the surface is flat (condition 3a: b1 + b2

= 0: B = 0.22, SE = 0.15, 95% CI[-0.08, 0.53] and condition 3b: b3 + b4 + b5 = 0: B = -0.02, 0.12, 95% CI[-0.26, 0.22]).

To summarize these results, I found that functional similarity$_{polynomial}$ was positively related to idea attraction. In addition, the first and third condition of the response surface test were met. However, I did not find evidence supporting a positive relationship between functional similarity$_{profile}$ functional similarity$_{primary}$ or and interpersonal attraction and the second condition of response surface methodology was only supported at low levels of entrepreneur and potential cofounder functional knowledge. Hypothesis 5 is not supported.

Table 6 presents the results of discrete choice models used to test the link between potential cofounder attraction and cofounders' decision to join the entrepreneur. Models 2-4 show the relationship between each form of attraction and cofounders' decision to join entered individually. Model 5 is used to test Hypothesis 6 and includes all three forms of attraction together. Inconsistent with Hypothesis 6a, I did not find a relationship between interpersonal attraction and cofounders' decision to join (B = -0.10, SE = 0.31, t = -0.32, p = 0.75). I did find that potential cofounder instrumental attraction (B = 0.81, SE = 0.39, t = 2.08, p = 0.04) is positively related to cofounders' decision to join. For every one unit increase in potential cofounder feelings of interpersonal attraction, potential cofounders are 69% more likely to join that venture[2]. I also found that potential cofounder idea attraction (B = 0.55, SE = 0.25, t = 2.15, p = 0.03) is positively related to cofounders' decision to join. For every one unit increase in potential cofounder feelings of idea attraction, potential cofounders are 63% more likely to join that venture. These findings provide support for Hypotheses 6b and 6c but not for Hypothesis 6a.

[2] I calculate these probabilities by first exponentiating the logit value (B), which produces an Odds Ratio. Then I derive the probability from the formula: probability = Odds Ratio / (1 + Odds Ratio).

Insert Table 6 about here

4.5.3 Robustness Checks

In addition to the controls included in the models, I also examined a range of other variables that might serve as alternative explanations for these results. Table 7 shows that none of these variables is significantly related to the dependent variable, nor do they influence the pattern of significance for my hypotheses, except that with the inclusion of these controls functional similarity$_{primary}$ significantly related to instrumental attraction (B = 0.32, SE = 0.13, t = 2.48, p = 0.01).

Table 8 shows the results of entrepreneur feelings of interpersonal attraction and instrumental attraction for potential cofounders. I did not find a significant relationship between functional similarity$_{primary}$ and interpersonal attraction (B = 0.17, SE = 0.21, t = 0.81, p = 0.42), functional similarity$_{profile}$ and interpersonal attraction (B = 0.23, SE = 0.17, t = 1.32, p = 0.18), nor functional similarity$_{polynomial}$ and interpersonal attraction (B = 0.16, SE = 0.13, t = 1.30, p = 0.20). In addition, I found no relationship between functional similarity$_{primary}$ and instrumental attraction (B = 0.16, SE = 0.18, t = 0.81, p = 0.40), functional similarity$_{profile}$ and instrumental attraction (B = 0.20, SE = 0.13, t = 1.58, p = 0.12), nor functional similarity$_{polynomial}$ and instrumental attraction (B = 0.20, SE = 0.15, t = 1.31, p = 0.20).

Insert Tables 7 & 8 about here

4.6 Discussion

4.6.1 Summary of Results

I did not find support for the first hypothesis, which stated that entrepreneurs would be more likely to initiate contact with functionally dissimilar potential cofounders. Instead,

entrepreneurs interacted with some individuals who possess similar functional knowledge and others who differ with respect to functional background. Moreover, as shown in post-hoc analyses, conditional upon interacting with a potential cofounder, entrepreneurs were no more instrumentally or interpersonally attracted to functionally similar potential cofounders. Taken together, Study 1 shows that in a context in which entrepreneurs had access to a range of functional skills, entrepreneurs were no more likely to interact with functionally similar potential cofounders and, following those interactions, were no more attracted to functionally similar cofounders compared with functionally dissimilar potential cofounders.

In contrast, potential cofounders were more instrumentally and interpersonally attracted to entrepreneurs who possess similar functional knowledge. Cofounders' feelings of instrumental attraction and idea attraction, in turn, are positively relate to cofounders' decision to join the venture. In this context, in which network constraints are not present, functional homophily appears to be influenced more by the potential cofounder's preferences and choices than by the entrepreneur's actions.

4.6.2 Study Limitations

The results of Study 1 should be interpreted in light of three limitations. First, while the incubator program offered several benefits for studying the cofounding process – the ability to measure available functional skills and to directly observe social interactions – the format of the networking event introduced certain confounds that make it difficult to establish a causal relationship between functional similarity and cofounder feelings of attraction. One potential confound involves the fact that entrepreneurs and potential cofounders could interact with as many individuals as they choose and for however long they choose. Since prior work has shown that familiarity relates to feelings of interpersonal attraction, it is possible that the duration of

social interactions plays an important role in influencing how cofounders feel about the entrepreneur. To help address this, I relied upon cofounder ratings of attraction immediately following the pitch presentations, rather than using their ratings after the networking session. The limitation of course is that pitch presentations do not resemble one-on-one interactions. Future work is needed to both control the length of interactions while creating a one-on-one social interaction to better reflect the way in which entrepreneurs engage potential cofounders. A second confound is the fact that I do not have sufficient entrepreneur ratings of cofounders. In Table 8 I present post-networking event entrepreneur ratings of cofounders but these ratings are potentially influenced by recall bias since surveys were completed after the event, rather than immediately following the conversation. Future work is needed to address this and to more fully measure entrepreneurs' feelings of attraction for cofounders. One way to address these concerns would be to conduct a study in which entrepreneurs and potential cofounders each respond immediately following one-on-one interactions. This would provide a stronger test that entrepreneurs do not hold the same preferences for functionally similar others, as potential cofounders do.

Study 1 is also limited because I do not directly test the underlying mechanisms relating functional similarity to feelings of attraction. For example, consider the linkage relating functional similarity to cofounders' feelings of interpersonal attraction. I proposed that functional dissimilarity invokes outgroup biases in how cofounders view entrepreneurs. However, I am have not directly tested the mediating effect of cofounders' social identity. One way to test the mediation hypotheses would be to code the content of entrepreneur-cofounder conversations to examine the extent to which the entrepreneur and cofounders use the of "I" versus "we" personal pronouns, which past research has shown is a reliable indicator of social identity. A second way

to test the proposed mechanism would be to examine how commonality on some other social identity (e.g., age, gender) affects the relationship between functional similarity and cofounder interpersonal attraction. According to social identity theory, if functionally dissimilar entrepreneur-cofounder dyads share an identity on some other dimension, it should mitigate outgroup biases. While either approach would offer suggestive evidence in support of the proposed mechanism, neither approach – coding personal pronouns or adding other shared social identities as a moderator – directly test the underlying mechanism. A stronger test of the proposed mechanism would involve directly manipulating cofounders' social identity using the minimal group paradigm (Tajfel & Turner, 1979). In doing so, I could not only have greater evidence in support of the proposed hypothesis, but also I could examine whether cofounders' feelings of attraction can be influenced by exogenous forces, which has potential practical implications for entrepreneurs and program managers who design entrepreneurship networking events.

Finally, Study 1 is also limited in terms of generalizability. It is difficult to know whether the findings of cofounder bias toward functionally dissimilar entrepreneurs are merely a function of the idiosyncratic features of the incubator program, or extend more broadly to other settings. One way to mitigate these concerns would be to conduct a study in a new setting to examine whether these results replicate in a difference context.

Given these limitations of Study 1 regarding: 1) potential confounds that limit causal claims relating functional similarity to feelings of attraction, 2) the inability to directly test the underlying mechanisms, and 3) generalizability concerns, I follow the speed dating paradigm from the romantic relationships literature. Speed dating studies involve bringing together potential "matches" (in this case, entrepreneurs and potential cofounders) to engage in a series of

interactions to examine the factors that influence feelings of attraction. A speed dating research design offers several benefits in studying entrepreneur-potential cofounder interactions (Finkel & Eastwick 2008). First, I can incorporate certain experimental controls that were not possible in the first study. For instance, I can control who interacts with whom and for how long, which will help rule out certain alternative explanations for the results of the first study. I can also limit the potential for extra-dyadic confounds because speed dating studies involve one-on-one interactions. Second, I can directly manipulate the proposed mechanisms underlying potential cofounders' feelings of interpersonal attraction for entrepreneurs (i.e., social identity). And third, I can test whether the positive relationship between functional similarity and cofounder interpersonal attraction replicates in a new context.

Chapter 5: Study 2 – Cofounder Speed Dating Event

5.1 Research Context

To provide a direct test of the proposed mechanisms that influence potential cofounders' feelings of interpersonal attraction I conducted a speed dating experiment with individuals from an entrepreneur networking event hosted by a local co-working space. This meetup event is hosted each week from 3-8pm and attracts between 150-250 entrepreneurs, mentors, potential cofounders, and even investors from the local entrepreneurial community. Entrepreneurs attend these events to seek advice from their peers or mentors, to attend topical workshops that are related to starting a new business, to attract funding from potential investors, and to find potential others to cofound a venture. Within this context, I hosted two "Cofounder Speed Dating" workshop events: one on December 1, 2016 and a second one on December 15, 2016. During this event, entrepreneurs in search of someone to join their venture met and interacted in 7-minute intervals[3] with several individuals who were looking to join an entrepreneur's venture (i.e., potential cofounders).

5.2 Sample and Procedure

The quasi-experimental study follows a speed dating paradigm used in the romantic relationships literature (e.g., Finkel & Eastwick, 2008). This research methodology involves four phases: 1) pre-event procedures, 2) manipulation, 3) speed dating interaction, and 4) post interaction survey. I collected data from 37 individuals who engaged in 206 interactions across 3 speed dating cohorts. Research participants were on average 46.43 years old (SD = 14.70), mostly male (72 percent), had an average of 8.26 years of entrepreneurial experience (SD = 9.80), and

[3] This time interval was determined in two ways. First I used the recommendation of Finkel & Eastwick (2008) to limit conversations to somewhere between three to seven minutes. Second I piloted 5-minute interaction process using a separate group engaged in a university entrepreneurship competition. Based on anecdotal feedback from participants in this group, I decided to extend the interaction time to 7 minutes.

represented a diverse set of functional skills (operations: 8 percent, software: 25 percent engineering: 25 percent, finance: 13 percent, marketing: 29 percent).

5.2.1 Pre-event Procedures

One week prior to the event, the organizers of the weekly meetup event emailed the study announcement entitled "Cofounder Speed Dating Study" to those who had attended at least one meetup event in the past year. The study announcement contained information about the purpose of the speed dating event, a basic description of the study procedures, and a link to register for the event and complete a preliminary survey, if interested. At the top of the online survey, individuals were presented with a detailed information sheet about the study. Participants then could opt-in to the study by continuing to the next screen where they completed a preliminary survey. The survey collected important information regarding each individual's functional background, their role (i.e., entrepreneur or potential cofounder), and a variety of control variables (e.g., personality, demographic information). By employing the preliminary survey, I could gauge the extent to which role balance would be possible for the workshop (a 50-50 mix of entrepreneurs and potential cofounders) so that entrepreneurs would have the chance to interact with potential cofounders looking to join a venture and potential cofounders looking to join a venture would have the opportunity to interact with entrepreneurs who had a venture idea already.

5.2.2 Social Identity Manipulation

In the first speed dating event, held on December 1, 2016, 24 participants enrolled: 12 entrepreneurs and 12 potential cofounders. At the start of the session I offered some initial remarks introducing the study. Specifically, I explained to participants that the speed dating event would allow them to interact with either a series of entrepreneurs (if they were looking for

a venture to join) or potential cofounders (if they were an entrepreneur looking for someone to join their venture), depending on how they had identified themselves in the preliminary survey. I also described how participants during the speed dating event would carry a clipboard and survey in which they would respond to a series of questions following each interaction. Finally, I explained to participants that prior to beginning the speed dating session that they would engage in an ice breaker exercise. In reality, this activity was the social identity manipulation.

After this initial introduction, I divided the December 1st participants into two separate cohorts. I chose to divide these participants into two cohorts based upon guidance from Eastwick, Finkel, & Matthews (2007) who suggested that speed daters interact with no more than 10 partners because it would produce participant fatigue. Six of the twelve entrepreneurs were chosen at random to move to another room that had been reserved and the other six remained in the initial room. The same process was followed for the potential cofounders, with six sent to the second room and the other six staying in the initial room.

Participants in each room received a different social identity manipulation. During the 10-minute introduction, two different experimenters[4] (one in each room) began to induce participants to think of themselves as either "entrepreneurs" (superordinate identity condition) or as members of their primary functional group, e.g., engineers or marketers (subordinate identity condition). Social identity was induced through a mix of linguistic and perceptual manipulations that have been used in prior research (e.g., Gaertner et al., 1999, Kane et al., 2005, Kramer & Brewer, 1984). First, participants in the subordinate condition were given different color stickers

[4] A second experimenter assisted with this study. I met with the second experimenter one week prior to the speed dating event to review the study materials, including a social identity manipulation script (see Appendix D), and the speed dating procedure. Each experimenter was responsible for administering the social identity manipulation and for conducting the speed dating session.

to place on their name tags to indicate their primary functional background, whereas in the superordinate condition only the name tags were used (i.e., no sticker). The sticker colors and the corresponding functional identity to which they relate were written on a whiteboard as a legend that participants could reference. Second, after name tags were distributed to participants, the experimenter then instructed participants to get up from their seats and move into a new seat. Past work on social identity manipulations has used seating arrangements as one way to influence social identities in organizational research (e.g., Kane, 2010; Millward et al., 2007). For the subordinate condition, participants were reseated in small groups according to their primary functional backgrounds (based on the sticker color on their name tag), such that marketers sat by fellow marketers, engineers were seated next to other engineers, and so on. Participants in the superordinate condition were randomly reseated by the experimenter. And third, participants were told that prior to the speed dating event they would participate in an "icebreaker" activity with their newly formed sub-groups in the room. During the icebreaker they would each share one relevant professional experience with the group. For the subordinate condition, they would discuss one skill or experience that was specific to their primary functional area. In the superordinate identity condition, they shared a past entrepreneurial experience with others in the group. After 2-3 minutes of small group discussion, one person from each sub-group shared some of the themes or examples of the discussion with others in the room. Additional detail on the social identity manipulation can be found in Appendix D.

