CHAPTER V
STUDY 2: SURVEY OF RELATIONAL CAPITAL IN ENTREPRENEURIAL TEAMS

Study 2 tests the hypotheses presented in Chapter IV about the effects of communal schemas and contracting practices on relationships and performance in entrepreneurial teams. This study utilized a mail survey of teams of at least two individuals who hold an equity stake and are actively involved in strategic decision making during the startup phase of a knowledge-based new venture.

METHODS

Sample

Two sources provided the population for this study: the VentureXpert database and www.linksv.com. The first was a subset of firms listed by the VentureXpert database. VentureXpert is a comprehensive database of venture capital (VC) funded new ventures. The VentureXpert database is provided by Thomson Venture Economics and has been used extensively in earlier entrepreneurship research (e.g., Guler, 2007). The database enables searching by industry and lists contact information for executives, year of founding, industry, and amount of money invested in the startup. To generate the population for the survey, I created a database of VC-funded companies listed in VentureXpert that met the following criteria (1) they were U.S.-based, (2) they operated in high-technology industries (codes 1000 (information technology) and 4000 (medical/health/life sciences), (3) were in the seed or startup investment stage (i.e.,

funding to develop the idea, conduct market and feasibility research, and start the business), and (4) were founded in 2004 or later. I use a three-year cutoff to ensure that the companies were indeed early in their development. Of the 1044 companies that met these criteria, contact information was available for 720.

The second source was www.linksv.com, a website listing information about Silicon Valley startups. From this source I obtained contact information for an additional 130 companies that met the above criteria. Thus the mailing included 850 companies. However, 210 companies were excluded from the sample because (1) the address was wrong and the surveys were returned, (2) the contact person was no longer there or did not receive the survey, or (3) the company did not meet the selection criteria. Information about the latter two exclusion criteria was obtained when I conducted follow-up phone calls, as elaborated below. Thus the final set of companies contacted was 610.

Survey Design and Administration

Mail surveys are the most common form of data collection in entrepreneurship and small business research (Bartholomew & Smith, 2006). The survey used in this study was designed to assess the constructs of interest using multiple-item seven-point Likert-like scales, to be clear and concise, and to group similar items together to aid in comprehension. I also provided identifying labels for each set of items to direct the respondents' thinking about the items. Whenever possible, I used or modified existing scales that have been validated in previous literature (see description of measures below). I pretested the survey with an entrepreneur, a venture capitalist, and two non-entrepreneurs to ensure that the items are clear, the survey does not take too long (less

than 20 minutes), and that the survey's language fits the context. The survey is included in Appendix C.

I sent five copes of the survey to the contact person listed in these databases (usually the founder or Chief Executive Officer) and ask him or her to distribute the surveys to four other members of the entrepreneurial team. Each survey was coded with an identification number so that the replies could be matched with the mailing list and to identify the respondent's firm.

I employed several means to increase response rates, using Dillman's (2000) tailored design method. This method is based on creating respondent trust and perceptions of increased rewards and reduced costs for being a respondent. First, I sent a pre-notice letter, as recommended by Dillman (2000). Such notices are known to increase response rates, perhaps because they convey to the respondent the idea that something important is about to be sent to them. The pre-notice letter appears in Appendix D. Second, I followed Dillman's (2000) guidelines for the survey introductory letter and survey cover page (see Appendix E for the letter and Appendix F for the cover page). The letter was dated, the salutation was personalized, and the usefulness and importance of the respondents' participation was emphasized. I used Ross School of Business and Samuel Zell and Robert H. Lurie Institute for Entrepreneurial Studies letterheads and provided self-addressed, stamped envelopes for returning the survey. I assured respondents of confidentiality. I also signed the letter personally in blue ink. Third, I included a letter from Thomas Kinnear, Director of the Samuel Zell and Robert H. Lurie Institute for Entrepreneurial Studies at the Ross School of Business. This endorsement

provided legitimacy and emphasized the usefulness and importance of the study. This letter is included in Appendix G.

The fourth means I used to increase response rate was to give respondents the option to complete the survey online. The front page of each survey included a link to the online version of the survey and a code the respondent needed to enter to complete the survey. This code was the identification number used to match each respondent with his or her organization. Fifth, I offered respondents a summary report of the findings of the study. Sixth, I included an attractive one double-sided page "Entrepreneur Resource List" on which I compiled publicly available resources, facts, websites, quotes, and so on. See Appendix H for this flyer. This inclusion was aimed at activating the norm of reciprocity (Bednar & Westphal, 2007). The material on the flyer was unrelated to team process or any other issues close to the topic of the present research. Seventh, I sent a follow-up reminder two weeks after the initial mailing to non-respondents, another copy of the survey two weeks after that, and another reminder postcard two weeks later to non-respondents (see Appendix I for the follow-up reminders). Finally, I made reminder phone call to those who did not respond, leaving a message when reaching voicemail.

Measures: Independent variables

Communal Schemas. To assess the extent of communal schemas of team members toward each other, the survey used the name-generator method, commonly used in network studies (Lin, 1999). Using initials, each participant was asked to list up to four people, using initials, who are part of the entrepreneurial team. I used the term "executive team" on the survey, following feedback from pre-testing and defined it as those who hold an equity stake and are actively involved in strategic decision making. After the list,

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the participant was asked to answer demographic questions about each of the team members listed as well as to describe the extent of his or her communal orientation toward that person.

The level of communal schemas was computed as follows. First, I averaged the six communal schema items as reported for each team member. Thus if a respondent had indicated that she had three team members, I obtained three values representing her average communal schema level toward each of the three team members. I then averaged the communal schemas value across all team members about whom the respondent had reported. Thus in the example, I averaged the communal schema level for the three team members to obtain a general communal schema score for the respondent.

Communal schemas were assessed with a modification of the communal strength measure used by Mills et al. (2004). The respondents were asked as follows: "Please use the following scale to indicate the extent to which the following statements describe your relationship with this person."

1. I would go out of my way do so something for this person.
2. I feel happy when doing something that helps this person.
3. I would incur a substantial cost to meet a need of this person.
4. I would be willing to sacrifice for this person.
5. I would be willing to give up a lot to benefit this person.
6. I would go out of my way do so something for this person.

Contracting Practices. Whereas measures of formalization presume more structure than is likely to be in place in a new venture (e.g., the existence of performance appraisal processes), the measures of contracting used here did not imply that the new venture had solidified its social structure. I used two measures of contracting practices. The first assessed the extent of a priori contracting and referred to the company's "Operating Agreement," if such an agreement existed. The instructions for these items

were as follows: "The questions below ask about your "Operating Agreement." An Operating Agreement is a contract among the members of a limited liability company governing the membership, management, operation and distribution of income of the company and the rights and obligations of the members. If you do not have an Operating Agreement, please answer with respect to your Joint Operating Agreement, Partnership Agreement, Shareholders' Agreement, or other relevant agreement." The questions were a modification of Poppo and Zenger's (2002) measure using "Operating Agreement" instead of contract. They asked to indicate agreement with the following statements: (1) The Operating Agreement between us is highly customized and (2) The Operating Agreement between us required considerable legal work, (3) The Operating Agreement between us specifies in detail the ways in which we will deal with problems that might arise, (4) The Operating Agreement between us has a detailed "Management of the Company" section that specifies in detail how major decisions will be made, (5) The Operating Agreement between us has a detailed "Powers of Members" section that specifies in detail members' rights, liabilities, and buyout procedure, (6) The Operating Agreement between us has a detailed "Dissolution" section that specifies the conditions for dissolution and asset distribution.

To assess day-to-day use of contracting practices, I modified Argyres, Bercovitz, and Mayer's (2007) measure of contracts. Respondents indicated agreement with the following statements: (1) When we hold meetings, we specify explicitly the list of tasks each of us will accomplish, (2) When we hold meetings, we specify explicitly the criteria for task completion, (3) When we hold meetings, we specify explicitly the schedule for task completion.

Measures: Mediating Variables

Trust. Trust among the team was assessed using Langfred's (2004) measure of trust. Many of measures of trust exist, but this one was appropriate for two reasons. First, it was written at the collective level to characterize overall trust on the team. Thus it uses "we" language rather than focusing on how trusting is the self or how trustworthy the other. Second, unlike many other measures of trust, it does not conceptually overlap with communal schemas. For example, McAllister's (1995) measure of trust includes items such as "I would have to say that we have both made considerable emotional investments in our working relationship" and Mayer and Davis's (1999) scale includes items such as "this manager is very concerned about my welfare." In contrast, Langfred's measure simply asks respondents to indicate their agreement with the following items about the extent of trust on the team:

1. We trust each other a lot on the team.
2. I know I can count on the other team members.
3. The other team members know they can count on me.
4. I trust all of the other team members.

Identification. To measure strength of identification with the entrepreneurial team I used two sets of measures. The first two-item measure assessed the degree of overlap between respondents' personal and team identity (a cognitive approach to identification (Bergami & Bagozzi, 2000)). The first item in this measure was: Please indicate to what degree your self-image overlaps with the organization's image. (7-point scale from "not at all" to "very much" with "moderately" in the middle). The second item provided respondents with a set of Venn diagrams showing different levels of overlap between two circles and asked them to choose the picture that best describes their

relationship with the team (see the survey in Appendix C for the Venn diagrams). The following is the second item with instructions:

"As another way of expressing your sense of the degree of overlap between your personal identity or self-image with the identity of the executive management team, as you perceive it, please express your judgment in this regard with the use of the following visual scale, where the left circle in each pair of circles represents **your personal identity** and the right circle in each pair represents the **identity of the team** as you perceive it. (Circle the number that best captures your situation.)"