For the December 15th event, there were only 13 enrolled: seven entrepreneurs and six potential cofounders. As such, I only administered the subordinate identity manipulation described above. Another unique feature of this group was the unbalanced nature of the dyads. Specifically there was one more entrepreneur than potential cofounder. To account for this

imbalance, I followed the guidance of Eastwick, Finkel, & Matthews (2007) and had one entrepreneur during each round sit out of an interaction.

5.2.3 Speed Dating Event

After the social identity manipulation, participants moved to one of two large open spaces for the speed dating event (each cohort from the social identity manipulation was kept in-tact). Moving to a new space was necessary to ensure that entrepreneur-cofounder conversations would not be disrupted by the noise of conversations among others in the event. After participants arrived at the speed dating room, each participant picked up a clipboard and pen to complete the manipulation check and to obtain the surveys they would use to record their responses after each interaction. Participants entered their own individual identification number at the top and the individual identification number of each person with whom they interacted. Figure 6 shows the arrangement of the room (participants were standing for these interactions, which is consistent with the norms of the broader meetup event). After collecting their clipboards, participants were instructed to stand on a placard arranged in a large circle in the room. Entrepreneurs stood in the inner part of the circle, whereas potential cofounders stood on the outer part of the circle.

Insert Figure 6 about here

After participants were standing in the appropriate location, the experimenter made an announcement for participants to begin talking to each other for a seven minute period. After the seven minutes were complete, the experimenter announced that it was time for cofounders to move their left. Prior to beginning the next conversation, each participant noted the individual identification number of their interaction partner and then answered a series of questions regarding their interaction. After answering those questions, participants began speaking with

their new interaction partner. This sequence was repeated until each entrepreneur had spoken with each potential cofounder. On average, participants interacted with 6 other individuals.

5.3 Measures

Cofounder Interpersonal Attraction. I measure interpersonal attraction using a three-item five-point scale adapted from Casciaro & Lobo (2008). A sample item is, "This person would be pleasant to work with on a venture". I operationalize interpersonal attraction as the mean of the potential cofounder's responses across all three items (alpha = 0.91).

Functional Similarity. Following Study 1, I operationalize functional similarity in three ways. First, I adapted the Ruef et al. (2003) measure by having individuals select their primary functional background based upon the following categories: finance/accounting, marketing/sales, operations/logistics/production, basic research, and software / engineering. Individuals whose primary functional backgrounds are the same are coded as a "1" and individuals with different functional backgrounds are coded as a "0". I denote this operationalization as functional $\text{similarity}_{\text{primary.}}$ Second, I use a profile similarity index to compare the functional knowledge profiles across each of the functional knowledge dimensions and denote this as functional $\text{similarity}_{\text{profile.}}$ Third, I use response surface methods to model in three dimensional space the relationship among entrepreneur and potential cofounder functional knowledge and cofounder interpersonal attraction. I then test the features of the response surface against the three conditions that comprise a similarity effect as described by Cable & Edwards (2004). However, unlike Study 1, I do not create a single block variable to capture the five quadratic terms since this approach is primarily used to test indirect effects. In contrast, examining the response surface is the recommended approach for testing direct effects (Cable & Edwards, 2009).

Manipulation Check. I measure participants' superordinate identity using a self-report survey measure adapted from Haslam et al. (1999) which has been used as a manipulation check for social identity in other research (e.g., Kane, 2010). Each participant responded to a five-point scale about the importance of being an "entrepreneur", i.e., the superordinate identity.

5.4 Analyses

The Social Relations Model (SRM) is a conceptual model of interpersonal behavior as well as an analytical method for addressing the types of non-independence that occur with dyadic data (Kenny, 1994). Applied to the concept of attraction, SRM posits that Person A's attraction to Person B is a function of multiple influences. First, something about the broader group or cohort to which Person A and B both belong may influence Person A's attraction to Person B (i.e., the group effect). Another potential factor contributing to A's attraction to B is Person A's general tendency to be attracted to all people, not just Person B (i.e., the actor effect). Put simply, some people are more prone to find all others attractive whereas some people are generally not attracted to others. Yet another potential source contributing to Person A's feelings of attraction is Person B's general tendency to be attractive in the eyes of all others, not just Person A (i.e., the partner effect). The partner effect reflects the degree to which a person is rated similarly by her or his partners. The final potential factor is Person A's unique level of attraction to Person B, over and above Person A's general tendency to be attracted to all others, and over and above Person B's general tendency to be seen as attractive by all others. This is labeled the relationship effect and reflects the unique adjustment that one person makes to another after controlling for the actor and partner effects. Prior to testing hypotheses, it is often highly informative to first estimate the particular structure of non-independence in the data by estimating the actor, partner, and relationship effects.

In addition to estimating these random components, SRM analyses also illuminate the degree of reciprocity in perceptions that emerge from a dyadic interaction. SRM measures two types of reciprocity: generalized reciprocity and dyadic reciprocity. Generalized reciprocity refers to the correlation between individuals' actor effects and their partner effects. In the case of attraction, a significant and negative generalized reciprocity coefficient would indicate that people who are more attracted to all of their dates tend to be seen by all of their partners as less attractive. Dyadic reciprocity, in contrast, refers to the correlation between a person's relationship effect with another specific person and that other particular person's relationship effect with that same individual. In other words, dyadic reciprocity is the correlation of the relationship effects of two individuals in an interaction. A positive and significant dyadic reciprocity coefficient for attraction would indicate that a person who reports being especially attracted to another particular individual tends to be seen as especially attractive by that specific individual.

One way in which SRM in a speed dating research design differs from traditional SRM relates to the distinguishability of each member in the dyad (Ackerman, Kashy, & Corretti, 2014). I use an asymmetric block design, which is a special form of SRM that calculates distinct random effects and fixed effects for a) entrepreneurs, who are rating their feelings of attraction for potential cofounders, and b) potential cofounders, who are rating feelings of attraction for entrepreneurs. The relative percentage of variance in the speed-dating event variables accounted for by the actor, partner, and relationship effects can shed insight on how much the variables reflect individual differences (e.g., actor and partner effects) versus relationship-specific phenomena (relationship effects) as well as how they differ by role. To model the data from the cofounder speed-dating event, I use SPSS with an asymmetric block design to examine the

nature of interpersonal attraction for entrepreneurs and potential cofounders (Ackerman et al., 2014).

5.5 Results

Table 9 includes the means and standard deviations parsed by condition (subordinate vs. superordinate), rater (entrepreneur or potential cofounder), and dyad type (same or different primary functional background). In light of the interdependence in the data, these differences in means cannot be evaluated in terms of statistical significance; nevertheless the magnitude and direction of the differences in means is informative. The average level of interpersonal attraction in the subordinate condition was M = 3.70, SD = 0.73 and the average level of interpersonal attraction in the superordinate condition was M = 3.84, SD = 0.75. In addition, the mean level of interpersonal attraction was M = 3.90, SD = 0.76 for potential cofounders' interactions with functionally similar entrepreneurs compared with M = 3.64, SD = 0.76 for functionally dissimilar entrepreneurs. Finally, when cofounders interacted with functionally dissimilar entrepreneurs the mean was M = 3.45, SD = 0.74 in the subordinate condition versus M = 3.98, SD = 0.84 in the superordinate condition.

Insert Table 9 about here

5.5.1 Variance Decomposition and Reciprocity of Interpersonal Attraction

Prior to testing the hypothesis regarding the role of superordinate identity in influencing cofounders' bias against functionally dissimilar entrepreneurs, I use an asymmetric block design procedure to decompose variance in interpersonal attraction according to actor, partner, and relationship effects, for entrepreneurs and potential cofounders. Table 10 shows that fifteen percent (15%) of variance in interpersonal attraction is attributable to the fact that some entrepreneurs are prone to be interpersonally attracted to all potential cofounders and other

entrepreneurs tend not to be attracted to any potential cofounders. Similarly, for cofounders, 20% of variance in cofounders' feelings interpersonal attraction for entrepreneurs is attributable to an actor effect: some cofounders are generally more interpersonally attracted to entrepreneurs than other cofounders. Twenty percent (20%) of variance in feelings of interpersonal attraction are due to the fact that some entrepreneurs are seen by all potential cofounders as more attractive compared other entrepreneurs, whereas only 9% of the variance in ratings of attraction are due to the fact that specific cofounders are seen as more interpersonally attractive by entrepreneurs than other cofounders. The relationship component, which includes both dyad-level variation and error, was sizable for both entrepreneurs (65%) and potential cofounders (70%), suggesting that much of the variance in interpersonal attraction is not readily reducible to individual differences.

A null model is also informative in understanding the dynamics of reciprocity in these interactions. There is no evidence of dyadic reciprocity (r = 0.09, SE = 0.12, Z = 0.72, p = 0.47), meaning that a specific entrepreneur who is interpersonally attracted to a specific potential cofounder is no more or less likely to elicit feelings of interpersonal attraction from that potential cofounder. This is inconsistent with prior work which has shown a positive dyadic reciprocity coefficient in ratings of interpersonal attraction (e.g., Casciaro & Lobo, 2014; Joshi & Knight, 2015). In addition, there is no evidence of generalized reciprocity for entrepreneurs (r = -0.05, SE = 0.43, Z = -0.11 p = 0.91) or potential cofounders (r = -0.02, SE = 0.48, Z = -0.047, p = 0.96).

Insert Table 10 about here

5.5.2 Manipulation Check

Participants in the superordinate condition indicated higher levels of identification with the entrepreneur social identity (M = 4.17, SD = 0.63) than individuals in the subordinate

condition (M = 3.73, SD = 0.74). However, a t-test of independent means indicates that this difference was not significant (t(35) = 1.77, $p < 0.09$).

5.5.3 Hypothesis Test

Table 11 presents the results of social relations analyses used to examine the influence of a superordinate identity on the relationship between functional similarity$_{primary}$ and interpersonal attraction. Model 2 of Table 11 shows the main effects of functional similarity $_{primary}$ on interpersonal attraction and identity condition on interpersonal attraction. I did not find evidence for a positive relationship between functional similarity$_{primary}$ interpersonal attraction for potential cofounders (B = 0.25, *SE* = 0.19, t = 1.35, $p = 0.18$) nor for entrepreneurs (B = 0.12, *SE* = 0.18, t = 0.64, $p = 0.56$). Model 2 also shows that the superordinate identity condition did not elicit greater feelings of interpersonal attraction for cofounders (B = 0.42, *SE* = 0.26, t = 1.62, $p = 0.12$) nor for entrepreneurs (B = -0.07, *SE* = 0.23, t = -0.31, $p = 0.76$).

Insert Table 11 about here

Hypothesis 7 proposes that superordinate identity weakens the positive relationship between entrepreneur functional similarity and cofounders' interpersonal attraction. Model 3 in Table 11 is used to test Hypothesis 7 with the functional similarity$_{primary}$ operationalization. I did not find a statistically significant interaction (B = -0.64, *SE* = 0.38, t = -1.70, $p = 0.09$), suggesting that superordinate identity does not moderate the positive relationship between functional similarity and cofounders' feelings of interpersonal attraction for entrepreneurs.

Nevertheless, I plotted the interaction (see Figure 6) to more directly examine whether cofounders in the superordinate condition (compared to cofounders in the subordinate condition)

showed less bias toward functionally dissimilar entrepreneurs. Simple slopes analysis reveals that potential cofounders were more attracted to functionally dissimilar entrepreneurs in the superordinate condition than they were in the subordinate condition (B = 0.53, SE = 0.26, t = 2.06, $p = 0.04$). And, potential cofounders were no more attracted to functionally similar entrepreneurs in the superordinate condition than they were in the subordinate condition (B = -0.20, SE = 0.40, t = 0.50, $p = 0.62$).

Insert Figure 6 about here

Table 12 presents the results of social relations analyses used to examine the influence of a superordinate identity on the relationship between functional similarity$_{profile}$ and interpersonal attraction. Model 2 of Table 12 shows the main effects of functional similarity on interpersonal attraction and identity condition on interpersonal attraction. I did not find evidence for a positive relationship between functional similarity$_{profile}$ interpersonal attraction for potential cofounders (B = 0.15, *SE* = 0.09, t = 1.65, $p = 0.10$) nor for entrepreneurs (B = 0.02, *SE* = 0.09, t = 0.20, $p = 0.85$). Model 2 also shows that the superordinate identity condition did not elicit greater feelings of interpersonal attraction for cofounders (B = 0.42, *SE* = 0.25, t = 1.65, $p = 0.12$) nor for entrepreneurs (B = -0.07, *SE* = 0.23, t = -0.31, $p = 0.76$).

Insert Table 12 about here

Hypothesis 7 proposes that superordinate identity weakens the positive relationship between entrepreneur functional similarity and cofounders' interpersonal attraction. Model 3 in Table 12 is used to test Hypothesis 7 with the functional similarity$_{profile}$ operationalization. I did

not find a statistically significant interaction (B = -0.16, *SE* = 0.21, t = -0.75, *p* = 0.46), suggesting that superordinate identity does not moderate the positive relationship between functional similarity and cofounders' feelings of interpersonal attraction for entrepreneurs.

Finally, I use response surface methods to examine the relationship among entrepreneur and cofounder functional background and cofounder interpersonal attraction for the subordinate identity condition and for the superordinate identity condition. Figure 7 shows the response surface for the subordinate condition. The surface slopes down and away from the congruence line, as indicated by the fact that interpersonal attraction is lowest when potential cofounder and entrepreneur functional backgrounds are not similar (condition 1: b3 – b4 + b5 < 0: B = -0.13, SE = 0.06, 95% CI[-0.23, -0.03]). Second, the principal axis is not situated along the congruence line as the intercept of the principal axis is different than 0 (p10 = 1.28) and the slope is different than 1 (p11 = 0.10). The principal axis crosses the congruence line when cofounder and entrepreneur functional knowledge are high. And third, the slope along the ridge line is flat (condition 3a: b1 + b2 = 0: B = 0.21, SE = 0.10, 95% CI[-0.005, 0.42] and condition 3b: b3 + b4 + b5 = 0: B = 0.02, 0.10, 95% CI[-0.17, 0.21]), supporting the third condition.

Insert Figures 7 & 8 about here

Figure 8 shows the response surface for the superordinate condition. The surface does not slope down and away from the congruence line (condition 1: b3 – b4 + b5 < 0: B = 0.11, SE = 0.13, 95% CI[-0.11, 0.34]). Second, the principal axis is not situated along the congruence line as the intercept of the principal axis is different than 0 (p10 = -2.83) even though the slope is no different than 1 (p11 = 0.78). And third, the slope along the ridge line is not flat for condition 3a: b1 + b2 = 0: B = -0.27, SE = 0.14, 95% CI[-0.55, -0.01] even though it is flat for condition 3b:

b3 + b4 + b5 = 0: B = 0.19, 0.13, 95% CI[-0.07, 0.46]). The similarity effect is not supported for Condition 1-3.