The second measure of identification was broader and included not only the cognitive component of identification, but also an emotional component (Bergami & Bagozzi, 2000). It is Mael and Ashforth's (1992) identification scale, adapted to the team context. The items are as follows:

1. When someone criticizes the team, it feels like a personal insult.
2. I am very interested in what others think about the team.
3. When I talk about other people on the team, I usually say "we" rather than "they".
4. The successes of the people in the team are my successes.
5. When someone praises the team, it feels like a personal compliment.
6. If a story in the media criticized the team, I would feel embarrassed.

Obligations. To my knowledge, there is no established measure of obligations in the sense used by Coleman (1988) and Nahapiet and Ghoshal (1998). Obligations represent team members' behavioral commitment to each other to perform certain activities. To construct my own measure, I built on the insight that obligations consists of two components: *clarity* about expectations for behavior and *accountability* for these behaviors. Each of these components was assessed by modifying existing scales. Clarity was assessed with a modification of four items from Rizzo, House, and Lirtzman's

(1970) role ambiguity scale. Respondents were asked to indicate their agreement with the following items with respect to their entrepreneurial team: (1) We know what our responsibilities are, (2) We know exactly what is expected of us, (3) we know that we divide our time properly, (4) we feel certain about how much authority we have. Accountability was assessed using a modification of five items from Wood and Winston's (2007) leadership accountability scale. The items were: (1) we accept responsibility for our actions, (2) we avoid making excuses for mistakes, (3) we avoid blaming others for mistakes, (4) we accept responsibility for the future direction and accomplishment of the team, and (5) we accept ownership for the results of our decisions and actions.

Measures: Dependent Variables

For startup ventures, financial measures of performance such as sales, profits, and positive cash flows are not yet relevant, as the primary focus of the team is to establish the venture and they are likely to burn capital rather than earn revenue (Foo, Sin, & Yiong, 2006). Thus I used perceived performance, which has been used extensively in research on early-stage entrepreneurial teams (Higashide & Birley, 2002; Sapienza, 1992; West, 2007), as well as the three indicators of team performance discussed in Chapter 4: creativity, resilience, and coordination.

Creativity. To assess creativity I used a version of Zhou and George's (2001) creativity scale modified to the entrepreneurial team context. Respondents indicated the extent of their agreement with the following items: (1) We have a fresh approach to problems, (2) We come up with new and practical ideas to improve our performance, (3) We are not afraid to take risks, (4) We often have new and innovative ideas, (5) We come

up with creative solutions to problems, (6) We suggest new ways to achieve goals or objectives.

Resilience. To assess resilience I modified the two "commitment to resilience" items from the "Safety Organizing Survey" (Vogus & Sutcliffe, 2007). The items are (1) We talk about mistakes and ways to learn from them (2) When unexpected challenges occur, we discuss how we could have prevented them. In addition, I included modifications of the four items in the Brief Resilient Coping Scale (Sinclair & Wallston, 2004): (3) We look for creative ways to alter difficult situations, (4) Regardless of what happens to us, we can control our reaction to it, (5) We can grow in positive ways by dealing with difficult situations, (6) We actively look for ways to overcome the challenges we encounter.

Coordination. To assess coordination, I modified Georgopoulos and Mann's (1962) coordination scale, which has shown high reliability and was used by Cheng (1983). The first five items, which assess the coherence of activities, were modified to fit the entrepreneurial team context. Respondents indicated the extent of their agreement with the following regarding the entrepreneurial team (1) The different work activities of the team members fit well together and are geared in the direction of the overall goals (2) The team members make an effort to avoid interfering with each other's duties and responsibilities, (3) The members of the team do their job efficiently without getting in each other's way, (4) The team members work together smoothly, (5) In our everyday routine, our activities are well timed.

Perceived performance. Perceived performance was assessed using a modification of Higashide and Birley's (2002) modification of Sapienza's (1992)

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measure of perceived performance. Because at the early stage of a startup financial

criteria are not useful indicators of performance (as the firm is more likely to be burning

capital than generating capital), respondents were asked to indicate the relative

importance of five non-financial criteria (new product/process development, market

development, operating efficiency, personnel development, harvest/exit readiness) by

distributing 100 points across these dimensions according to their relative importance.

Then they indicated their satisfaction with their performance on each criterion on a 7-

point scale (1=not at all satisfied, 7=extremely satisfied). A weighted average measure of

performance was obtained for each respondent by multiplying the importance scores by

the satisfaction scores and summing. Dividing these scores by 100 yielded a 1-7 range.

Another general performance item asked for an assessment of the percent of ideal

performance being achieved, where ideal performance equates to 100% (West, 2007).

Finally, the following item assessed the extent to which the startup is meeting

milestones specified by funding sources, if relevant. Previous research has shown that

meeting milestones is an important component of innovation (e.g., Eisenhardt & Tabrizi,

1995). Following the question about the nature of amount of rounds of funding the

following questions appear:

If you indicated any of the above, please answer the following question:

Did your funding come with milestones? ____ yes ____ no

If yes, to what extent are you meeting the milestones specified in the funding?

[scale from 1to 7]

Measures: Control Variables

Industry characteristics. I assessed the extent to which respondents experience uncertainty and ambiguity about their environment, as uncertainty is known to impact the nature of interpersonal relationships (Kelley et al., 2003). The first set of items came from Waldman et al.'s (2001) measure of perceived environmental uncertainty. Respondents were instructed as follows: "Please indicate to what extent the following statements are descriptive of your startup's industry or environment." The items were: (1) very dynamic, changing rapidly in technical, economic, or cultural dimensions, (2) very risky, one false step can mean our undoing, (3) very rapidly expanding through the expansion of old markets and the emergence of new ones, (4) very stressful, exacting, hostile, hard to keep afloat. The second set of items, listed under the same instructions asking respondents to focus on their industry or environment, came from Daft and Macintosh's (1981) measure of equivocality, or multiplicity of meanings. Equivocality represents a situation of too many interpretations, rather than insufficient interpretations, as is the case with uncertainty (Weick, 1995). The items were: (5) information can be interpreted in several ways and can lead to different but acceptable solutions, (6) information used in making decisions means different things to different people, (7) there is more than one satisfactory solution for the problems we face.

Technology Innovativeness. As another means of assessing the extent of experienced uncertainty, a measure of the innovativeness of the firm's technology, or the extent to which the firm is an innovator or imitator, was included. Innovators' technology is more revolutionary and represents a radical deviation from established technologies, thereby increasing experienced uncertainty (Amason et al., 2006; Cooper, 1998). I modified Gatignon et al.'s (2002) innovation radicalness scale, a self-report measure of

the extent to which an innovation is radical versus incremental. Respondents indicated agreement with the following items: (1) our product/service is a major improvement over the previous technology, (2) our product/service is a breakthrough innovation, (3) our product/service is difficult to replace using older technology, and (4) our product/service represents a major technological advance.

Entrepreneurial experience. Respondents indicated the number of startup teams in which they were members before this one. The item was: Have you participated in startups other than the current business? _____ yes _____ no. If yes, how many? _____ for how long (total)? _____ years _____ months. What was the nature of your involvement (check all that apply): _____ Founder _____ investor _____ director _____ advisor _____ employee. I used the answer to the first item (yes or no to prior startup experience) as a control in hypothesis testing.

Industry. Respondents were asked to indicate the industry of the startup, choosing from this list: Communications, Computer Hardware, Computer Software, Computer Other, Internet Specific, Semiconductor/Electronics, Biotechnology, Medical/Health, Other, Please Specify

Nature and number of funding. The respondents were asked the nature and extent of prior funding they had received. According to De Clerq et al. (2006), there are three principle forms of external (ie, non-family/friends) forms of funding for entrepreneurs: venture capital, angel, and corporate venture capital. I also added options based on feedback from the pre-tests of the survey. The resulting item was: Please indicate how many, if any, rounds of each kind of funding your startup has received

_____ Venture Capital _____ Angel _____ Corporate investment _____ Bank loan

_____ Friends/family not included in the previous categories Self-funding _____ Other, please specify_____. In the analyses for hypothesis testing, I dichotomized the answers such that firms were categorized as VC-funded or not-VC-funded.

VC influence on team composition. It is possible that the nature of how the team was assembled can affect the extent of relational capital. For example, if a respondent perceives that a certain team member was forced upon them by the VC firm, they may be less likely to trust him or her. It is known that VCs sometimes influence the composition of the team (Boeker & Wiltbank, 2005). Thus I included the following item for each of the listed team members, including the respondent him or herself: Was this person asked to join the startup on behalf of investors? _____ yes _____ no.

Prior ties. The extent of prior ties was assessed following Shane and Cable (2002) by asking respondents to indicate the extent to which the following statements described their relationship with each team member they listed: (1) prior to working in this startup, we had a professional relationship, (2) prior to working in this startup, we engaged in informal social activity (e.g., playing tennis, having dinner), (3) prior to working in this startup, we were personal friends. The extent of mutual ties was assessed with the following items: (4) We have friends in common, (5) We have family in common, and (6) We have business or professional contacts in common. Respondents also indicated how long they have known each team member in years and months and how long they worked together on the current startup.

Related to prior ties but distinct from it is the extent to which team members have worked together before, which can impact both their performance and their relational

capital (Beckman, 2006; Birley & Stockley, 2000). Following Eisenhardt and

Schoonhoven (1990) I assessed the extent of joint working experience by asking

respondents to indicate with which of the team members they had worked prior to

founding the company and for how long.

Demographic homogeneity. Respondents were asked to list the age, sex, years of

education, functional background, tenure on the team, and years of experience in the

industry of each of the founding team members. Thus for each member of the

entrepreneurial team, including oneself, respondents indicated age , gender, country of

birth, highest degree completed (high school, Bachelor's, Master's, Doctorate,

Professional (e.g., JD, MD), or don't know), functional background (based on Amason et

al. (2006), marketing, finance, technical (engineering, R&D), operations/manufacturing,

information systems, general administration, don't know), organizational tenure, and

years of experience in the industry. For each team member there was also an item

assessing whether they went to school together, and if so, whether this was how they met.

I used Blau's index for calculating heterogeneity of categorical variable, namely

functional background, and Gini's coefficient of mean difference (CMD) for continuous

variables, namely heterogeneity in industry experience and organizational tenure. The

CMD is different from the often-used Gini index and coefficient of variation in that it

does not divide by the mean. The Gini index and coefficient of variation are scales by the

mean to capture the intuition that holding the dispersion of a resource constant, an

increase in the average level of that resources lowers the felt level of inequality (Allison,

1978: 467). As Reagans et al. (2004: 117) note, however, while this transformation often

makes sense in a measure of inequality, it is not necessarily appropriate in a measure of

demographic diversity. With respect to organization tenure, for example, it would imply

that for two equality diverse teams, the team with higher mean tenure would be less

diverse than the team with lower mean tenure. To avoid this assumption, the mean

industry experience and the mean organizational tenure were included in the regression

equations as controls (Reagans et al., 2004).

Age of firm. Age of the firm was assessed by asking respondents to identify the

age of the new venture by identifying the date of incorporation of the startup.

Size of firm. Team size was assessed as the number of individuals listed by the

respondents as members of the entrepreneurial team. The respondents were also asked to

list the number of employees, if any, who are not members of the entrepreneurial team.

The total size of the firm was the sum of the two.

Medium and extent of interaction. There is evidence that the extent of

interaction and the medium of the interaction (e.g., face-to-face, phone, or electronic) can

impact the development of trust, identification, and obligations (Becerra & Gupta, 2003;

Wiesenfeld, Raghuram, & Garud, 1999). Thus I included a modification of Smith et al.'s

(1994) measure of communication frequency with the team members and the primary

medium of the interaction. Respondents were asked to indicate the frequency of the

following (from "less than once a month" to "every hour or so"): (1) Face-to-face

meetings between you and other members of the team, (2) Written communication, such

as emails, between you and other members of the team, (3) Telephone conversations

between you and other members of the team, (4) Video or web conferencing between you

and other members of the team.

Leadership. Previous work has indicated that leadership on the team can improve entrepreneurial team performance (Ensley, Pearce, & Hmieleski, 2006; Foo et al., 2006). A leader provides some structure to the entrepreneurial team context by virtue of guiding others' interpretations and behaviors. The presence of a leader means that the situation is structured by authority. This may be the case regardless of whether the leader is effective or ineffective. To control for leadership influence, presence of a distinct leader was measured with a modification of the authority ranking scale composed by Haslam and Fiske (1999), which measures the extent to which there is unequal authority among the group. Unlike other leadership scales, it does not presume that the leader is the CEO (e.g., Ensley et al., 2006) and does not require answers from all team members (e.g., Foo et al., 2006). Respondents indicated the extent to which the following statements characterize the team: (1) There is one person on the team who directs the work we do together (2) There is one person on the team who makes decisions and the others generally go along (3) There is one person on the team who is the leader, and the others follow him or her (4) There is one person on the team to whom others look up as a guide and role model.

Screening

The method of building the sample ensured that the surveyed new ventures were in knowledge-based sectors, such as high-tech and biotechnology. To make sure the respondents were members of the entrepreneurial team, they were be asked whether they hold an equity stake in the new venture, and if so how much and the extent to which they are actively involved in strategic decision making on a 1-7 scale from not involved to highly involved. Respondents answering 4 and above were included in the sample.

To make sure that the new venture was indeed in the startup phase, respondents were asked to select the description that most closely matches their own firm. These descriptions, which were not labeled in the survey, corresponded to the four stages identified by Kazanjian (1988) and have been used in previous research to identify the stage of a new venture (e.g., West, 2007). The four stages are (1) conception and development, (2) commercialization, (3) growth, and (4) stability. Only companies in stages 1 and 2 were included in the analyses. The following are the descriptions for each stage, with a slight modification, changing "president/entrepreneur" in the original (Kazanjian, 1988) to "the founders".

Stage 1: Within this company, the primary focus of our activities is on product development and design, securing adequate financial resources and developing a market. Most of our employees have technical tasks but could be considered more as generalists than specialists as we all perform multiple tasks. We more closely resemble a task group than an organization. Formality and procedures are almost non-existent at this firm, but the founders are central to all functions and communications.

Stage 2: The company has a product that performs well and meets a need in the marketplace. We have the capability to produce and sell but we have yet to firmly establish the company in the market. The founders are central to all functions and communications. The firm has some revenues and some backlog of orders.

Stage 3: The company is characterized by high growth rates in both sales and number of employees. The major internal focus is around issues of how to produce, sell and distribute the products in volume while attaining profitability. Internal structure and communication is becoming more formal and increasingly individuals are assuming specialist roles. The company has a single product line.

Stage 4: Within this company, the major internal activities include: (a) development of 2nd, 3rd, generation products and/or totally new product lines, (b) securing growth funding, (c) securing or growing market share, (d) penetrating new geographic territories. The firm has a formality of organization structure, rules and procedures. A top management team composed of some individuals with broad industry experience is in place or being built.

ANALYSIS OVERVIEW

I began by checking for missing data. I conducted several analyses to assess response bias, including comparing respondents and nonrespondents, as well as early and late respondents in the sample (Armstrong & Overton, 1977).

I used several means to assess the reliability of the scales, including Crobach's alpha, an exploratory factor analysis, and a confirmatory factor analysis. Cronbach's alpha assumes a unidimensional factor structure. Exploratory factor analysis (EFA) was used to determine if this assumption is valid or if, in fact, a multi-dimensional factor structure is more appropriate. Due to sample size, it was impossible to conduct a confirmatory factor analysis (CFA) that includes all of the variables in the study. However, I used CFAs to assess discriminant validity, or the degree to which items measuring different variables actually differ, by conducting pairwise tests of theoretically related constructs to assess whether a model representing two factors fit the data significantly better than a one-factor model.

I used hierarchical regressions to test the hypotheses. Although my sample size was not large enough for structural equation modeling, I conducted an exploratory structural equation model using parceled variables. In this analysis, I collapsed indicators by averaging such that the model contained only two indicators per construct, which enables the model to converge, despite the small sample size, by reducing the number of parameters. According to Bagozzi and Edwards (1998), a structural equation model with parceled variables is appropriate in situations where constructs have high reliability, high correlations between the items that are averaged, and the averaged items load on a single

factor. The exploratory and confirmatory factor analyses supported the validity of this approach.

RESULTS

I began by checking for missing data. When possible, I imputed values from the respondent's team members regarding factual responses, such as founding date or industry. If a single item was missing from a mutli-item scale, I imputed the sample average on the scale for that item. When a value was missing for a single-item measure, I used mean substitution based on the mean for that item for the sample. Since I had less than 10% missing data, mean substitution should be an adequate solution to the missing data problem that does not differ significantly from other methods (Edwards, Thomas, Rosenfeld, & Booth-Kewley, 1997).

I received 226 responses from 155 firms, representing a 25% response rate, which is close to the 27% average response rate for surveys in entrepreneurship (Bartholomew & Smith, 2006). The feedback I received when I conducted the reminder phone calls indicated that potential respondents perceived the survey as long, which prevented many of them from filling it out. Indeed, length has been found to significantly reduce response rates (Bednar & Westphal, 2007). To assess response bias, I conducted a series of t-tests. I tested whether there were any differences between responding and non-responding firms in terms of year of founding, number of investors, and amount of money invested in the company. These were data available from the databases that provided the source for the sample. None of these differences were significant.

To assess a second response bias, I compared early and late respondents (Armstrong & Overton, 1977). I used August 1, 2007 as the cutoff to distinguish early

and late respondents. That was the date on which I sent the second wave of the questionnaire (although the letter accompanying the second survey was dated July16, 2007, the survey did not actually get mailed until August 1, 2007). Thus I adopted the successive waves approach, assuming that people who respond in later waves responded because of the increased stimulus, and are thus similar to nonrespondents (Armstrong & Overton, 1977). I conducted t-tests to test whether early and late respondents significantly differed on the key independent variables (communal schemas and contracting practices), mediating variables (trust, identification, and obligations), dependent variables (coordination, creativity, and resilience), and control variables (e.g., receipt of venture capital funding, size of firm, product innovativeness, age of firm). All of the differences were nonsignificant except for day-to-day contracting practices, whereby late respondents had a higher mean than early respondents (5.25 and 4.63 respectively, $t(117)=6.56$, $p<0.05$). However, considering the number of t-tests, this significant result can be accounted for by chance, especially because there is no theoretical reason to suppose that higher contracting practices decreases potential respondents' likelihood of participating in the study.

I excluded respondents from the analyses for the following reasons: (1) did not finish the survey, (2) company was in stage 3 or 4 of organizational development, (3) respondent did not own an equity stake or was not actively involved in the management of the firm, (4) the company was owned by one person only. After removing these firms, the final sample included 193 respondents from 123 firms (20% of the firms in the sample).