5.5.4 Supplemental Analysis

To better understand these results, it is worth considering whether invoking a shared superordinate identity might also influence the relationship between functional similarity and cofounders' feelings of instrumental attraction. Even though sharing a common social identity has more often been linked to purely affiliative motives or affective needs (e.g., Ashforth & Mael, 1989; Tajfel & Turner, 1986; McPherson et al., 2000), there are some studies which suggest that sharing a superordinate identity may influence the instrumental value that an individual ascribes to an unfamiliar person. For example, Kane (2010) found that groups were more likely to adopt the information offered by a newcomer when the newcomer originated from a shared superordinate group. Groups were more likely to accept the newcomer's suggestions because group members more carefully considered the knowledge that this individual brought to the group, as evidenced through group discussion (Kane et al., 2005; Kane, 2010). This suggests that by increasing the salience of a shared superordinate identity in the minds of potential cofounders, they may also be less biased in evaluating the competence of functionally dissimilar entrepreneurs. To examine this possibility I estimated the same models, but instead of predicting interpersonal attraction, I used instrumental attraction as the dependent variable.

Insert Table 10 about here

Table 10 presents the results of social relations analyses used to examine the influence of a superordinate identity on the relationship between functional similarity and instrumental attraction. Model 2 of Table 10 shows that functional similarity is not related to instrumental

attraction for potential cofounders (B = -0.02, *SE* = 0.18, t = -0.12, *p* = 0.90). Model 3 of Table 10 shows that superordinate identity moderates the relationship between functional similarity and instrumental attraction (B = -0.76, *SE* = 0.35, t = -2.16, *p* = 0.03).

Figure 9 provides additional insight into these results. Potential cofounders were more instrumentally attracted to functionally dissimilar entrepreneurs in the superordinate condition than in the subordinate condition (B = 0.49, *SE* = 0.22, t = 2.22, *p* = 0.03). This suggests that invoking a superordinate entrepreneurial identity among potential cofounders increased their feelings of instrumental attraction for functionally dissimilar entrepreneurs, in addition to bolstering feelings of interpersonal attraction for functionally dissimilar entrepreneurs.

Insert Figure 9 about here

5.6 Discussion

5.6.1 Summary of Results

Study 2 aimed to test Hypothesis 7 by manipulating cofounders' social identity to a broader superordinate identity (i.e., entrepreneur) or a narrower subordinate functional identity (i.e., marketer, engineer). I found mixed support for this hypothesis. Under the functional $\text{similarity}_{\text{primary}}$ operationalization, cofounders in the superordinate condition were more attracted to functionally dissimilar entrepreneurs than cofounders in the subordinate condition. However, this effect did not hold for the functional $\text{similarity}_{\text{profile}}$ operationalization. Cofounders in the superordinate condition were no more interpersonally attracted to functionally dissimilar entrepreneurs than cofounders in the subordinate condition. Using response surface methods, I did find support for a functional similarity effect in the subordinate condition (mirroring the results from Study 1). There was no functional similarity effect in the superordinate condition, as

anticipated. Finally, in a post hoc analysis, I found that invoking a superordinate identity also influenced cofounders' feelings of instrumental attraction. Cofounders in the superordinate condition were more instrumentally attracted to functionally dissimilar entrepreneurs than cofounders in the subordinate condition. Together these data provide some evidence in support of Hypothesis 7 and also suggest that perhaps social identity influences cofounders' feelings of instrumental attraction, in addition to affecting interpersonal attraction.

5.6.2 Study Limitations

Even though Study 2 addresses certain confounds that might affect the results of Study 1, there are two critical limitations to note with respect to Study 2. First, these findings should be interpreted cautiously in light of the small sample size. While there is no established means for estimating statistical power for SRM studies that employ an asymmetric block design, I did conduct a post hoc power analysis using a t-test of independent means based upon the sample size and the effect size of cofounder ratings of interpersonal attraction for functionally dissimilar entrepreneurs in the superordinate condition (n = 30) versus the subordinate condition (n = 56). To determine the effect size I calculated Cohen's d by comparing the means and standard deviations in the two conditions, which produced an effect size of 0.67. Using GPower I estimated post hoc power. I found that the noncentrality parameter estimate was 2.96, t(84) = 1.98 and power = 0.83. This power calculation is an extremely liberal estimate actual statistical power in this sample since this power analysis assumes that each observation is independent. However, we know that there is significant interdependence in this data. To have greater assurance about the results of Study 2, additional data will need to be collected.

A second limitation of Study 2 relates to the timeframe in which these nascent relationships were observed. By only examining these initial exchanges in a time-delimited

format, it is likely that the dynamics of interpersonal attraction change over time. The role of social identity in shaping interpersonal attraction may diminish over time as the relationship itself becomes a basis for these feelings. Therefore the effect of invoking a superordinate identity may only influence feelings of interpersonal attraction when entrepreneurs and potential cofounders are relatively unfamiliar with one another. Future research is needed to examine whether invoking a shared social identity can bolster cofounder feelings of interpersonal attraction in more established relationships.

Chapter 6: Theoretical Implications

6.1 New Venture Team Formation

This dissertation contributes to our understanding of new venture team formation in three ways. First, the model and results disentangle the effect of entrepreneurs' networks from their psychological preferences. In attempting to explain functional homophily in founding teams, scholars have speculated that this pattern is either the result of a) the limitations of the entrepreneur's personal network in accessing diverse functional skills or b) the entrepreneur's psychological preference to work with functionally similar others (Forbes et al., 2006; Ruef et al., 2003). The university incubator setting was ideal for parsing the effects of entrepreneurs' network structure from entrepreneurs' choices because I could measure the functional skills available among the pool of potential cofounders. This context also allowed me to directly observe the behavior and preferences of the entrepreneurs by measuring with which specific potential cofounders entrepreneurs initiated contact about joining their venture and, following those conversations, how entrepreneurs felt about each potential cofounder that they approached.

In a setting in which entrepreneurs have ample access to diverse functional skills, I did not find evidence that entrepreneurs prefer functionally similar cofounders. In choosing with whom to interact, entrepreneurs interacted with some potential cofounders who possessed diverse functional skills and others who possessed similar functional skills as the entrepreneur. That is, entrepreneurs were no more likely to engage in a conversation with a functionally similar potential cofounder than they were with a functionally dissimilar potential cofounder. Furthermore, following these interactions with potential cofounders, entrepreneurs were no more instrumentally nor interpersonally attracted to functionally similar potential cofounders than they were to functionally dissimilar potential cofounders. Thus, in a context in which entrepreneurs

had access to different functional skills, entrepreneurs do not appear to be acting in a way that would produce functional homophily.

Second, and relatedly, this dissertation extends our understanding of new venture team formation by bringing into sharp relief the role of the potential cofounder in shaping the cofounding process. Existing models of new venture team formation have traditionally focused on the role of the entrepreneur. For instance, some models emphasize the entrepreneur's network (e.g., Ruef et al., 2009), others describe the entrepreneur's cognition (e.g., Kamm & Nurick, 1993), and still others consider the entrepreneur's preferences (e.g., Francis & Sandberg, 2000). Lost in these entrepreneur-centric models is the role of the potential cofounder (Forbes et al., 2006).

The model and results presented here draw attention to the way in which potential cofounder attitudes shape the team formation process. More specifically, this model emphasizes the acute difficulties that entrepreneurs face in developing feelings of attraction during interactions with potential cofounders who originate from different functional backgrounds. In Study 1, I found that potential cofounders were less instrumentally and interpersonally attracted to functionally dissimilar entrepreneurs, compared to entrepreneurs who came from the same functional background. These feelings of attraction, in turn, predicted whether or not a potential cofounder would join an entrepreneur's venture. Thus, in this setting, functional homophily seems to be in part driven by the tendency for potential cofounders to be more attracted to functionally similar entrepreneurs, rather than the behavior and preferences of entrepreneurs for functionally similar potential cofounders.

These findings raise the profile of the cofounder in altering the team formation process, which opens the door to research questions about what other factors might affect cofounders' preferences and behavior during the cofounding process (in addition to functional similarity). And, taken one step further, on what other dimensions do the preferences of the entrepreneur and cofounder potentially diverge? Consider as one example, the tendency for founding teams to be composed of friends, family, or former coworkers (Ruef, 2010; Timmons, 1999; Wasserman, 2012). Recognizing the overwhelming tendency of cofounders to be highly familiar with each other (Aldrich, 2009), it raises the question about whether this pattern is a function of the entrepreneur's desire to work with familiar others or are cofounders only willing to join a venture if they already trust the entrepreneur? The results of this study suggest that perhaps familiarity may be a more strongly held preference of cofounders compared to entrepreneurs. By examining the antecedents of cofounder preferences and behavior that are distinct from entrepreneurs, we can gain a deeper understanding of this complex phenomenon.

A third contribution to the new venture team formation literature involves re-conceptualizing cofounding as a social process. Past theory and research on the cofounding process has adopted decision theory models by explaining how entrepreneurs make choices about which cofounder to add to their venture (e.g., Dridi, 2010; Kamm & Nurick, 1993; Larson & Starr, 1993; Forbes et al., 2006). And while these models have generated important insights into how entrepreneurs identify potential cofounders, these models have not given as much attention to the interpersonal dynamics that influence this relational process. The model outlined here not only explains the ways in which cofounders affect new venture team formation, but also how entrepreneurs can express certain behaviors that can affect potential cofounders' feelings of attraction for the entrepreneur. Study 2 suggests that entrepreneurs who invoke a superordinate

identity with functionally dissimilar potential cofounders are more likely to elicit feelings of interpersonal attraction.

The shift from decision-based models to more interpersonally-focused models of cofounding is potentially important because it can change the focus of theory from understanding choices and preferences of an individual actor to examining the social interactions that unfold between entrepreneurs and potential cofounders. As noted, prior work on founding team formation has typically sampled only fully formed venture teams and retrospectively inferred the mechanisms that drive the team formation process (e.g., Ruef et al., 2003). However, we know that cofounding is a difficult process for many entrepreneurs that in some cases derails a venture before it has a chance to get off the ground (Bruno & Leidecker, 1988; Timmons, 1999; Vohora, Wright, & Lockett, 2003). Given these challenges, more research is needed to examine the social process of assembling a founding team. One line of research may detail different sequences of interactions that unfold between an entrepreneur and potential cofounders to better understand which patterns are more likely to result in a cofounding tie versus those attempts that end in failure. For instance, Hallen & Eisenhardt (2012) conducted a qualitative study examining the ways in which entrepreneurs interacted with potential investors. A similar approach could be employed in studying how entrepreneurs engage with potential cofounders to understand the different types of interpersonal behaviors that help entrepreneurs secure potential cofounders.

6.2 Resource Acquisition

This dissertation also enhances our understanding of resource acquisition. Past work examining how entrepreneurs acquire resources has focused primarily on how new ventures accumulate financial capital from investors; considerably less work has examined the way in which entrepreneurs find cofounders who possess needed human capital. By focusing primarily on how

entrepreneurs acquire funding for their ventures, current work is greatly influenced by the ways in which investors evaluate new ventures as an investment opportunity. For instance, research has shown that entrepreneurs are more likely to acquire financial capital when they appeal to investors' perceptions of viability by portraying a compelling identity (Wry, Lounsbury, & Glynn, 2011), communicating the early accomplishments of the nascent venture (Zott & Huy, 2007), and conveying preparedness (Chen, Yao, & Kotha, 2009). The common thread across this work is that entrepreneurs need to enhance investors' perceptions of legitimacy, i.e., the potential that the investment will yield a large financial return (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Zimmerman & Zeitz, 2002). The emphasis on legitimation processes offers insights into how entrepreneurs can investors' instrumental attraction to the venture. However, by emphasizing instrumental considerations, theory and research on resource acquisition overlooks the interpersonal side of relationships between resource holders and resource seekers. This is problematic since entrepreneurs who build the interpersonal aspects of the relationship, rather than the purely instrumental basis of the relationship are likely to reap unique benefits that ultimately increase the odds of venture success (Huang & Knight, 2017).

If indeed, building the interpersonal side of the relationship with resource holders can benefit new ventures, then additional theory and research is needed to explore how entrepreneurs can bolster resource holders' feelings of interpersonal attraction. This dissertation represents a first step in exploring the determinants of resource holders' feelings of interpersonal attraction. Study 1 showed that potential cofounders are less likely to be interpersonally attracted to functionally dissimilar entrepreneurs. Study 2 tested the propose mechanism underlying this relationship. Using a speed-dating research study, I found that when potential cofounders were primed to consider their distinct functional identities, they were less interpersonally attracted to

functionally dissimilar entrepreneurs compared to functionally similar entrepreneurs. However, when potential cofounders were primed to think about a broader superordinate identity, the outgroup bias was attenuated. Specifically, potential cofounders were just as interpersonally attracted to functionally dissimilar entrepreneurs as functionally similar entrepreneurs.

Shared social identity is most likely not the only mechanism for influencing resource holders' feelings of interpersonal attraction. In describing how entrepreneurs can strengthen the affective content of their relationship with investors, Huang & Knight (2017) suggest that entrepreneurs can engage in interpersonal signaling behavior to convey to investors that working with the entrepreneur would be a pleasant and psychologically rewarding experience. Prior work on the entrepreneur-investor relationship suggest that entrepreneurs may be able to bolster investors' sense of interpersonal attraction by mirroring an investor's views, adopting a receptive posture toward investors' critical questions, or espousing similar implicit theories about entrepreneurship (Kim & Aldrich, 2005; Sapienza & Korsgaard, 1996). Despite these speculations, there is little empirical evidence to support these assertions. Future research therefore might explore specific behavior tactics that entrepreneurs can express to increase resource holders' sense of interpersonal attraction. What behaviors are most effective in conveying warmth, cooperativeness, and friendliness? Other work may consider whether certain interpersonal signaling behaviors are better suited for one type of resource holder (e.g., investor) compared to another (e.g., cofounder).

In addition to exploring interpersonal and instrumental attraction, my dissertation highlights a third basis of attraction that likely influences entrepreneurs' ability to amass needed resources: idea attraction. Idea attraction refers to the extent to which a person wants to work on someone else's venture idea. In Study 1, I found that idea attraction is predictive of cofounders'

decision to join a venture. While I have argued that idea attraction is fundamental to the cofounding relationship, future research might directly challenge this assumption by exploring whether idea attraction may benefit entrepreneurs in other ways. One possibility is that entrepreneurs who are able to generate feelings of attraction among mentors may be more likely to gain expertise and advice in the early stages of starting their venture.