I received more than one response from forty-six firms. Because the number of firms for which I had multiple respondent was relatively small, I analyzed all 123 firms. For the 46 firms with more than one respondent, I chose one respondent to represent the firm. I chose this representative based on job title, choosing the highest-ranking respondent (CEO, CTO, CFO, Marketing/Sales, General, in that order), except when the highest ranking person had only recently joined the company (less than one year). Because of missing data on the heterogeneity variables, the sample size for hypothesis testing was 111 firms. For the equations that included creativity, resilience, and coordination, the sample size was 110, because one respondent did not answer any of the questions assessing these variables. Because the structural equation modeling analyses did not include the heterogeneity variables, the sample size for the SEM analysis was 122 (using listwise deletion, one respondent was excluded for not answering the questions on creativity, resilience or coordination).

Reliability: Independent variables

    Communal Schemas. As noted above, each item on the communal schema scale was averaged across all team members about which the respondent had responded. Thus if the respondent had listed three team members, the value for the first communal schema item used for reliability was the average across her answers for the first item vis-à-vis these three teammates. The reliability analysis indicated that the five items were highly correlated; correlations ranged from .79 to .96. I ran an exploratory factor analysis using maximum likelihood estimation and promax rotation. The results for the five communal schema items show that there is indeed one factor with an eigenvalue of 4.45, which explained 89.1% of the variance. The factor loadings ranged from .85 to .98. The alpha

for the scale was 0.96. These results suggest high reliability for the communal schemas measure.

Contracting Practices. I used two measures of contracting practices. The first assessed the extent of a priori contracting and referred to the company's "Operating Agreement," if such an agreement existed. 52 respondents (42.3%) indicated that they had an Operating Agreement or equivalent. The following reliability analyses are reported with respect to these 52. The correlations among the six items ranged from .23 to .83. I ran an exploratory factor analysis using maximum likelihood estimation and promax rotation. The results for the six items indicated a two-factor solution with eigenvalues of 2.98 and 1.24, which explained 70.35% of the variance. Three items loaded only on the first factor (with factor loadings ranging from .39 to 1.0), two items loaded only on the second factor (with factor loadings ranging from .42 to .97), and one item loaded on both factors. An examination of the items suggests that the three items loading on the first factor are distinguishable from the rest in that they ask about the agreement in general (e.g., the agreement is highly customized) rather than about whether the agreement has particular sections (e.g., a "Dissolution" section). Based on this observation, I kept only these first three items to represent this form of contracting. An exploratory factor analysis on only these three items supported a one factor solution (with eigenvalue of 2.13 explaining 70.9% of the variable, loadings ranged from .46 to 1.0). Correlations between the items ranged from .46 to .84. The alpha for this scale was .78. These results suggest that the three-item subscale is reliable. However, because data existing on a priori contracting for only 52 companies, this measure of contracting was not used in hypothesis testing.

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The second measure of contracting assessed day-to-day use of contracting practices. The three items were highly correlated, with correlations ranging from .75 to .80. I ran an exploratory factor analysis using maximum likelihood estimation and promax rotation. The results show that there is indeed one factor with an eigenvalue of 2.54, which explained 84.7% of the variance. The factor loadings ranged from .84 to .91. The alpha for the scale was 0.91. Because of the high reliability indicated by these results, this scale was used as the measure of contracting for hypothesis testing.

Reliability: Mediating Variables

Trust. The four items constituting the trust scale were highly correlated (correlations ranged from 0.74 to .88). An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that there is indeed one factor with an eigenvalue of 3.46, which explained 86.4% of the variance. The factor loadings ranged from .84 to .95. The alpha for the scale was 0.95. These results support the reliability of the trust scale.

Identification. To measure strength of identification with the entrepreneurial team I used two sets of measures. The first measure assessed the degree of overlap between respondents' personal and team identity. Because the measure consisted of only two items, it is appropriate to use correlation as the measure of reliability. The two items were highly correlated (.83), which suggests good reliability for the scale.

The second measure of identification was Mael and Ashforth's (1992) six-item identification scale, adapted to the team context. The correlations between the items ranged from .11 to .57 with an average correlation of .29. The alpha value for the six-item scale was a relatively low .69. An exploratory factor analysis (using maximum likelihood

estimation and promax rotation) indicated a two factor solution with eigenvalues of 2.5 and 1.2, explaining 61.1% of the variance. Three items loaded on the first factor only (with factor loadings ranging from .49 to .97) and three items loaded on the second factor (with factor loadings ranging from .51 to .69). An examination of the content of the items in these two factors suggests that the first factor (items 3, 4, and 5) pertains to team spirit and sense of pride, whereas the second factor (items 1, 2, and 6) pertains to concern about the team's external image. Because this distinction was not theoretically relevant for the present study, and because the two identification overlap items were highly correlated, the two-item overlap measure was used for hypothesis testing.

Obligations. The measure of obligations I used included two components: role clarity and accountability. Clarity was assessed with four items and accountability was assessed using five items. I first analyzed the reliability for all nine items together. Although the alpha value for the 9-item scale was high (.91), an exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated a two-factor solution with eigenvalues of 5.4 and 1.1, explaining 72.7% of the variance. All of the accountability items loaded on the first factor only (with factor loadings ranging from .58 to .99) and all of the role clarity items loaded on the second factor (with factor loadings ranging from .63 to .82). An examination of the correlation matrix supports the two factor solution. Thus I used role clarity and accountability as two separate constructs in hypothesis testing.

The role clarity measure was found to be reliable. The four items were highly correlated (correlations ranged from .44 to .72). An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that there is indeed one

factor with an eigenvalue of 2,72, which explained 68.0% of the variance. The factor

loadings ranged from .68 to .86. The alpha for the scale was 0.84.

The accountability measure was found to be highly reliable. The five items were

highly correlated (correlations ranged from .56 to .85). An exploratory factor analysis

(using maximum likelihood estimation and promax rotation) indicated that there is indeed

one factor with an eigenvalue of 3.78, which explained 75.6% of the variance. The factor

loadings ranged from .68 to .94. The alpha for the scale was 0.92.

Reliability: Dependent Variables

Creativity. The six creativity items were moderately highly correlated

(correlations ranged from .32 to .67). An exploratory factor analysis (using maximum

likelihood estimation and promax rotation) indicated that there is indeed one factor with

an eigenvalue of 3.89, which explained 64.8% of the variance. The factor loadings ranged

from .60 to .85. The alpha for the scale was 0.89. These results suggest good reliability

for the creativity measure.

Resilience. The six resilience items were highly correlated (correlations ranged

from .49 to .77). An exploratory factor analysis (using maximum likelihood estimation

and promax rotation) indicated that there is indeed one factor with an eigenvalue of 3.93,

which explained 65.6% of the variance. The factor loadings ranged from .69 to .84. The

alpha for the scale was 0.89. These results suggest good reliability for the resilience

measure.

Coordination. The five coordination items were highly correlated (correlations

ranged from .44 to .72). An exploratory factor analysis (using maximum likelihood

estimation and promax rotation) indicated that there is indeed one factor with an

eigenvalue of 3.37, which explained 67.4% of the variance. The factor loadings ranged from .72 to .89. The alpha for the scale was 0.87. These results suggest good reliability for the coordination measure.

Perceived performance. I collected three measures of perceived performance. The first was a weighted average of satisfaction with performance on five criteria. The second was a one-item assessment of the percent of ideal performance being achieved. The third was the extent to which the startup was meeting milestones specified by funding sources, if relevant. However, only 66 respondents (54%) indicated that their funding had come with milestones. Because of the small number of responses, this third measure of performance was not used.

Because the measure consisted of only two items, it is appropriate to use correlation as an indicator of reliability. The two performance measures were highly correlated (.63), which supports their use as a single scale.

Reliability: Control Variables

Industry characteristics. I assessed the extent to which respondents perceived their industry to be dynamic using four items and the extent to which they perceived it as equivocal using three items. An exploratory factor analysis that included both scales (using maximum likelihood estimation and promax rotation) indicated a three-factor solution, with four of the seven items loading on more than one factor. Because of this poor discriminant validlity, I analyzed separately the reliabilities of the measures of dynamism and of equivocality. The dynamism measure proved to be relatively unreliable. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated a four-factor solution. Correlations among the four were relatively

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low, ranging from .20 to .55. As a result, this measure was not included in the hypothesis testing.

In contrast, the measure of equivocality was reliable and was thus used as the indicator of industry uncertainty for hypothesis testing. The item correlations ranged from .46 to .75. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that there is indeed one factor with an eigenvalue of 2.18, which explained 72.7% of the variance. The factor loadings ranged from .58 to .94. The alpha for the scale was 0.81.

Technology innovativeness. The four innovativeness items were moderately correlated (correlations ranged from .28 to .60). An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated a one factor solution with an eigenvalue of 2.27, which explained 56.7% of the variance. The factor loadings ranged from .41 to .80. The alpha for the scale was 0.72. These results suggest adequate reliability for the innovativeness measure.

Prior ties. The extent of prior ties was assessed with a three item measure. Like the communal schemas measure, each item was averaged across the team members with respect to which the respondent had responded. This measure generated an average level of prior ties that the respondent had with other team members. This measure was found to be reliable. Correlations between the items ranged from .39 to .81. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that there is indeed one factor with an eigenvalue of 2.15, which explained 71.7% of the variance. The factor loadings ranged from .48 to .99. The alpha for the scale was 0.75.

A second indicator of prior ties was the proportion (from 0 to 1) of entrepreneurial team members with whom the respondent had worked together before. I included this measure because it focused on the extent of prior work experience and was thus more specific than the prior ties scale, which assessed different kinds of prior relationships.

Medium and extent of interaction. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that this measure had poor reliability. Correlations between the four items ranged from -.06 to .28 and a four-factor solution emerged. This measure was not used in subsequent analyses.

Leadership. The four leadership items were highly correlated (correlations ranged from .47 to .76). An exploratory factor analysis (using maximum likelihood estimation and promax rotation) indicated that there is indeed one factor with an eigenvalue of 2.70, which explained 67.4% of the variance. The factor loadings ranged from .61 to .95. The alpha for the scale was 0.84. These results suggest good reliability for the leadership measure.

Tests for Discriminant Validity

I conducted several exploratory factor analyses to assess whether conceptually related constructs were empirically independent. First I examined the discriminant validity of communal schemas, trust, and identification, since all three pertain to team members' emotional bonds to each other. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) resulted in a three-factor solution that explained 88.0% of the variance. The first factor, with an eigenvalue of 5.33 included only the five communal schemas items with factor loadings ranging from .82 to 1.00. The second factor, with an eigenvalue of 2.70 loaded only the four trust items, with factor

loadings ranging from .84 to .95. The third factor, with an eigenvalue of 1.75 included only the two identification items, with factor loadings of .83 and 1.0. These results suggest that communal schemas, trust, and identification are indeed distinct factors. Moreover, the factor correlation matrix suggests that not only are these separate factors, they are not highly correlated. Correlations ranged from -.007 to .327.

Second, I examined the discriminant validity of the three team process quality measures: creativity, resilience, and coordination. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) resulted in a three-factor solution that explained 68.0% of the variance. The first factor, with an eigenvalue of 7.85 included all six creativity items, with factor loadings ranging from .61 to .98. It also included two items each from coordination and resilience, however these loadings were low, ranging from -.275 to .31. All five coordination items loaded on the second factor, with an eigenvalue of 2.50 and factor loadings ranging from .69 to .90. The second factor also included two items each from creativity and resilience, again with low loadings, ranging from -.257 to .37. The third factor, with an eigenvalue of 1.21 included only the six resilience items, with factor loadings ranging from .26 to 1.1. Based on these results I treated creativity, resilience and coordination as three distinct factors, though because some items double-loaded, I did not include all three in any one regression equation.

Finally, I conducted an exploratory factor analysis of the items for contracting, obligations (accountability), coordination, and trust, as all of these pertain to perceptions of the predictability of others' behavior. An exploratory factor analysis (using maximum likelihood estimation and promax rotation) resulted in a three-factor solution that explained 74.3% of the variance. The first factor, with an eigenvalue of 9.29, included all

trust items (factor loadings ranged from .6 to 1.0). It also included three coordination

items. Two had low factor loadings (less than .3) and also loaded on the second factor.

However, one item ("The team members work together smoothly), had a high loading

with the first factor (.60) and did not double load. The second factor, with an eigenvalue

of 2.07, included all five accountability items, with factor loadings ranging from .58 to

.99. It also included two coordination items. One loaded highly (.65). The item was: "The

different work activities of the team members fit well together and are geared in the

direction of the overall goals." The second item loaded at .32, which is below the

customary cutoff. The third factor, with an eigenvalue of 1.27, included all three

explicitness items (factor loadings ranged from .89 to .93). It also included two

coordination items, which loaded below the .4 cutoff.

These results suggest that contracting, accountability, and trust are indeed distinct

factors. The coordination items, however, were divided among the three factors and did

not converge as their own factor. I conducted a confirmatory factor analysis to better

understand the relationship between these items and their underlying hypothesized

constructs. Using the criteria set by Hu and Bentler (1999), I found that the complete

four-factor model fit was satisfactory (chi-square = 241.3, 113 degrees of freedom, p =

.00, RMSEA = 0.097, NNFI=.98, CFI=.99, SRMR=.066). Moreover, all factor loadings

were 0.68 and above, with most above.80. However, because the exploratory factor

analysis yielded only three factors, I conducted pairwise testing to assess whether the four

constructs were indeed distinct. The pairwise analysis tests whether a CFA model

representing two measures with two factors fits the data significantly better than a one-

factor model. The results suggested that all four variables are in fact distinct. That is, a

two-factor model fit better than a one-factor model for contracting and accountability (chi-square of 48.26 and 261.72, respectively with difference in chi-squared between the models significant at p<.001), contracting and coordination (chi-square of 49.10 and 262.75, respectively with difference in chi-squared between the models significant at p<.001), contracting and trust (chi-square of 16.23 and 219.75, respectively with difference in chi-squared between the models significant at p<.001), accountability and coordination (chi-square of 132.96 and 297.03, respectively with difference in chi-squared between the models significant at p<.001), accountability and trust (chi-square of 64.75 and 250.07, respectively with difference in chi-squared between the models significant at p<.001), and coordination and trust (chi-square of 76.09 and 240.20, respectively with difference in chi-squared between the models significant at p<.001). These results suggest that the items measuring these four different variables do indeed differ.

Assessing Single-Source Bias

A potential threat to the reliability of the measures used in this study is the fact that one member of the team reported on team-level constructs. As a check for potential single-source bias, I analyzed the inter-rater agreement between team members for the 46 teams for which I had more than one respondent on the variables reflecting group-level constructs. Although representing only a subgroup of the total sample, these 46 teams can shed light on whether single respondents reporting on group-level constructs, such as the extent of trust or coordination on the team, are adequately representing the rest of their team. To the extent that inter-rater agreement is significantly high for these 46 teams, this

strengthens our confidence that the single respondents are representing their teams in reporting on team-level constructs.

I used the intraclass correlation coefficient (ICC(1)) as the measure of inter-rater agreement. This coefficient assesses between group variability by comparing between group variance to the total variance across units. ICC(1) values can range from –1 to +1, with +1 indicating perfect reliability. The ICC(1) was appropriate because it provides an estimate of the reliability of a single assessment (individual unit member rating) whereas ICC(2) assesses the reliability of average ratings (Bartko, 1976).

I computed ICC(1) for the following variables that represent group-level constructs: communal schemas, trust, identification, obligations, resilience, coordination, creativity, and contracting practices. I found significant ICC(1) values for trust (ICC(1)=.27, p<.01), obligations (ICC(1)=.21, p<.05), resilience (ICC(1)=.29, p<.01), and coordination (ICC(1)=.19, p<.05). Although the ICC(1)s were not significant for identification, creativity, communal schemas, and contracting practices, these results may be due to the small sample size (only 46 teams), which may somewhat restrict between-team variance such that it does not adequately exceed within unit variance. Overall these results are encouraging that respondents in the larger sample are representing their teams on the team-level constructs.

Descriptive Statistics

Table 5.1 contains the means, standard deviations, and reliabilities (Cronbach's alpha) for the variables created from the survey. I concluded, based on my review of the means, standard deviations, and histograms, that these variables had sufficient variance for analysis and were approximately multivariate normal.

TABLE 5.1
Means, Standard Deviations, and Reliabilities for Study 2 Variables

	N	Mean	Std. Deviation	Cronbach's alpha
Communal schemas	123	5.26	1.31	0.96
Contracting practices	123	4.98	1.35	0.91
Trust	123	6.06	1.03	0.95
Identification	123	4.96	1.28	0.83
Role clarity	123	5.73	0.94	0.84
Accountability	123	6.14	0.87	0.92
Creativity	122	5.95	0.80	0.89
Resilience	122	5.71	0.91	0.89
Coordination	122	5.55	0.95	0.87
Perceived performance	123	5.18	0.99	0.63
Industry equivocality	123	4.58	1.41	0.81
Technology innovativeness	123	5.73	1.01	0.72
Prior ties (scale)	123	2.49	1.39	0.75
Proportion of team members with whom worked before	119	0.31	0.30	
Leadership	123	4.31	1.39	0.84
Respondent's previous startup experience 0=No 1=Yes	123	0.80	0.40	
Respondent's gender 0=Female 1=Male	123	0.92	0.27	
Industry – Biomedical 0=No 1=Yes	123	0.42	0.50	
VC forced a team member	123	0.58	0.50	
VC funding	123	0.77	0.42	
Size of firm	123	18.94	14.81	
Size of entrepreneurial team	123	3.98	1.77	
Age of firm (years)	123	12	2.82	
Heterogeneity in functional background	116	0.46	0.22	
Heterogeneity in industry experience	120	8.09	5.57	
Heterogeneity in organizational tenure	119	13.57	16.40	

Several observations about Table 5.1 are noteworthy. The size of the

entrepreneurial team ranged from 2 to 9, with an average of 4. The size of the firm ranged

from two people to 74, with an average of 19. The age of the firm, as reported by the

respondents, ranged from 3 months to 12 years, with an average of 2.8 years. Thus

although, on average, the respondent's perspective on the firm's age corresponded to the

information obtained from the databases that provided the source for the sample, there were a few instances where the respondent's perception of the age of the firm was far greater. Most likely this finding reflects the fact that many entrepreneurs work on the new venture for a long time before formal incorporation (Bhave, 1994). 92% of the sample is male.

77% of the firms in the sample had received Venture Capital (VC) funding. This finding is not surprising in light of the sampling strategy, which drew most of the sample from a database of VC-funded firms. On 58% of the teams, at least one team member was asked to join on behalf of an investor. This finding supports the proposition raised in the introduction that most teams are in fact constrained in the composition of their team members, which can limit the possibility of prior ties as a source of relational capital. 42% of the firms were in biochemical industries. Because this industry represented the most common industry in the sample, it was included as a control. 80% of the respondents had previously been involved in a startup. This finding supports the notion that entrepreneurship is a lifestyle, with "serial entrepreneurs" moving from one new venture to another. On average, respondents had previously worked together with 31% of his or her teammates.