Beyond identifying other consequences of resource holders' idea attraction, additional research is needed to better understand the determinants of it. Hypothesis 5 proposed that functional similarity would be positively related to cofounders' attraction to a venture idea. However, I did not find support this hypothesis in Study 1. This null result juxtaposed against the fact that idea attraction predicted cofounders' decision to join a venture, clearly highlights a need for future theory and research on the antecedents of idea attraction. One particularly useful method to test specific hypotheses regarding the antecedents of idea attraction would be to use a between-subjects experimental design in which resource holders (e.g., mentors, cofounders, investors) are presented with venture ideas that are otherwise identical, with the exception of one particular facet of the idea. For instance, one study may examine to which ideas mentors are attracted. Mentors could then be asked to rate their feelings of attraction for a set of venture ideas. In one condition, mentors are randomly assigned to evaluate an idea that is framed in as social-impact venture, and in a second condition, mentors are asked to rate their feelings of attraction for the exact same idea that is framed as a traditional profit-oriented venture. By holding the idea itself constant and only manipulating a single facet of the idea, it would be possible to identify the drivers of idea attraction. This method could also be used to identify differences in the antecedents of idea attraction for each type of resource holder.

6.3 Choice Homophily

This dissertation also provides insight into our understanding of choice homophily – the tendency for actors to prefer ties with similar others. Existing research on homophily has tended to measure choice homophily by observing the likelihood that ties form among similar individuals, after accounting for structural differences that contribute to induced homophily (e.g., McPherson & Smith, 1987). For example, Kleinbaum et al. (2013) found that, after controlling for differences in structural access to similar others, women were three times more likely to have a tie with other women than they were with men. In this study, and others (e.g., Greenberg & Mollick, 2016), choice homophily is inferred retrospectively by observing the degree of existing ties among similar individuals compared to a network that is characterized by random mixing. While indeed this is one way to measure choice homophily, it obscures two important conceptual facets of this phenomenon.

First, existing work assumes that the two actors in the dyad each prefer forming a tie with someone who is similar on a particular dimension (e.g., gender, ethnicity). That is, both actors hold symmetric preferences for similar others. The findings presented in this dissertation challenge that assumption. In Study 1, I found that entrepreneurs did not show a preference for initiating contact with functionally similar cofounders and, following those interactions were just as attracted to functionally similar cofounders as functionally dissimilar ones. I replicated this finding in Study 2. Entrepreneurs were no less interpersonally attracted to functionally similar potential cofounders as functionally dissimilar cofounders. Cofounders, on the other hand, preferred functionally similar entrepreneurs over functionally dissimilar ones. Study 1 revealed that cofounders viewed functionally similar entrepreneurs as more instrumentally and interpersonally attractive compared with functionally dissimilar entrepreneurs. Given these

results, it appears that choice homophily can occur even in cases when only one partner in the dyad holds prefers self-similar others. In this way, choice homophily can be asymmetric, meaning that one actor prefers establishing a relationship with someone similar whereas the other actor may be indifferent. This finding suggests that future research on choice homophily should directly examine the preferences of actors for self-similar others, rather than indirectly infer preferences retrospectively. Indeed, it is possible that other relationships that tend to be homophilous but yet diverse connections can yield benefits (e.g., advice ties, board interlocks) might be the product of asymmetric choice homophily.

Second, existing work on choice homophily has not distinguished between the two-stages in which choice homophily often emerges. In Study 1, I deconstruct choice homophily into two-stages. In the first stage, the initiator (i.e., entrepreneur) selects among a pool of potential alters (i.e., potential cofounders). The initiator exhibits choice homophily to the extent that she chooses to initiate contact with self-similar others on some specific dimension. In the second stage of the choice homophily process, the responder chooses whether or not to accept the initiator's invitation. The responder exhibits choice homophily when they are more likely to accept the requests of self-similar initiators compared to dissimilar initiators. Study 1 demonstrates that choice homophily can be driven either by: a) homophilous tendencies of initiators' decision about whom to approach or b) by responders' propensity to respond favorably to self-similar initiators, or c) both. Future work on choice homophily may offer insight into the underlying source of this tendency by decomposing the effect of initiator preferences for initiating conversations with similar others from responders' preferences for responding favorably to similar others.

6.4 Conclusion

Scholars have been unable to understand why, despite the benefits of functional complementarity, many founding teams exhibit functional homophily. Some have speculated that entrepreneurs must simply prefer working with those who possess common knowledge. I found that entrepreneurs often establish cofounding ties with functionally similar others not because the entrepreneur's prefer it but because functionally similar potential cofounders are more attracted to them. I also found that when potential cofounders consider a broader social identity they are less biased in evaluating functionally dissimilar entrepreneurs. This dissertation contributes to the resource acquisition literature by modeling the interpersonal mechanisms that underlie the acquisition of human capital, and extends the homophily literature by describing showing how even in the absence of ego's preference for similar others, alters' preferences for similar others can still produce patterns of homophily.

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Tables

Table 1. Descriptive Statistics and Intercorrelations among Study 1 Variables for Entrepreneur-Initiated Contact

	M	SD	1	2	3	4	5	6	7	8
1. Entrepreneur-Initiated Contact	0.10	0.29								
2. Entrepreneur Instrumental Attraction	3.43	0.92	0.16	(0.94)						
3. Functional Similarity$_{primary}$	0.22	0.42	0.04	0.04						
4. Functional Similarity$_{profile}$	0.29	0.69	0.04	0.01	0.01					
5. Functional Similarity$_{polynomial}$	4.71	0.50	0.01	0.02	-0.03	0.16				
6. Gender Similarity	0.57	0.49	0.07	0.26	0.04	-0.06	0.06			
7. Ethnicity Similarity	0.62	0.48	0.05	0.07	-0.06	-0.01	0.07	0.04		
8. Experience Similarity	1.87	1.54	-0.02	-0.29	-0.11	0.05	0.07	-0.09	-0.02	
9. Prior Relationship	0.20	0.40	0.10	0.01	0.14	0.08	0.00	0.03	0.06	0.32

Notes: N= 468 entrepreneur-potential cofounder dyads; coefficient alpha listed along diagonal in parentheses. Correlations greater than 0.05 in absolute magnitude are significant at $p < 0.05$; correlations greater than 0.10 in absolute magnitude are significant at $p < 0.01$.

Table 2. Descriptive Statistics and Intercorrelations among Study 1 Variables for Cofounder Response

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Cofounding	0.06	0.24										
2. Instrumental Attraction	5.19	1.12	0.19	(0.89)								
3. Interpersonal Attraction	4.80	1.23	0.18	0.64	(0.88)							
4. Idea Attraction	4.50	1.50	0.19	0.54	0.68	(0.93)						
5. Functional Similarity$_{primary}$	0.34	0.47	0.03	0.10	0.18	0.10						
6. Functional Similarity$_{profile}$	0.31	0.70	0.02	0.13	0.09	0.14	0.27					
7. Functional Similarity$_{polynomial}$	3.58	0.77	0.01	0.20	0.17	0.17	0.24	0.18				
8. Gender Similarity	0.58	0.49	0.02	-0.06	0.02	-0.02	-0.01	-0.09	0.02			
9. Ethnicity Similarity	0.58	0.49	0.00	0.02	0.04	0.00	0.04	0.13	0.15	-0.06		
10. Experience Similarity	1.33	1.51	0.01	-0.02	0.05	0.06	-0.05	0.09	0.09	-0.01	0.11	
11. Prior Relationship	0.16	0.37	0.13	0.10	0.13	0.06	0.18	0.03	0.03	0.05	0.04	0.11

Notes: N= 468 potential cofounder-entrepreneur dyads. Coefficient alpha listed along diagonal in parentheses. Correlations greater than 0.08 in absolute magnitude are significant at $p < 0.05$; correlations greater than 0.13 in absolute magnitude are significant at $p < 0.01$.

Table 3. Cross-nested Random Effects Logistic Regression Predicting Entrepreneur-Initiated Contact

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Entrepreneur Instrumental Attraction				0.68 (0.50)	-0.15 (0.56)	0.16 (0.10)
Functional Similarity$_{primary}$	0.30 (0.40)			-0.02 (0.63)		
Functional Similarity$_{profile}$		0.40 (0.32)			0.75 (0.57)	
Functional Similarity$_{polynomial}$			-0.01 (0.03)			0.16 (0.12)
Gender Similarity	0.53 (0.40)	0.58 (0.42)	0.04 (0.03)	0.15 (0.67)	0.01 (0.71)	0.02 (0.14)
Ethnicity Similarity	0.43 (0.41)	0.47 (0.47)	0.05 (0.04)	0.28 (0.70)	0.68 (0.76)	0.13 (0.15)
Age Similarity	0.02 (0.03)	0.01 (0.03)	0.00 (0.00)	0.04 (0.04)	-0.01 (0.05)	0.01 (0.01)
Experience Similarity	-0.12 (0.13)	-0.20 (0.14)	-0.01 (0.01)	0.05 (0.22)	-0.01 (0.28)	0.02 (0.05)
Prior Tie	1.09 (0.45)*	1.61 (0.57)**	0.15 (0.04)**	-0.70 (0.69)	-0.24 (0.78)	0.12 (0.15)
Ent. Extraversion	-0.32 (0.21)	-0.32 (0.21)	-0.03 (0.03)	0.02 (0.39)	0.16 (0.39)	-0.02 (0.09)
Ent. Agreeableness	-0.52 (0.27)	-0.45 (0.33)	-0.05 (0.04)	-0.24 (0.40)	-0.22 (0.50)	-0.06 (0.10)
Ent. Openness	0.20 (0.33)	0.27 (0.39)	0.02 (0.05)	-0.08 (0.50)	0.27 (0.56)	0.02 (0.13)
Ent. Neuroticism	-0.17 (0.19)	-0.22 (0.22)	-0.02 (0.03)	-0.14 (0.49)	-0.10 (0.54)	0.00 (0.10)
Ent. Conscientiousness	-0.25 (0.21)	-0.25 (0.21)	-0.01 (0.03)	0.15 (0.32)	-0.09 (0.54)	0.02 (0.08)
Constant	0.99 (2.39)	1.56 (2.79)	0.47 (0.39)	-3.16 (4.69)	-1.04 (5.01)	0.68 (1.33)
Ln (cof random effects)	0.01	0.05	0.01	0.00	0.00	0.00
Ln (ent random effects)	0.00	0.07	0.00	0.00	0.00	0.02
Observations	468	468	468	468	468	468

Table 4. Cross-nested Random Effects Regression Predicting Cofounder Attraction to Entrepreneur

	Interpersonal Attraction			Instrumental Attraction			Idea Attraction		
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Functional Similarity$_{primary}$	0.32 (0.14)*			0.18 (0.11)+			0.09 (0.16)		
Functional Similarity$_{profile}$		0.13 (0.10)			0.18 (0.09)*			0.23 (0.12)+	
Functional Similarity$_{polynomial}$			0.43 (0.14)**			0.33 (0.13)**			0.34 (0.13)**
Gender Similarity	0.04 (0.13)	0.06 (0.13)	-0.04 (0.13)	-0.03 (0.10)	-0.02 (0.12)	-0.06 (0.10)	-0.03 (0.14)	0.02 (0.16)	-0.05 (0.15)
Ethnicity Similarity	-0.03 (0.19)	0.11 (0.19)	-0.16 (0.19)	-0.03 (0.17)	-0.04 (0.18)	-0.12 (0.17)	-0.14 (0.22)	0.03 (0.23)	-0.22 (0.23)
Age Similarity	0.00 (0.02)	0.00 (0.01)	-0.01 (0.02)	0.02 (0.01)*	0.01 (0.01)	0.02 (0.01)*	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)
Experience Similarity	0.02 (0.10)	0.01 (.05)	-0.10 (0.08)	0.02 (0.04)	-0.02 (.04)	0.01 (0.04)	0.03 (0.06)	-0.03 (0.06)	0.02 (0.06)
Prior Tie	0.46 (0.17)**	0.53 (0.17)**	0.53 (0.17)**	0.42 (0.14)**	0.52 (0.15)**	0.46 (0.13)	0.33 (0.20)	0.30 (0.21)	0.33 (0.19)
Ent. Extraversion	-0.02 (0.07)	-0.03 (0.07)	-0.02 (0.07)	0.00 (0.07)	0.04 (0.08)	0.00 (0.07)	-0.01 (0.08)	-0.04 (0.08)	-0.01 (0.08)
Ent. Agreeableness	0.02 (0.11)	0.11 (0.11)	0.01 (0.11)	0.10 (0.12)	0.20 (0.13)	0.11 (0.12)	-0.03 (0.13)	0.15 (0.14)	-0.03 (0.13)
Ent. Openness	0.07 (0.11)	-0.10 (0.11)	0.06 (0.11)	0.06 (0.12)	-0.07 (0.13)	0.06 (0.12)	0.01 (0.13)	-0.18 (0.14)	0.02 (0.14)
Ent. Neuroticism	-0.01 (0.10)	0.01 (0.11)	0.04 (0.13)	0.01 (0.11)	0.10 (0.13)	0.01 (0.10)	-0.03 (0.11)	0.11 (0.13)	-0.04 (0.11)
Ent. Conscientiousness	0.11 (0.17)	0.25 (0.15)+	0.10 (0.16)	0.16 (0.18)	0.31 (0.18)+	0.13 (0.17)	0.25 (0.19)	0.51 (0.19)**	0.23 (0.18)
Constant	3.58 (1.28)**	3.16 (1.30)**	2.69 (1.31)**	3.06 (1.33)**	2.02 (1.50)+	1.84 (1.04)	3.02 (1.42)**	1.50 (1.58)	2.12 (1.44)
Ln (cof random effects)	0.26	0.18	0.25	0.36	0.32	0.33	0.33	0.26	0.32
Ln (ent random effects)	0.20	0.14	0.11	0.11	0.12	0.11	0.22	0.18	0.17
Observations	450	357	450	450	357	450	450	357	450

Notes: Standard errors in parentheses; + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. The number of observations vary across models due to missing values from participants functional knowledge profile items.

Table 5. Polynomial Regression Models Predicting Cofounder Feelings of Attraction

Variable	Instrumental Attraction	Interpersonal Attraction	Idea Attraction
Intercept	5.44 (0.20)**	5.10 (0.21)**	4.76 (0.24)**
Cofounder Functional Knowledge	0.09 (0.10)	0.14 (0.08)+	0.12 (0.11)
Entrepreneur Functional Knowledge	0.01 (0.09)	0.10 (0.10)	0.11 (0.11)
Cofounder Functional Knowledge^2	-0.07 (0.07)	-0.03 (0.06)	-0.01 (0.08)
Cofounder Functional Knowledge X Entrepreneur Functional Knowledge	0.03 (0.03)	0.03 (0.04)	0.12 (0.05)**
Entrepreneur Functional Knowledge^2	-0.11 (0.06)+	-0.13 (0.07)+	-0.13 (0.08)+
Ln (cof random effects)	0.33	0.19	0.32
Ln (ent random effects)	0.12	0.15	0.19
Observations	450	450	450

Notes: Standard errors in parentheses; + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. The number of observations vary across models due to missing values from participants functional knowledge profile items.