The descriptive statistics suggest that communal schemas and contracting practices are in fact prevalent in the entrepreneurial teams in this sample. The mean for communal schemas was 5.26 on a 7-point scale (s.d.=1.31), which suggests that most respondents averaged high levels of communal sentiments toward their teammates. Likewise, the mean contracting practices: 4.98 (s.d.=1.31), which also suggests that contracting practices are at high levels on these teams.

Table 5.2 contains the correlation matrix of all variables included in the analysis. As is apparent from the table, communal schemas and contracting practices are independent (r=.12, n.s). This finding allows for the possibility that communal schemas and contracting practices can co-exist at high levels on entrepreneurial teams. The relatively low correlations between the independent and control variables suggest that multicollinearity does not pose a significant threat. The only exception is the high correlation between trust and each of the two obligations measures (.57 for role clarity and .78 for accountability). However, the confirmatory factor analyses described above indicated that trust and accountability are in fact distinct (i.e., through pairwise tests). Likewise a CFA indicated that trust and role clarity are in fact distinct (chi-square of 40.33 for a two-factor model and 168.54 for a one-factor model, with difference in chi-squared between the models significant at p<.001). These findings somewhat reduce concerns about multicollinearity in the regression models.

TABLE 5.2
Correlations of Study 2 Variables

	Communal Schemas	Contracting practices	Trust	Identification	Role clarity	Accountability	Creativity	Resilience
Contracting practices	0.11							
Trust	0.32**	0.40**						
Identification	-0.01	0.08	0.12					
Role clarity	0.28**	0.44**	0.57**	0.18*				
Accountability	0.25**	0.42**	0.78**	0.12	0.65**			
Creativity	0.31**	0.34**	0.48**	0.00	0.39**	0.53**		
Resilience	0.31**	0.59**	0.70**	0.00	0.58**	0.68**	0.58**	
Coordination	0.33**	0.49**	0.67**	0.04	0.56**	0.63**	0.38**	0.63**
Perceived performance	0.35**	0.31**	0.45**	0.08	0.40**	0.45**	0.41**	0.39**
Industry equivocality	-0.01	-0.11	-0.16	0.03	-0.28**	-0.06	-0.07	-0.11
Technology innovativeness	0.18*	0.11	0.22*	0.12	0.29**	0.23**	0.40**	0.26**
Prior ties (scale)	0.29**	0.12	0.15	0.07	0.09	0.17*	0.29**	0.19*
Proportion of team members with whom worked before	0.28**	0.13	0.12	-0.03	0.09	0.13	0.24**	0.23**
Leadership	-0.01	0.04	-0.03	0.20*	0.15	-0.06	0.08	-0.02
Respondent's previous startup experience	-0.01	0.14	0.20*	0.09	0.08	0.20*	0.08	0.12

TABLE 5.2 continued

	Communal Schemas	Contracting practices	Trust	Identification	Role clarity	Accountability	Creativity	Resilience
Industry – Biomedical	0.06	0.03	0.07	0.04	-0.01	-0.05	0.07	0.10
VC forced a team member	-0.18*	0.08	-0.11	0.12	-0.06	-0.10	-0.19*	-0.11
VC funding	-0.02	-0.06	0.04	-0.06	0.20*	0.02	-0.08	-0.03
Size of firm (log)	-0.25**	-0.09	-0.15	0.04	0.09	-0.14	-0.02	-0.21*
Respondent's gender	0.17	0.07	0.14	0.05	0.21*	0.17	0.16	0.07
Size of entrepreneurial team	-0.05	0.06	-0.21*	-0.08	0.01	-0.21*	-0.07	-0.17
Age of firm (log)	-0.22**	-0.21*	-0.23**	0.07	-0.19*	-0.22**	-0.19*	-0.22*
Heterogeneity in functional background (Blau's index)	-0.09	-0.07	-0.03	0.08	0.04	0.01	-0.05	-0.06
Heterogeneity in industry experience (CMD)	-0.06	-0.09	-0.11	0.07	-0.03	-0.14	-0.06	-0.18*
Heterogeneity in organizational tenure (CMD)	-0.20*	-0.11	-0.08	0.10	-0.02	-0.12	-0.12	-0.14

TABLE 5.2 Continued

	Coordination	Perceived performance	Industry equivocality	Technology innovative-ness	Prior ties (scale)	Proportion of team with whom worked before	Leader-ship	Respondent's previous startup experience
Perceived performance	0.48**							
Industry equivocality	-0.21*	-0.15						
Technology innovativeness	0.17	0.26**	-0.03					
Prior ties (scale)	0.09	0.16	-0.07	0.18*				
Proportion of team members with whom worked before	0.10	0.24**	0.01	0.24**	0.66**			
Leadership	0.03	-0.04	-0.14	0.13	-0.03	-0.03		
Respondent's previous startup experience	0.11	0.14	0.01	0.16	0.14	0.09	0.01	
Industry – Biomedical	0.17	0.13	-0.14	-0.02	0.11	0.13	-0.09	-0.18*
VC forced a team member	0.05	-0.01	0.17	-0.05	-0.21*	-0.09	0.04	-0.02
VC funding	0.10	0.19*	-0.10	0.08	-0.11	0.08	0.16	-0.13
Size of firm (log)	-0.20*	-0.03	-0.01	-0.05	-0.23**	-0.25**	0.04	-0.04
Respondent's gender	0.12	0.13	-0.02	0.17	0.09	0.07	-0.19*	-0.08
Size of entrepreneurial team	-0.10	0.06	-0.05	-0.06	-0.13	-0.03	-0.04	0.03
Age of firm (log)	-0.22*	-0.40**	0.14	-0.08	-0.21*	-0.25**	-0.06	-0.23**

TABLE 5.2 continued

	Coordination	Perceived performance	Industry equivocality	Technology innovative-ness	Prior ties (scale)	Proportion of team with whom worked before	Leader-ship	Respondent's previous startup experience
Heterogeneity in functional background (Blau's index)	-0.17	-0.06	0.09	0.03	-0.07	-0.14	-0.01	0.04
Heterogeneity in industry experience (CMD)	0.02	-0.11	-0.14	-0.09	-0.26**	-0.23*	0.14	0.02
Heterogeneity in organizational tenure (CMD)	-0.13	-0.21*	0.07	-0.16	-0.24**	-0.27**	-0.01	0.02

TABLE 5.2 Continued

	Industry – Biomedical	VC forced a team member	VC funding	Size of firm (log)	Respondent's gender	Size of entrepreneur-ial team	Age of firm (log)	Hetero-geneity in functional background (Blau's index)	Hetero-geneity in industry experience (CMD)
VC forced a team member	0.00								
VC funding	0.07	0.12							
Size of firm (log)	-0.30**	0.03	0.32**						
Respondent's gender	-0.05	-0.07	-0.02	0.11					
Size of entrepreneurial team	-0.03	0.10	0.29**	0.47**	0.03				
Age of firm (log)	0.04	0.14	-0.16	0.14	-0.08	-0.02			
Heterogeneity in functional background (Blau's index)	-0.17	-0.12	0.20*	0.27**	-0.05	0.24*	0.02		
Heterogeneity in industry experience (CMD)	0.21*	0.03	0.08	-0.09	-0.01	0.12	0.13	-0.03	
Heterogeneity in organizational tenure (CMD)	0.04	0.00	-0.09	0.17	-0.09	-0.06	0.36**	0.05	0.18*

* p< .05, ** p< .01

Hypothesis Testing: Hierarchical Regressions

I began by conducting regressions of the mediating and dependent variables on

the control variables. Table 5.3 presents these regression results. Several observations are

noteworthy. First, existing explanations for relational capital development, namely prior

ties (as assessed both by the scale and by the proportion of team members with whom the respondent had worked before) and heterogeneity (in functional background, industry experience, and organizational tenure), were not significantly associated with any of the relational capital, team process quality, or perceived performance variables. Second, being funded by a venture capital firm also did not have any significant effects. This finding too suggests that the prior history of how the team came together (whether voluntarily or not) may not be predictive of the quality of their relationships or processes. The size and age of the firm did not significantly affect any of the dependent variables. With the exception of variables representing existing explanations for relational capital development (prior ties and heterogeneity), the control variables that did not significantly predict any of the dependent variables, namely VC forced a team member, VC funding, size and age of firm, were not included in the hypothesis testing equations.

Industry equivocality significantly negatively predicted role clarity. This finding is not surprising, as industry equivocality means fewer templates to rely on for guiding behavior (Aldrich, 1999). Technological innovativeness significantly positively predicted creativity. Again, this is not surprising; one would expect innovativeness to spur creativity and vice versa. The existence of a distinct leader predicted identification. This finding is interesting, as leadership is a relatively under-explored antecedent of team identification. For example, a recent review of the identification literature (Ashforth, Harrison, & Corley, 2008) highlighted organizational prestige and distinctiveness, autonomy, support, and organizational communications aimed at sensebreaking and sensegiving as top-down antecedents of identification. Leadership was not discussed.

TABLE 5.3
Regression Results for Control Variables

	Trust	Identification	Role Clarity	Accountability	Creativity	Resilience	Coordination	Perceived Performance
(Constant)	6.66***	2.13	5.00***	6.50***	4.89***	6.33***	5.24***	5.06***
	(1.25)	(1.59)	(1.09)	(1.06)	(.94)	(1.11)	(1.11)	(1.10)
Industry equivocality	-.11	-.02	-.20**	-.06	-.02	-.07	-.07	-.06
	(.08)	(.10)	(.07)	(.07)	(.06)	(.07)	(.07)	(.07)
Technology innovativeness	.11	.06	.16	.12	.29***	.19	.08	.20
	(.11)	(.14)	(.09)	(.09)	(.08)	(.09)	(.09)	(.09)
Prior ties (scale)	-.02	.13	.01	-.02	.10	-.03	.00	.03
	(.11)	(.14)	(.09)	(.09)	(.08)	(.09)	(.10)	(.09)
Proportion of team with whom worked before	-.25	.06	-.10	-.02	.01	.11	-.46	-.05
	(.56)	(.71)	(.49)	(.47)	(.42)	(.49)	(.49)	(.49)
Leadership	-.09	.21	.03	-.08	.01	-.06	-.03	-.07
	(.08)	(.10)*	(.07)	(.07)	(.06)	(.07)	(.07)	(.07)
Respondent's previous startup experience	.65*	.23	.27	.48	-.07	.21	.49*	.42
	(.28)	(.35)	(.24)	(.24)*	(.21)	(.25)	(.25)	(.25)
Industry – Biomedical	.21	.31	-.07	.01	.16	.15	.19	.42
	(.24)	(.30)	(.21)	(.20)	(.18)	(.21)	(.21)	(.21)*
VC forced a team member	-.09	.48	-.00	-.04	-.22	-.08	.14	.05
	(.21)	(.27)	(.19)	(.18)	(.16)	(.19)	(.19)	(.19)
VC funding	.35	-.33	.38	.16	-.31	.01	.36	.14
	(.30)	(.38)	(.26)	(.26)	(.22)	(.27)	(.27)	(.27)
Size of firm (log)	-.16	.28	-.05	-.11	.18	-.24	-.35	.04
	(.17)	(22)	(.15)	(.15)	(.13)	(.15)	(.15)	(.15)
Respondent's gender	.58	.34	.76*	.50	.11	.21	.67*	.39
	(.38)	(.48)	(.33)	(.32)	(.28)	(.34)	(.34)	(.33)
Size of entrepreneurial team	-.14	-.07	-.03	-.11	-.03	-.07	-.05	.00
	(.07) *	(.09)	(.06)	(.06)	(.05)	(.06)	(.06)	(.06)
Age of firm (log)	-.21	.02	-.14	-.17	-.24	-.10	.01	-.32
	(.22)	(.29)	(.20)	(.19)	(.17)	(.20)	(.20)	(.20)
Heterogeneity in functional background	.28	.65	.30	.30	-.14	.22	-.27	-.25
	(.50)	(.63)	(.43)	(.42)	(.37)	(.44)	(.44)	(.44)
Heterogeneity in industry experience	-.04	.02	-.03	-.02	.01	-.03	-.02	-.03
	(.02)	(.03)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Heterogeneity in organizational tenure	.00	.01	.01	-.00	.00	.00	.00	.00
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Average industry experience of team	.02	-.04	.01	.00	-.00	.01	.04*	.01
	(.02)	(.02)	(.02)	(.02)	(.01)	(.02)	(.02)	(.02)
Average organizational tenure of team members	.00	.00	.00	.00	-.00	.00	-.01	-.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
R^2	.241	.165	.263	.229	.273	.224	.256	.334
Adjusted R^2	.093	.002	.119	.078	.129	.070	.109	.203
F Values	1.625	1.01	1.828*	1.515	1.898*	1.458	1.739*	2.561*
Sample size	111	111	111	111	110	110	110	110

Unstandardized coefficients are shown, with standard errors in parentheses.
*p<.05, **p<.01, ***p<.001 (two-tailed).

Respondents' previous startup experience positively predicted trust,

accountability, and coordination on the team. These findings suggest that entrepreneurs

learn from their previous experience skills that help them improve the relationships and performance of their teams. Likewise, the average level of industry experience on the team was significantly associated with greater coordination, which again suggests a learning effect. Finally, a few other findings are noteworthy. Respondents whose startup was in the biomedical industry perceived higher performance than in other industry. Respondents who were male reported significantly higher role clarity and coordination. Finally, the size of the entrepreneurial team was significantly negatively associated with trust on the team. Control variables that were significant in predicting at least one dependent variable were included in the equations for hypothesis testing.

Hypotheses 1-7 were tested through a series of regressions. In the first equation, I regressed each of the relational capital variables (trust, identification, role clarity, and accountability) on the controls. In the second equation, I added communal schemas. The third equation included the contracting practices instead of communal schemas. The fourth equation included the control variables and both communal schemas and contracting practices. Finally, the fifth equation included the controls, communal schemas and contracting practices, and the interaction between the two. Communal schemas and contracting practices were centered to reduce concerns of multicollinearity (Aiken & West, 1991).

TABLE 5.4
Regression Results for Hypotheses 1-7

	Trust					Identification				
	Eq. 1	**Eq. 2**	**Eq. 3**	**Eq. 4**	**Eq. 5**	**Eq. 1**	**Eq. 2**	**Eq. 3**	**Eq. 4**	**Eq. 5**
Constant	5.59***	5.97***	5.82***	6.17***	6.17***	2.99*	2.93*	3.07*	3.00*	3.00
	(.93)	(0.90)	(0.88)	(0.86)	(0.86)	(1.19)	(1.21)	(1.20)	(1.21)	(1.22)
Industry equivocality	-0.11	-0.13	-0.10	-0.12	-0.12	0.00	0.00	0.00	0.00	0.00
	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Technology innovativeness	0.12	0.09	0.12	0.09	0.09	0.05	0.05	0.05	0.05	0.05
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.13)	(0.13)	(0.13)	(0.14)	(0.14)
Leadership	-0.06	-0.06	-0.05	-0.06	-0.05	0.20*	0.20*	0.20*	0.20*	0.20
	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Respondent's startup experience	0.69**	0.71**	0.52*	0.55*	0.53*	0.26	0.26	0.21	0.21	0.20
	(0.26)	(0.25)	(0.25)	(0.24)	(0.25)	(0.34)	(0.34)	(0.34)	(0.34)	(0.35)
Industry – Biomedical	0.30	0.28	0.25	0.23	0.23	0.18	0.18	0.16	0.17	0.17
	(0.22)	(0.21)	(0.21)	(0.20)	(0.20)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
Respondent's gender	0.59	0.46	0.48	0.36	0.33	0.41	0.43	0.38	0.40	0.39
	(0.36)	(0.35)	(0.34)	(0.33)	(0.34)	(0.46)	(0.47)	(0.47)	(0.47)	(0.48)
Size of team	-0.16*	-0.15*	-0.16**	-0.15**	-0.15**	-0.02	-0.02	-0.02	-0.02	-0.02
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Prior ties (scale)	-0.02	-0.05	-0.03	-0.06	-0.06	0.12	0.13	0.12	0.12	0.13
	(0.10)	(0.10)	(0.10)	(0.09)	(0.09)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Proportion of team with whom worked before	0.06	-0.10	0.13	-0.02	0.03	-0.33	-0.31	-0.31	-0.28	-0.27
	(0.52)	(0.50)	(0.49)	(0.48)	(0.48)	(0.67)	(0.67)	(0.67)	(0.68)	(0.68)
Heterogeneity in functional background	0.36	0.46	0.40	0.50	0.47	0.48	0.46	0.49	0.47	0.47
	(0.47)	(0.45)	(0.45)	(0.43)	(0.43)	(0.60)	(0.61)	(0.61)	(0.61)	(0.61)
Heterogeneity in industry experience	-0.03	-0.03	-0.02	-0.02	-0.02	0.01	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Heterogeneity in organizational tenure	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average industry experience of team	0.02	0.02	0.00	0.01	0.01	-0.03	-0.03	-0.03	-0.03	-0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Average organizational tenure of team members	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Communal Schemas		0.22**		0.20**	0.18*		-0.04		-0.04	-0.05
		(0.07)		(0.07)	(0.08)		(0.10)		(0.10)	(0.11)

TABLE 5.4 continued

	Trust					Identification				
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5
Contracting Practices			0.24***	0.23***	0.25**			0.08	0.08	0.08
			(0.07)	(0.07)	(0.07)			(0.10)	(0.10)	(0.10)
Communal Schemas x Contracting Practices					-0.05					-0.01
					(0.05)					(0.07)
R^2	.213	.279	.300	.357	.365	.120	.122	.126	.128	.128
Adjusted R^2	.098	.165	.190	.248	.249	-.008	-.017	-.012	-.021	-.032
F	1.857*	2.446**	2.719**	3.266***	3.145***	.939	.877	.914	.860	.802
ΔR^2		.066	.087	.057	.008		.001	.006	.002	.000
F for ΔR^2		8.629**	11.849***	8.323**	1.135		.128	.620	.164	.022

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 111.
Changes in R^2 are from the penultimate block within the same model for equations 2 and 5. For equation 3, the change in R^2 is from equation 1. For equation 4, the change in R^2 is from equation 2.
*p<.05, **p<.01, ***p<.001 (two-tailed).