Table 6. Discrete Choice Multinomial Logit Model Predicting Cofounder Decision to Join

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Interpersonal Attraction		0.73			-0.10
		(0.22)**			(0.30)
Instrumental Attraction			1.21		0.81
			(0.32)**		(0.39)*
Idea Attraction				0.79	0.55
				(0.20)**	(0.25)*
Functional Similarity$_{primary}$	0.10	0.04	-0.01	0.23	0.10
	(0.53)	(0.53)	(0.55)	(0.55)	(0.56)
Gender Similarity	-0.03	-0.13	-0.11	0.00	-0.03
	(0.41)	(0.43)	(0.43)	(0.43)	(0.45)
Ethnicity Similarity	0.44	0.41	0.50	0.38	0.55
	(0.76)	(0.75)	(0.77)	(0.77)	(0.78)
Age Similarity	0.04	0.03	0.03	0.02	0.02
	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
Experience Similarity	-0.02	-0.08	-0.05	-0.07	-0.06
	(0.18)	(0.19)	(0.20)	(0.19)	(0.20)
Prior Tie	2.29	1.56	1.53	1.69	1.40
	(0.63)**	(0.68)**	(0.69)*	(0.67)*	(0.72)+
Entrepreneur 1 Intercept	-0.80	-0.60	-0.65	-1.02	-0.94
	(1.42)	(1.44)	(1.52)	(1.51)	(1.56)
Entrepreneur 2 Intercept	0.05	-0.56	-0.36	-1.22	-1.08
	(0.97)	(1.04)	(1.10)	(1.07)	(1.14)
Entrepreneur 3 Intercept	0.09	-0.26	0.24	-0.74	-0.35
	(0.90)	(0.95)	(0.99)	(0.99)	(1.03)
Entrepreneur 4 Intercept	0.52	0.60	1.09	0.31	0.75
	(0.96)	(0.98)	(1.04)	(1.00)	(1.04)
Entrepreneur 5 Intercept	0.30	0.05	0.58	-0.54	-0.08
	(0.86)	(0.93)	(1.02)	(0.99)	(1.05)
Entrepreneur 6 Intercept	-0.32	-0.25	0.28	-1.01	-0.45
	(0.96)	(1.00)	(1.08)	(1.03)	(1.11)
Entrepreneur 7 Intercept	0.90	0.48	0.92	0.09	0.39
	(1.09)	(1.13)	(1.20)	(1.16)	(1.22)
Entrepreneur 8 Intercept	-0.20	-0.72	-0.20	-1.49	-1.06
	(0.93)	(1.01)	(1.04)	(1.09)	(1.11)
Entrepreneur 9 Intercept	-1.10	-1.46	-0.89	-1.88	-1.43
	(1.43)	(1.46)	(1.57)	(1.55)	(1.61)
Entrepreneur 10 Intercept	-0.05	-0.66	-0.08	-0.89	-0.57
	(0.87)	(0.93)	(0.98)	(0.95)	(1.01)
Observations	450	450	450	450	450
Log-likelihood	-72.03	-65.40	-61.74	-61.36	-59.26

Notes: Standard errors in parentheses; * $p < 0.05$; ** $p < 0.01$.

Table 7. Robustness Checks Using Cross-nested Random Effects Regression Predicting Cofounder Attraction to Entrepreneur

	Interpersonal Attraction			Instrumental Attraction			Idea Attraction		
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Functional Similarity$_{primary}$	0.31 (0.15)*			0.32 (0.13)**			0.02 (0.19)		
Functional Similarity$_{profile}$		0.11 (0.10)			0.18 (0.09)*			0.24 (0.14)+	
Functional Similarity$_{polynomial}$			0.55 (0.13)**			0.47 (0.18)**			0.50 (0.10)**
Personality Similarity	0.13 (0.29)	0.22 (0.30)	0.14 (0.22)	-0.04 (0.25)	0.13 (0.22)	0.07 (0.22)	0.01 (0.25)	0.40 (0.35)	0.55 (0.24)*
Ent. Self-Efficacy	0.02 (0.13)	0.09 (0.13)	-0.02 (0.10)	-0.11 (0.15)	-0.10 (0.14)	-0.06 (0.12)	-0.03 (0.15)	0.07 (0.15)	-0.05 (0.12)
Ent. Gender	0.07 (0.46)	-0.02 (0.05)	0.51 (0.30)	0.15 (0.40)	-0.02 (0.05)	0.49 (0.34)	-0.08 (0.49)	-0.02 (0.05)	0.24 (0.25)
Cof. Gender	0.29 (0.24)	0.01 (0.03)	0.31 (0.20)	0.27 (0.28)	0.02 (0.03)	0.28 (0.23)	0.56 (0.29)	0.02 (0.03)	0.46 (0.24)+
Ent. Age	-0.01 (0.02)	-0.02 (0.05)	-0.02 (0.03)	-0.02 (0.04)	-0.03 (0.04)	-0.01 (0.03)	-0.03 (0.05)	-0.02 (0.05)	-0.03 (0.03)
Cof. Age	-0.03 (0.05)	0.01 (0.03)	0.02 (0.02)	-0.04 (0.03)	0.01 (0.03)	0.00 (0.02)	0.01 (0.03)	0.02 (0.03)	0.03 (0.02)
Ent. Experience	-0.04 (0.13)	-0.01 (0.12)	-0.16 (0.08)+	-0.09 (0.11)	-0.03 (0.12)	-0.13 (0.09)	0.03 (0.14)	0.06 (0.13)	-0.07 (0.08)
Cof. Experience	-0.12 (0.12)	0.01 (0.11)	-0.10 (0.07)	-0.04 (0.11)	0.02 (0.10)	-0.08 (0.08)	-0.08 (0.11)	0.06 (0.13)	-0.05 (0.07)
Constant	4.64 (1.94)**	2.48 (1.70)	3.30 (1.05)**	5.61 (2.04)**	1.79 (1.67)	3.87 (1.84)**	4.51 (2.18)*	-0.37 (2.85)	2.75 (1.10)**
Ln (cof random effects)	0.21	0.14	0.14	0.35	0.32	0.28	0.27	0.18	0.21
Ln (ent random effects)	0.26	0.21	0.06	0.19	0.12	0.10	0.26	0.18	0.02
Observations	450	357	450	450	357	450	450	357	450

Notes: Standard errors in parentheses; * $p < 0.05$; ** $p < 0.01$. The number of observations vary

Table 8. Cross-nested Random Effects Regression Entrepreneur Attraction to Potential Cofounders

	Interpersonal Attraction			Instrumental Attraction		
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Functional Similarity$_{primary}$	0.17 (0.21)			0.16 (0.18)		
Functional Similarity$_{profile}$		0.23 (0.17)			0.20 (0.13)	
Functional Similarity$_{polynomial}$			0.16 (0.13)			0.20 (0.15)
Gender Similarity	0.04 (0.13)	-0.16 (0.24)	-0.04 (0.22)	-0.07 (0.19)	-0.17 (0.19)	-0.08 (0.18)
Ethnicity Similarity	-0.03 (0.19)	0.12 (0.24)	-0.03 (0.23)	0.09 (0.19)	0.22 (0.19)	0.06 (0.19)
Age Similarity	0.00 (0.02)	-0.02 (0.02)	-0.01 (0.02)	-0.01 (0.01)	-0.02 (0.01)*	-0.01 (0.01)
Experience Similarity	0.02 (0.10)	0.01 (0.08)	0.00 (0.08)	0.02 (0.06)	0.01 (0.06)	0.01 (0.06)
Prior Tie	0.46 (0.17)**	0.40 (0.26)	0.18 (0.23)	0.01 (0.20)	0.27 (0.20)	0.07 (0.19)
Cof. Extraversion	-0.06 (0.14)	-0.01 (0.12)	-0.03 (0.14)	0.12 (0.12)	0.17 (0.09)	0.15 (0.12)
Cof. Agreeableness	-0.17 (0.17)	-0.13 (0.16)	-0.12 (0.18)	-0.01 (0.20)	0.04 (0.12)	0.01 (0.14)
Cof. Openness	0.13 (0.21)	0.28 (0.19)	0.18 (0.22)	0.13 (0.17)	0.23 (0.14)	0.16 (0.18)
Cof. Neuroticism	-0.21 (0.17)	-0.04 (0.19)	0.04 (0.13)	-0.22 (0.14)	-0.13 (0.15)	-0.21 (0.14)
Cof. Conscientiousness	-0.14 (0.14)	-0.21 (0.12)+	-0.12 (0.14)	-0.12 (0.11)	-0.19 (0.09)*	-0.13 (0.11)
Constant	5.82 (1.72)**	4.95 (1.57)**	4.93 (1.93)**	4.11 (1.41)**	3.35 (1.22)**	2.81 (1.75)
Ln (cof random effects)	0.00	0.00	0.00	0.00	0.00	0.00
Ln (ent random effects)	0.06	0.06	0.08	0.03	0.06	0.08
Observations	84	71	84	84	71	84

Notes: Standard errors in parentheses; + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

Table 9. Means and Standard Deviation across Conditions

	Entrepreneur						Potential Cofounder						Total		
	Same Function			Different Function			Same Function			Different Function					
Interpersonal Attraction	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Subordinate Identity	4.06	0.80	11	3.87	0.78	56	3.97	0.74	11	3.45	0.74	56	3.70	0.73	134
Superordinate Identity	3.72	0.71	6	3.84	0.65	30	3.78	0.80	6	3.98	0.84	30	3.84	0.75	72
Subtotal	3.94	0.78	17	3.86	0.77	86	3.90	0.76	17	3.64	0.76	86	3.78	0.74	206
Instrumental Attraction	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Subordinate Identity	4.09	0.81	11	4.06	0.79	56	4.21	0.78	11	3.90	0.76	56	3.98	0.75	134
Superordinate Identity	3.50	0.66	6	4.04	0.73	30	3.89	0.72	6	4.36	0.73	30	4.07	0.74	72
Subtotal	3.88	0.77	17	4.06	0.77	86	4.10	0.76	17	4.06	0.76	86	4.03	0.75	206

N = 206.

Table 10. Social Relations Model Variance Decomposition Result

	Actor			Partner			Relationship plus Error			Dyadic Reciprocity		Generalized Reciprocity	
	B	*SE*	%	B	*SE*	%	B	*SE*	%	*r*	*SE*	*r*	*SE*
Interpersonal Attraction													
Entrepreneur	0.08	0.05+	15%	0.11	0.07	20%	0.36	0.06	65%	0.11	0.12	-0.09	0.42
Potential Cofounder	0.11	0.07+	20%	0.05	0.04	9%	0.38	0.06	70%			-0.05	0.50
Instrumental Attraction													
Entrepreneur	0.13	0.07*	21%	0.16	0.08*	26%	0.32	0.05	53%	-0.04	0.12	0.01	0.36
Potential Cofounder	0.14	0.07+	26%	0.08	0.05	15%	0.32	0.05	59%			0.31	0.39

N = 206, * $p < 0.05$, dyadic reciprocity coefficients are not role-specific and thus applies to both entrepreneurs and potential cofounders.

Table 11. Social Relations Analysis of Functional Similarity$_{primary}$ Predicting Interpersonal Attraction

	Model 1		Model 2		Model 3	
	Ent.	Cof.	Ent.	Cof.	Ent.	Cof.
Superordinate Identity			-0.07	0.42	0.02	0.53
			(0.23)	(0.26)	(0.25)	(0.26)*
Functional Similarity			0.12	0.25	0.32	0.49
			(0.18)	(0.19)	(0.23)	(0.20)*
Superordinate Identity X Functional Similarity					-0.56	-0.64
					(0.37)	(0.38)+
Actor	0.08	0.11	0.09	0.10	0.10	0.10
	(0.05)+	(0.07)+	(0.05)+	(0.06)	(0.06)+	(0.06)
Partner	0.11	0.05	0.10	0.06	0.09	0.07
	(0.07)+	(0.04)	(0.06)	(0.05)	(0.06)	(0.05)
Relationship plus Error	0.36	0.38	0.37	0.38	0.35	0.37
	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Generalized Reciprocity	-0.09	-0.05	-0.07	-0.04	-0.05	-0.03
	(0.42)	(0.50)	(0.43)	(0.50)	(0.43)	(0.48)
Dyadic Reciprocity	0.11	0.11	0.11	0.11	0.09	0.09
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Intercept	3.87	3.67	3.88	3.48	3.84	3.44
	(0.11)**	(0.13)**	(0.14)**	(0.16)**	(0.15)**	(0.15)**
Observations	206		206		206	
-2 LL	440.66		441.07		436.64	
AIC	458.66		459.07		454.64	

Notes: Standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 12. Social Relations Analysis of Functional Similarity$_{profile}$ Predicting Interpersonal Attraction

	Model 1		Model 2		Model 3	
	Ent.	Cof.	Ent.	Cof.	Ent.	Cof.
Superordinate Identity			-0.07	0.42	-0.07	0.41
			(0.23)	(0.25)	(0.23)	(0.26)
Functional Similarity			0.02	0.15	0.03	0.19
			(0.09)	(0.09)	(0.10)	(0.10)+
Superordinate Identity X Functional Similarity					-0.05	-0.16
					(0.21)	(0.21)
Actor	0.08	0.11	0.09	0.10	0.09	0.10
	(0.05)+	(0.07)+	(0.05)	(0.06)	(0.05)	(0.06)
Partner	0.11	0.05	0.09	0.06	0.09	0.06
	(0.07)+	(0.04)	(0.06)	(0.05)	(0.06)	(0.05)
Relationship plus Error	0.36	0.38	0.37	0.38	0.37	0.38
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
Generalized Reciprocity	-0.09	-0.05	-0.09	0.01	-0.08	0.03
	(0.42)	(0.50)	(0.45)	(0.51)	(0.45)	(0.50)
Dyadic Reciprocity	0.11	0.11	0.10	0.10	0.10	0.10
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Intercept	3.87	3.67	3.87	3.53	3.90	3.53
	(0.11)**	(0.13)**	(0.11)**	(0.15)**	(0.14)**	(0.15)**
Observations	206		206		206	
-2 LL	440.66		443.40		445.40	
AIC	458.66		461.40		463.40	

Notes: Standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 13. Polynomial Regression Models Predicting Cofounder Feelings of Interpersonal Attraction

Variable	Subordinate	Superordinate
Intercept	3.67	3.80
	(0.23)**	(0.23)**
Cofounder Functional Knowledge	-0.01	-0.33
	(0.07)	(0.10)**
Entrepreneur Functional Knowledge	0.22	0.05
	(0.07)**	(0.10)
Cofounder Functional Knowledge^2	-0.01	0.08
	(0.05)	(0.07)
Cofounder Functional Knowledge X Entrepreneur Functional Knowledge	0.05	0.04
	(0.06)	(0.08)
Entrepreneur Functional Knowledge^2	-0.07	0.07
	(0.05)	(0.08)
Ln (cof random effects)	0.06	0.24
Ln (ent random effects)	0.08	0.15
Observations	335	180

Notes: Total observations are based upon five comparisons per dyad (one for each functional knowledge dimension).

Table 14. Social Relations Analysis of Functional Similarity$_{primary}$ Predicting Instrumental Attraction

	Model 1		Model 2		Model 3	
	Ent.	Cof.	Ent.	Cof.	Ent.	Cof.
Superordinate Identity			-0.09	0.36	-0.01	0.49
			(0.26)	(0.30)	(0.27)	(0.30)
Functional Similarity			-0.09	-0.02	0.12	0.28
			(0.18)	(0.18)	(0.22)	(0.22)
Superordinate Identity X Functional Similarity					-0.52	-0.76
					(0.36)	(0.35)*
Actor	0.13	0.14	0.14	0.13	0.13	0.13
	(0.07)*	(0.07)+	(0.07)*	(0.07)+	(0.07)+	(0.07)+
Partner	0.16	0.08	0.16	0.08	0.15	0.09
	(0.08)*	(0.05)	(0.08)*	(0.05)	(0.08)+	(0.05)
Relationship plus Error	0.32	0.32	0.32	0.32	0.31	0.32
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Generalized Reciprocity	0.01	0.31	0.05	0.35	-0.02	0.37
	(0.36)	(0.39)	(0.36)	(0.39)	(0.37)	(0.38)
Dyadic Reciprocity	-0.04	-0.04	-0.05	-0.05	-0.08	-0.08
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Intercept	4.01	3.92	4.06	3.92	4.02	3.87
	(0.12)**	(0.17)**	(0.16)**	(0.18)**	(0.16)**	(0.18)**
Observations	206		206		206	
-2LL	428.70		431.48		425.01	
AIC	446.70		449.48		443.01	

Notes: Standard errors in parentheses; + $p < 0.10$; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figures

Figure 1. Idealized Response Surface for a Similarity Effect

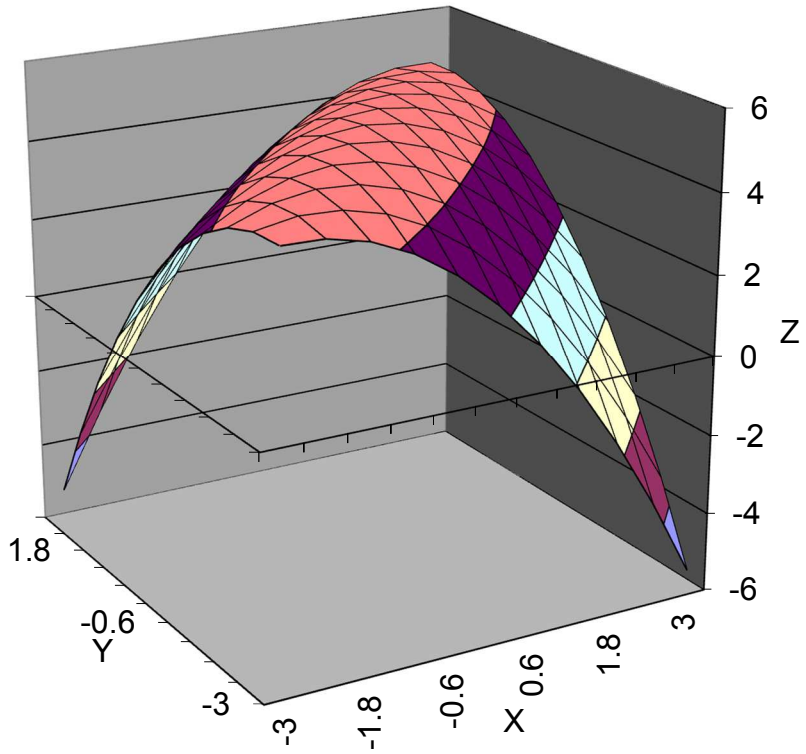


Figure 2. Functional Similarity and Potential Cofounder Interpersonal Attraction to Entrepreneurs

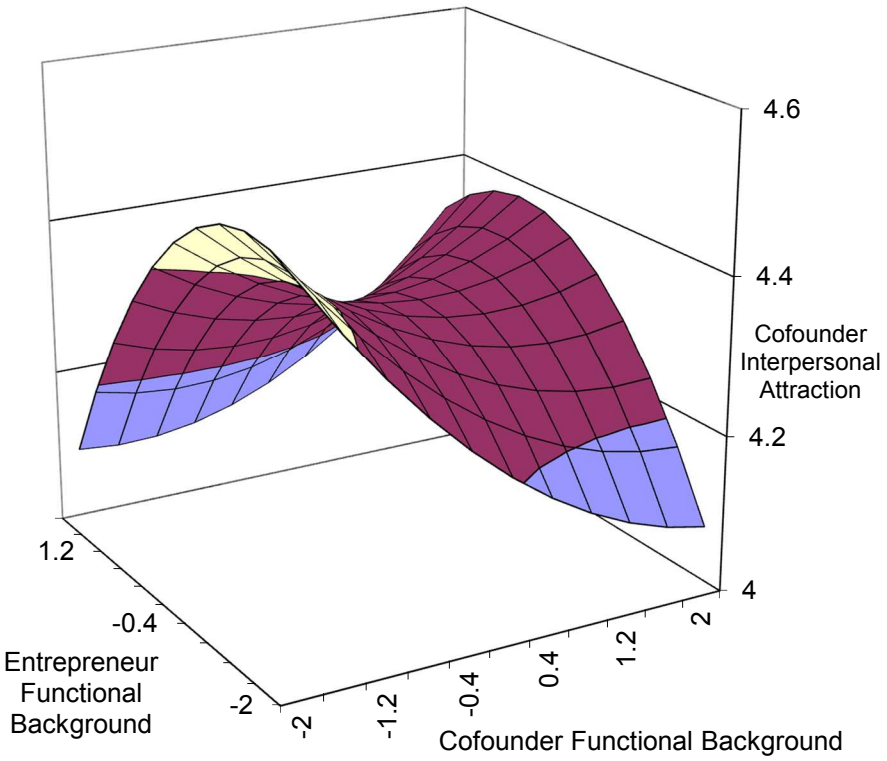


Figure 3. Functional Similarity and Potential Cofounder Instrumental Attraction to Entrepreneurs

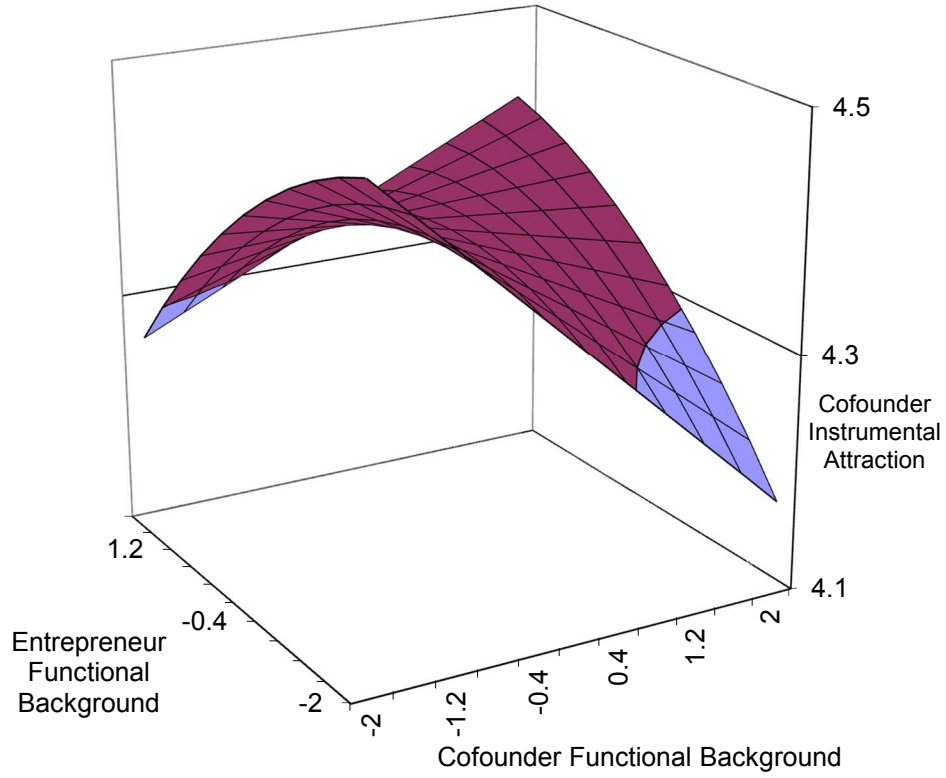


Figure 4. Functional Similarity and Potential Cofounder Idea Attraction

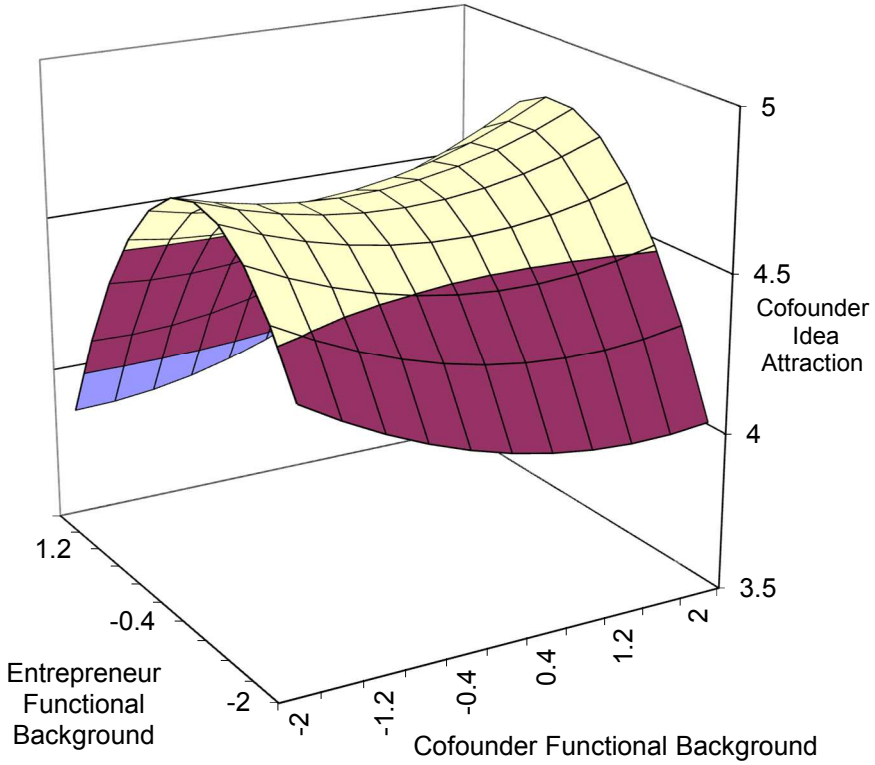


Figure 5. Speed Dating Event Diagram for Entrepreneurs and Potential Cofounders

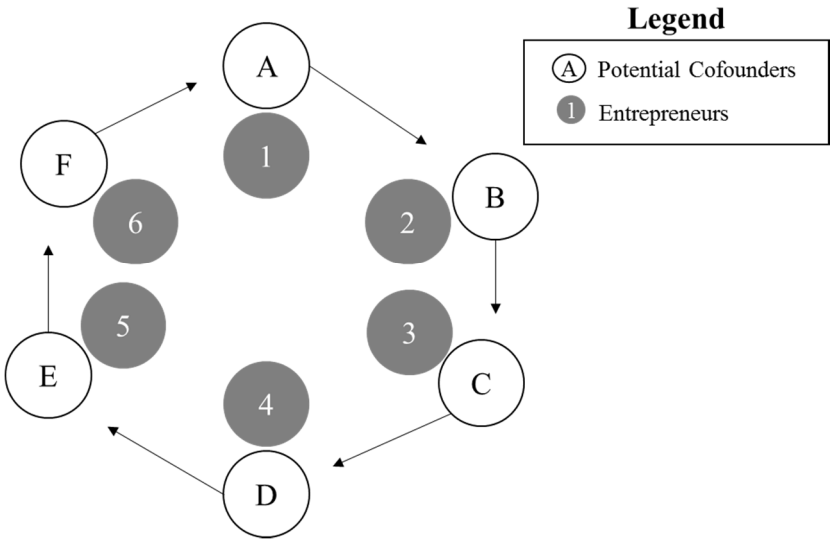
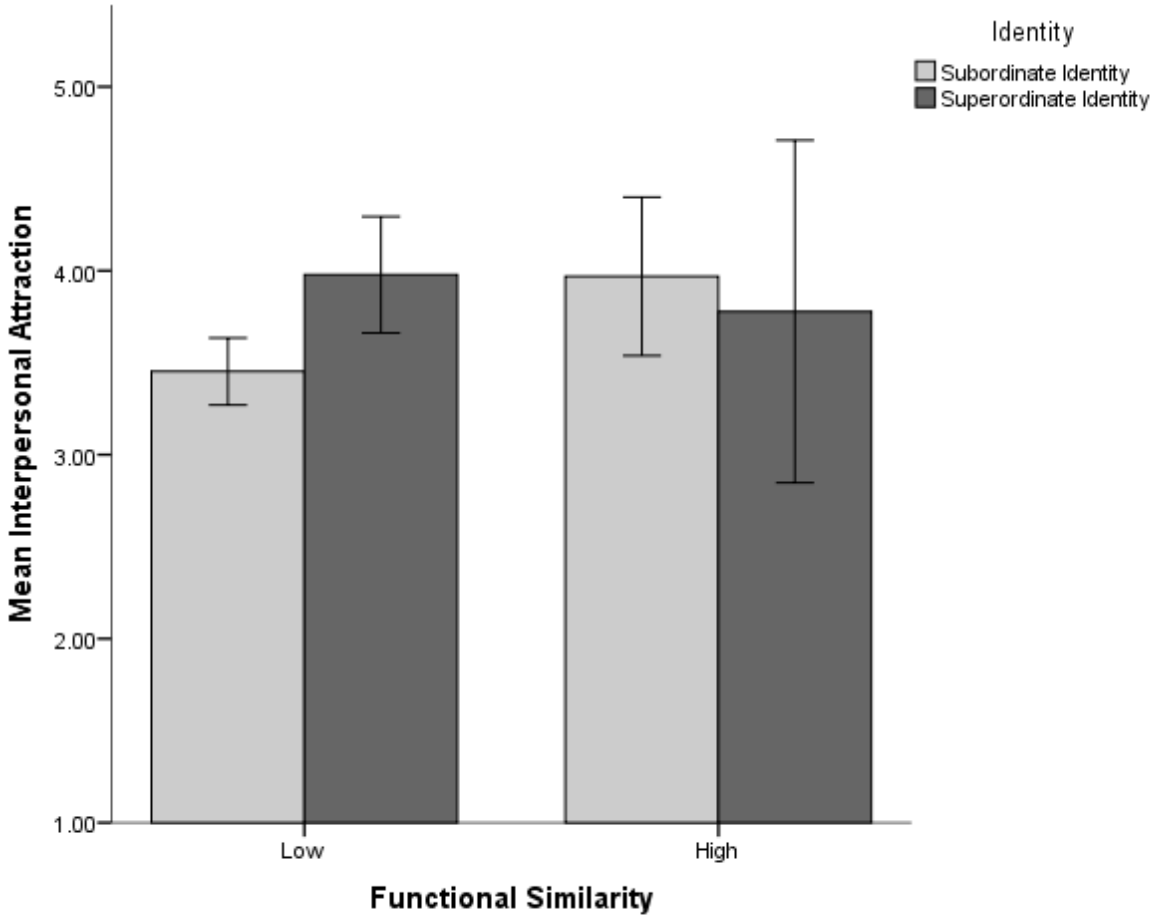


Figure 6. Functional Similarity and Potential Cofounder Feelings of Interpersonal Attraction for Entrepreneurs



Note. 95% CI error bar displayed.

Figure 7. Functional Similarity and Potential Cofounder Feelings of Interpersonal Attraction for Entrepreneurs (Subordinate Condition)

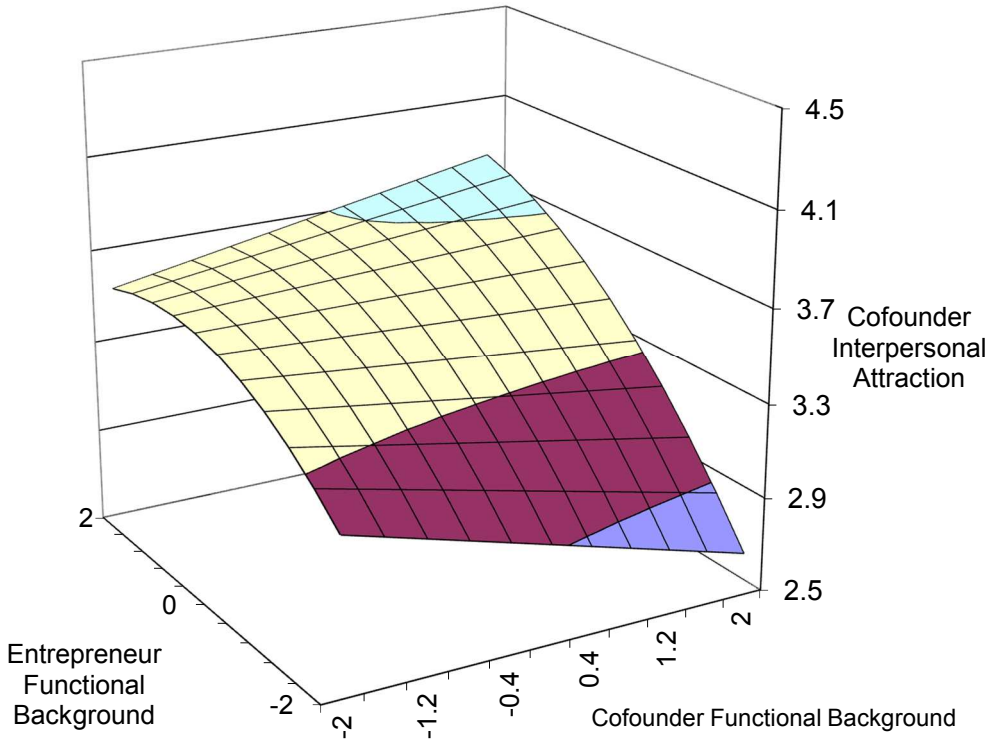


Figure 8. Functional Similarity and Potential Cofounder Feelings of Interpersonal Attraction for Entrepreneurs (Superordinate Condition)

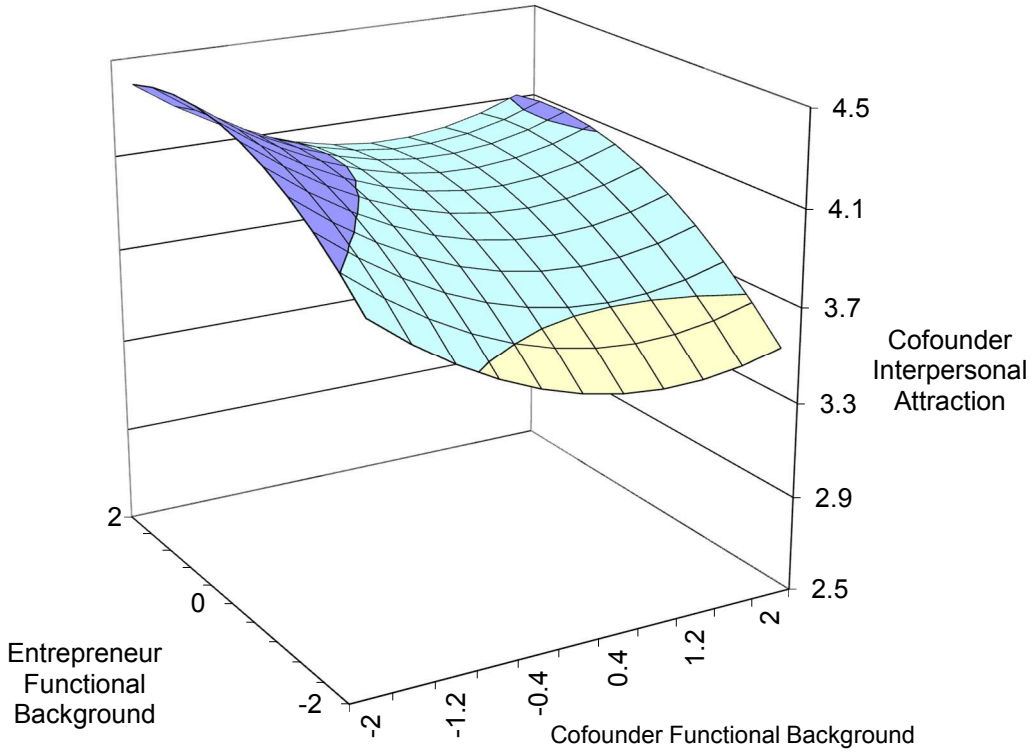
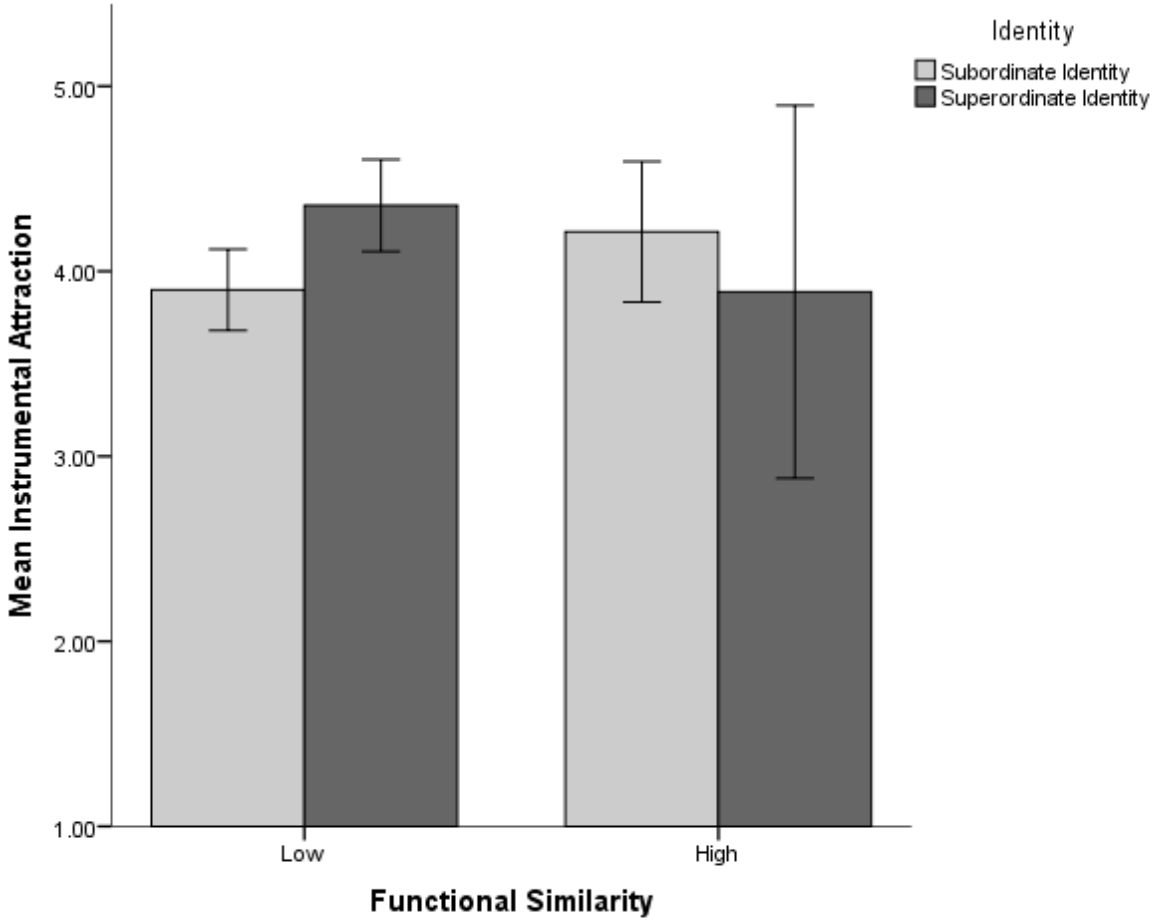
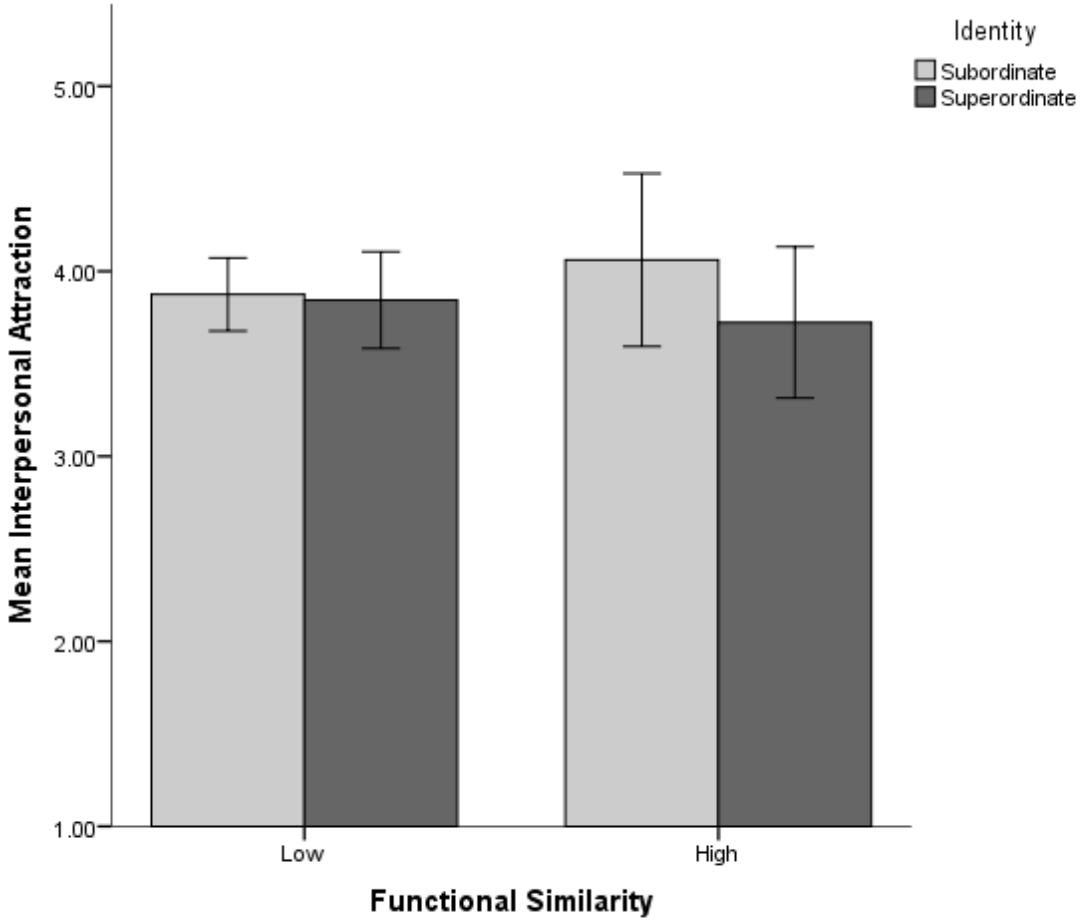


Figure 9. Potential Cofounder Feelings of Instrumental Attraction for Entrepreneurs



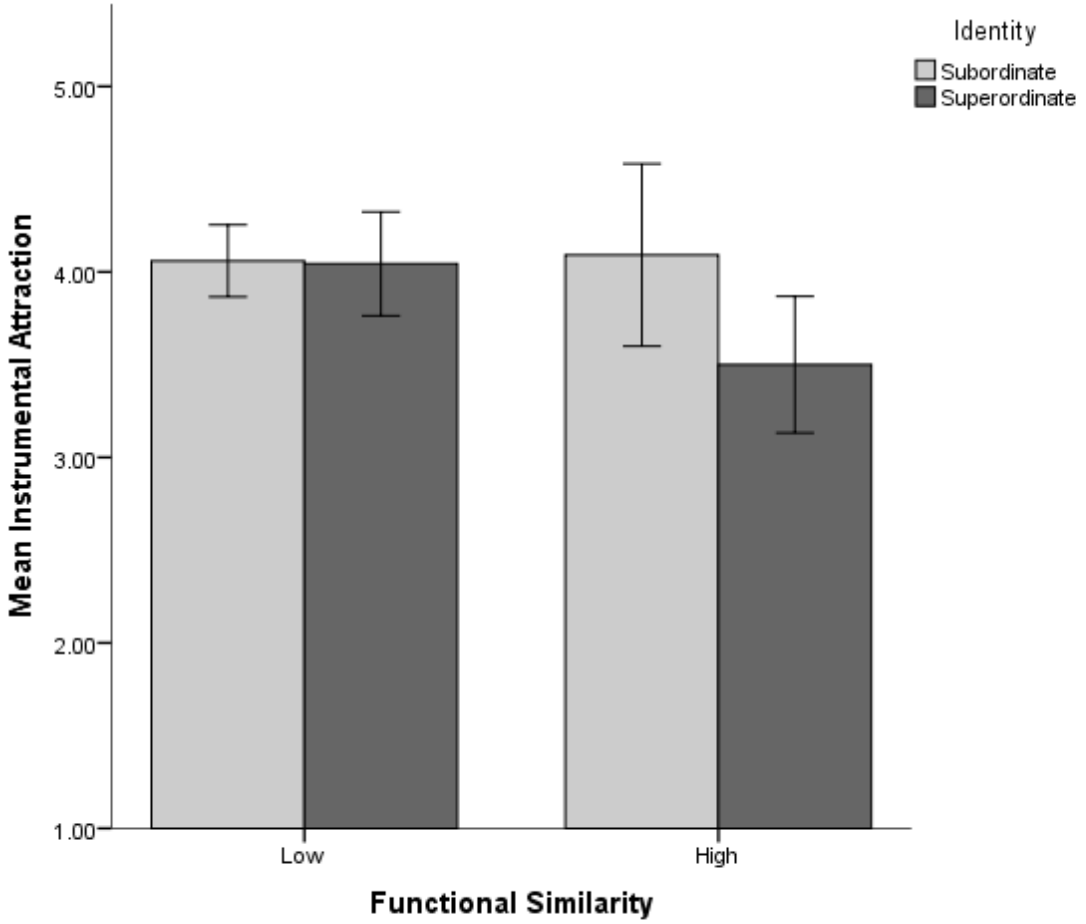
Note. 95% error bar displayed.

Figure 10. Entrepreneur Feelings of Interpersonal Attraction for Potential Cofounders



Note. 95% CI error bar displayed.

Figure 11. Entrepreneur Feelings of Instrumental Attraction for Potential Cofounders



Note. 95% CI error bar displayed.

Appendices

Appendix A. Summary of Results

Hypotheses	Results
H1. Entrepreneurs initiate contact with functionally dissimilar potential cofounders.	Not supported
H2. Entrepreneur's feelings of instrumental attraction mediate this relationship.	Not supported
H3. Potential cofounders are less interpersonally attracted to functionally dissimilar entrepreneurs.	Supported
H4. Potential cofounders are less instrumentally attracted to functionally dissimilar entrepreneurs.	Supported
H5. Potential cofounders are less attracted to the ideas of functionally dissimilar entrepreneurs.	Not supported
H6a. Potential cofounder interpersonal attraction is positively related to cofounders' decision to join.	Not supported
H6b. Potential cofounder instrumental attraction is positively related to cofounders' decision to join.	Supported
H6c. Potential cofounder idea attraction is positively related to cofounders' decision to join.	Supported
H7. Functionally dissimilar entrepreneurs who invoke a superordinate identity enhance cofounder interpersonal attraction.	Supported
H8. Functionally dissimilar entrepreneurs who functionally reframe the venture idea enhance cofounder idea attraction.	Not tested

Appendix B. Summary of Study Measures

Construct	Experiment	Incubator Program
Role (Entrepreneur or Potential Cofounder)	Pre-event survey	Video recording
Functional Background (self)	Pre-event survey (see appendix)	Pre-class survey
Functional Similarity$_{primary}$	(same = 1; different = 0)	(same = 1; different = 0)
Functional Similarity$_{profile}$	Not measured	Functional profile similarity
Entrepreneur Initiated Contact	NA	Audio Recording
Interpersonal Attraction	Adapted from Casciaro & Lobo 2008 (see appendix)	Adapted from Casciaro & Lobo 2008 (see appendix)
Instrumental Attraction	Adapted from Casciaro & Lobo 2008	Adapted from Casciaro & Lobo 2008
Idea Attraction	Adapted from Casciaro & Lobo 2008	Adapted from Casciaro & Lobo 2008
Perception of Shared Identity	Haslam et al. 1999	
Industry Background (self)	Pre-event survey	Pre-class survey
Industry Background (venture)	Pre-event survey	Pre-class survey
Venture Cofounding	Post-event survey (3-month)	Team roster and Post-event survey (3-month)

CONTROL VARIABLES		
Familiarity with other participants	A roster-based question in the pre-class survey asking based upon class roster	A roster-based survey question asking them to check a box next to registrants' names whom they already know.
Motivation to Attend	Single-item measure (see appendix)	Single-item measure (see appendix)
Entrepreneurial self-efficacy	Chen, Greene, & Crick, 1998	Chen, Greene, & Crick, 1998
Personality (TIPI)	Gosling, Rentfrow, & Swann (2003)	Gosling, Rentfrow, & Swann (2003)
Industry Background	Pre-event survey	Pre-event survey
Age	Pre-class survey	Pre-event survey
Gender	Pre-class survey	Pre-event survey
Ethnicity	Pre-class survey	Pre-event survey
Venture stage	Ruef (2005)	Ruef (2005)

Appendix C. Study Scales[5]

Attraction Measures (adapted from Casciaro & Lobo, 2008)

Instrumental Attraction: Please rate the entrepreneur or potential cofounder in terms of:

1. This **person** can develop the venture.
2. This **person** can create significant economic value in this venture.
3. This **person** can succeed with this venture.

Idea Attraction: Please rate the venture idea in terms of:

1. This venture **idea** is meaningful to me.
2. I find this venture **idea** appealing.
3. I am excited about this venture **idea**.

Interpersonal Attraction: Please rate the entrepreneur or potential cofounder in terms of:

1. I want to work with this **person** on a venture.
2. This **person** energizes me.
3. This **person** would be pleasant to work with.

Chen, Greene, & Crick (1998) Entrepreneurial Self-Efficacy

1. I believe I can succeed at the tasks necessary to start a new venture.
2. I am confident in my ability to start a new business.
3. Compared to other people I can do most tasks required to start a business very well.

Functional Background

Which of the following do you consider to be your PRIMARY functional background? (select one)

1. Finance/Accounting
2. Sales/Marketing
3. Operations/Production/Logistics
4. Basic Research
5. Engineering
6. Software
7. Other

Please indicate your degree of experience and knowledge in these functional areas (1 – None, 2 – Very little, 3 – Some, 4 – A decent amount, 5 – A great degree)

1. Finance/Accounting
2. Sales/Marketing

[5] All measures used 7-point scales (1 – Strongly disagree; 7 – Strongly agree) unless otherwise noted.

3. Operations/Production/Logistics
4. Basic Research
5. Engineering
6. Software
7. Other

Gosling, Rentfrow, & Swann (2003) Ten Item Personality Inventory

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:

1. Extraverted, enthusiastic.
2. Critical, quarrelsome.
3. Dependable, self-disciplined.
4. Anxious, easily upset.
5. Open to new experiences, complex.
6. Reserved, quiet.
7. Sympathetic, warm.
8. Disorganized, careless.
9. Calm, emotionally stable.
10. Conventional, uncreative.

TIPI scale scoring (‘‘R’’ denotes reverse-scored items): Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness; 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

Motivation to Attend

I enrolled in this event / program to:

1. Meet potential cofounders
2. Get advice on my venture from peers
3. Get advice on my venture from mentors
4. Launch a business
5. Learn about entrepreneurship
6. Other (specify)

Ruef (2005) venture stage of development

Which of the following activities have you completed for your new venture? (select all that apply)

1. Marketing plan
2. Operations plan
3. Product design
4. Financial plan
5. Cofounder identified
6. Prototype complete
7. IP secured
8. Funding secured
9. Paying customers
10. Business partnerships established

Appendix D. Social Identity Manipulation Script

Subordinate Condition

Task 1. Hand out materials badges, badge signup sheet, name tags, sticker dots

1. Script: "Before we get going with small group activity, I want to first get all of the logistics out of the way. I'll be handing out 4 things as we progress through the activities I'll explain how we're using each thing, but let's first get set up."
    a. "Step 1. Pick out a badge from the box and put it around your neck like this {{put badge around your neck}}"
    b. "Step 2. Get a name tag and clearly write your first name and last initial {{ Show them }}.
    c. "Step 3. Underneath your name write the number of the badge that you're wearing which can be found on the back side" {{ show them }} "For those of you who are looking for someone to join their venture, pick up a red tag and for those looking to join a venture pick up a blue tag."
    d. "Step 4. Pick up a sticker corresponding to your PRIMARY FUNCTIONAL BACKGROUND, using the legend on the board. Place that sticker on the name tag."
        i. Finance / Accounting – Blue
        ii. Marketing / Sales – Green
        iii. Operations – Yellow
        iv. Basic Research – Red
        v. Engineering / Software – Orange
2. Tell people that you'll explain each of these as they become relevant for the following activities. NOTE: The recording device is not on, no data is being captured yet.

Task 2. Organize room according to functional background (sticker color)

1. Script: "Now that we have our stickers indicating our functional background I want everyone to rearrange themselves to sit by others who have the same color sticker as you. Greens come up here. Blue go back there. Red over there, Yellow over here, and Orange over there."

Task 3. Icebreaker Exercise

1. Script: "We're going to spend the next 5 minutes talking about our functional backgrounds and what specific experience we have in that functional area. Within your groups spend three minutes going around the group sharing your FUNCTIONAL background to each other. At the end of 3 minutes, one person in the group will report out to the group as a whole each person's background."
2. OK let's start with the sales / marketing people, what did you learn about each other?

3. OK next let's talk to the finance and legal people?
4. OK what about the researchers
5. And engineers / software developers
6. OK last but not least, operations folks, what did you have to share?
7. Script: "OK thanks for participating in that ice breaker exercise. We're going to now shift and go downstairs for a chance to have more one-on-one conversations with each other. But before we do that I'd like to share the general outline of what this task will look like."

Task 4. Introduce Round Robin Interactions (deliver these instructions in the upstairs room)

1. Script: "We're going to spend the next 60 minutes or so having 7-minute one-on-one conversations with each other to get to know more about each other's background. To understand how these conversations go we're going to use these new devices that allow us to track who is talking to whom and what the conversation topics are. These devices are not currently turned on, but in a moment we're going to turn them on. This is voluntary but for the purposes of better understanding these conversations we'd love your support. Of course all of this material will be held in strict confidentiality and will not be individually identifiable. To turn your device on, flip the switch on the black part of the device. A blue light should turn on. I'll come around and check to make sure it's working OK. NOTE: If a blue light doesn't turn on you can use the paper clip to manually start it or give them another device instead.
2. Script: "Next we're going to go downstairs and meet with each other. You will have 5 minutes to meet someone new. After your five minute conversation you will answer a few questions about your interaction using this clipboard and pen. Half of you will stand on a sheet of paper and the other half won't. After 5 minutes is up the people not standing on the paper will rotate to your left and the people standing on the paper will stay where they are. I'll announce when we're done rotating. After this activity you'll come meet me to hand everything in."
3. Script: "Before we go downstairs, pick up a clipboard and pen as you're walking out the door."

Task 5. Put the entrepreneurs on a pre-printed sheet of paper and the other half not. Tell them that seven minutes is starting. After the seven minutes is up, tell them "Time" and ask potential cofounders to rotate to their left. Fill out the survey indicating your partner's ID number and fill in the survey before talking to the next person.

Task 6. Collect all surveys (put them in the "POST" folder). And place all devices in the box. Then make sure that signup sheet is checked off when someone turns in their device.

Superordinate Condition

Task 1. Hand out materials badges, badge signup sheet, name tags

3. Script: "Before we get going with small group activity, I want to first get all of the logistics out of the way. I'll be handing out 4 things as we progress through the activities I'll explain how we're using each thing, but let's first get set up."
    a. "Step 1. Pick out a badge from the box and put it around your neck like this {{put badge around your neck}}"
    b. "Step 2. Get a name tag and clearly write your first name and last initial {{ Show them }}. For those of you who are looking for someone to join their venture, pick up a red tag and for those looking to join a venture pick up a blue tag.
    c. "Step 3. Underneath your name write the number of the badge that you're wearing which can be found on the back side" {{ show them }}
4. Tell people that you'll explain each of these as they become relevant for the following activities. NOTE: The recording device is not on, no data is being captured yet.

Task 2. Organize room randomly

2. Script: "Now that we have everything, I want each of you to stand up and go sit in another part of the room."

Task 3. Icebreaker Exercise

8. Script: "We're going to spend the next 5 minutes talking with others seated next to you about our entrepreneurial experiences. Within your groups spend three minutes going around the group sharing why you want to be an entrepreneurial experiences. At the end of 3 minutes, one person in the group will report out to the group as a whole some of what was discussed."
9. OK let's start with this group, what did you learn about each other?
10. OK next let's hear what this group discussed…
11. Repeat until all groups are covered.
12. Script: "OK thanks for participating in that ice breaker exercise. We're going to now shift and go downstairs for a chance to have more one-on-one conversations with each other. But before we do that I'd like to share the general outline of what this task will look like."

Task 4. Introduce Round Robin Interactions (deliver these instructions in the upstairs room)

4. Script: "We're going to spend the next 60 minutes or so having 7-minute one-on-one conversations with each other to get to know more about each other's background. To understand how these conversations go we're going to use these new devices that allow us to track who is talking to whom and what the conversation topics are. These devices

are not currently turned on, but in a moment we're going to turn them on. This is voluntary but for the purposes of better understanding these conversations we'd love your support. Of course all of this material will be held in strict confidentiality and will not be individually identifiable. To turn your device on, flip the switch on the black part of the device. A blue light should turn on. I'll come around and check to make sure it's working OK. NOTE: If a blue light doesn't turn on you can use the paper clip to manually start it or give them another device instead.

5. Script: "Next we're going to go downstairs and meet with each other. You will have 5 minutes to meet someone new. After your five minute conversation you will answer a few questions about your interaction using this clipboard and pen. Half of you will stand on a sheet of paper and the other half won't. After 5 minutes is up the people not standing on the paper will rotate to your left and the people standing on the paper will stay where they are. I'll announce when we're done rotating. After this activity you'll come meet me to hand everything in."
6. Script: "Before we go downstairs, pick up a clipboard and pen as you're walking out the door."

Task 5. Put the entrepreneurs on a pre-printed sheet of paper and the other half not. Tell them that seven minutes is starting. After the seven minutes is up, tell them "Time" and ask potential cofounders to rotate to their left. Fill out the survey indicating your partner's ID number and fill in the survey before talking to the next person.

Task 6. Collect all surveys (put them in the "POST" folder). And place all devices in the box. Then make sure that signup sheet is checked off when someone turns in their device.