TABLE 5.4 continued

	Role Clarity					Accountability				
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5
Constant	4.46***	4.77***	4.70***	4.97***	4.97***	5.67***	5.87***	5.90***	6.07***	6.07***
	(0.81)	(0.79)	(0.75)	(0.74)	(0.74)	(0.78)	(0.78)	(0.73)	(0.73)	(0.73)
Industry equivocality	-0.20**	-0.22**	-0.19**	-0.21**	-0.20**	-0.06	-0.07	-0.05	-0.06	-0.05
	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Technology innovativeness	0.17	0.15	0.17	0.15	0.15	0.12	0.10	0.12	0.10	0.10
	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)
Leadership	0.06	0.05	0.06	0.06	0.06	-0.06	-0.07	-0.06	-0.06	-0.06
	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Respondent's startup experience	0.27	0.29	0.10	0.13	0.12	0.52*	0.53*	0.36	0.37	0.35
	(0.23)	(0.22)	(0.22)	(0.21)	(0.21)	(0.22)	(0.22)	(0.21)	(0.21)	(0.21)

TABLE 5.4 continued

	Role Clarity					Accountability				
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5
Industry – Biomedical	-0.02	-0.04	-0.07	-0.08	-0.08	0.06	0.05	0.02	0.01	0.00
	(0.19)	(0.18)	(0.18)	(0.17)	(0.17)	(0.18)	(0.18)	(0.17)	(0.17)	(0.17)
Respondent's gender	0.79*	0.69*	0.68*	0.59*	0.58*	0.51	0.44	0.40	0.34	0.32
	(0.31)	(0.31)	(0.29)	(0.29)	(0.29)	(0.30)	(0.30)	(0.28)	(0.28)	(0.28)
Size of team	-0.02	-0.02	-0.02	-0.02	-0.02	-0.13*	-0.12*	-0.13*	-0.12*	-0.12*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Prior ties (scale)	-0.01	-0.03	-0.02	-0.05	-0.04	-0.01	-0.03	-0.03	-0.05	-0.04
	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)
Proportion of team with whom worked before	0.12	-0.01	0.19	0.07	0.09	0.16	0.07	0.23	0.16	0.19
	(0.45)	(0.44)	(0.42)	(0.41)	(0.41)	(0.44)	(0.44)	(0.41)	(0.40)	(0.41)
Heterogeneity in functional background	0.41	0.49	0.45	0.53	0.52	0.32	0.37	0.36	0.41	0.39
	(0.41)	(0.40)	(0.38)	(0.37)	(0.37)	(0.40)	(0.39)	(0.37)	(0.36)	(0.37)
Heterogeneity in industry experience	-0.03	-0.03	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Heterogeneity in organizational tenure	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average industry experience of team	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.00
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average organizational tenure of team members	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Communal Schemas		0.18**		0.16**	0.15*		0.12		0.10	0.08
		(0.07)		(0.06)	(0.06)		(0.06)		(0.06)	(0.06)
Contracting Practices			0.25***	0.24***	0.24***			0.24***	0.23***	0.25***
			(0.06)	(0.06)	(0.06)			(0.06)	(0.06)	(0.06)
Communal Schemas x Contracting Practices					-0.01					-0.04
					(0.04)					(0.04)
R^2	.240	.294	..354	399	.400	.212	.238	.332	.352	.358
Adjusted R^2	.129	.182	.252	.297	.290	.097	.118	.227	.241	.241
F	2.161*	2.635**	2.161*	3.907***	3.647***	1.844*	1.977*	3,148***	3.188***	3.050***
ΔR^2		.054	.115	.045	.001		.026	.120	.020	.006
F for ΔR^2		7.287**	16.851***	7.079**	.091		3.238	17.080**	2.862	.892

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 111.
Changes in R^2 are from the penultimate block within the same model for equations 2, 4 and 5. For equation 3, the change in R^2 is from equation 1.
*p<.05, **p<.01, ***p<.001 (two-tailed).

Hypothesis 1 predicted that communal schemas among entrepreneurial team members will be positively associated with trust on the team. As can be seen in equations 2, 4, and 5 in the trust column in Table 5.4, this hypothesis was supported. I checked for a curvilinear effect by adding a squared communal schemas variable to equation 2, but this additional variable was not significant, suggesting that the effect of communal schemas on trust is linear.

Hypothesis 2 predicted that communal schemas among entrepreneurial team members will be positively associated with identification with the team. As can be seen in equations 2, 4, and 5 in the identification column in Table 5.4, this hypothesis was not supported. Communal schemas did not significantly affect identification. I checked for a curvilinear effect by adding a squared communal schemas variable to equation 2, but this additional variable was also not significant.

Hypothesis 3 predicted that communal schemas among entrepreneurial team members will be negatively associated with felt obligations on the team. As can be seen in equations 2, 4, and 5 in the role clarity column in Table 5.4, communal schemas did significantly predict role clarity, but not in the direction predicted. That is, communal schemas positively significantly influenced role clarity on entrepreneurial teams. With respect to the accountability operationalization of obligations, the effect of communal schemas was not significant at the .05 level, though it was significant at the .10 level (p=.075 for equation 2 and p=.094 for equation 4). Again, however, the effect of communal schemas on accountability was positive. Thus hypothesis 3 was not supported. I checked for a curvilinear effect by adding a squared communal schemas variable to

equation 2, but this additional variable was not significant for either role clarity or accountability.

Hypothesis 4 predicted that contracting practices among entrepreneurial team members will be positively associated with felt obligations on the team. As can be seen from equations 3, 4, and 5 in Table 5.4, this hypothesis was supported for both role clarity and accountability. I checked for a curvilinear effect by adding a squared contracting practices variable to equation 3, but this additional variable was not significant for either role clarity or accountability.

Hypothesis 5 predicted that contracting practices among entrepreneurial team members will be positively associated with identification with the team. As can be seen from equations 3, 4, and 5 in the identification column of Table 5.4, this hypothesis was not supported. It appears that of the variables examined in this study, only the control variable relating to the presence of a distinct leader positively influenced identification with the entrepreneurial team. I checked for a curvilinear effect of contracting practices by adding a squared contracting practices variable to equation 3, and this effect was marginally significant (unstandardized beta=.097, s.e.=.050, p=.054), suggesting the possibility that contracting practices can increase identification at a medium level, but not when they are either too high or too low.

Hypothesis 6 predicted that contracting practices among entrepreneurial team members will be negatively associated with trust on the team. As can be seen from equations 3, 4, and 5 in the trust column of Table 5.4, contrary to expectations, contracting practices significantly positively predicted trust on the entrepreneurial team. I checked for a curvilinear effect by adding a squared contracting practices variable to

equation 3, and this effect was marginally significant (unstandardized beta=.064, s.e.=.037, p=.086), suggesting the possibility that in addition to its linear effect, contracting practices can especially increase trust at a medium level.

Hypotheses 7a-c predicted that the interaction of communal schemas and contracting practices among entrepreneurial team members will be positively associated with trust, identification, and obligations respectively, controlling for the main effect of either communal schemas or contracting practices. Equations 5 under all dependent variables in Table 5.4 indicate that these hypotheses were not supported. That is, the interaction between communal schemas and contracting practices did not add any predictive power for relational capital beyond the effect of each variable on its own.

To assess whether communal schemas and contracting practices had an additive effect on relational capital, I looked at the incremental contribution of communal schemas to a model with the control variables and contracting practices. As can be seen from equations 4 in Table 5.4, the incremental contribution of communal schemas was significant for trust and role clarity. For accountability, the change in R^2 was not significant at the .05 level, though it was significant at the .10 level (p=.094). These results suggest that entrepreneurial teams are better off in terms of trust and obligations with both communal schemas and contracting practices.

It is noteworthy that all of the effects described above were found controlling for three types of heterogeneity and for prior ties. These previous explanations were found not to be significant predictors of relational capital in the regressions reported in Table 5.4.

As an additional check, I ran the regressions reported above without the control variables in the model. This enabled assessing whether the findings were influenced by the presence of so many controls and also to assess possible influences of multicollinearities among the variables. The results for Hypotheses 1-7 were identical to the results presented above with the exception that Hypothesis 3 was fully supported for accountability. That is, the variable communal schemas was significantly associated with accountability in a model without controls (unstandardized beta=.166, s.e.=.059, p<.01), whereas it was only marginally significantly associated with accountability in a model with controls. These results lend support to the analyses reported in Table 5.4.

Additionally, tests for curvilinear effects without the inclusion of control variables found that contracting practices had a significant curvilinear effect on trust (unstandardized beta=.072, s.e.=.034, p<.05). Moreover, when the squared term was included in the equation, the linear effect of contracting practices was not significant ((unstandardized beta=-.345, s.e.=.315, p=.274). Likewise, contracting practices had a significant curvilinear effect on identification (unstandardized beta=.104, s.e.=.046, p<.05) in addition to a significant negative effect for the linear effect of contracting practices (unstandardized beta=-.866, s.e.=.424, p<.05). These exploratory findings, which were not hypothesized in the original framework, suggest that further exploration of the curvilinear effects of contracting on trust and identification is warranted.

Hypotheses 8-10 were tested through another series of regressions. In the first equation, I regressed each of the dependent variables (creativity, resilience, coordination, and performance) on the control variables. Subsequent equations included the control

variables and trust, identification, role clarity, and accountability, respectively, both

together and in separate equations. Table 5.5 presents the results of these regressions.

Hypothesis 8 predicted that trust between entrepreneurial team members will be

positively associated with (a) creativity, (b) resilience, and (c) coordination. The results

presented in Table 5.5 support this hypothesis with respect to resilience and coordination,

as suggested both by the significant regression coefficients and the significant change in

R^2. Hypothesis 8a was supported in equation 2 but not in equation 6, which included the

other relational capital variables. Likewise, trust was positively associated with perceived

performance in equation 2 but not in equation 6. Hypothesis 9 predicted that

identification with the entrepreneurial team will be positively associated with (a)

creativity, (b) resilience, and (c) coordination. The regressions do not support this

hypothesis with respect to resilience, coordination, or perceived performance. However,

equation 6 does support this hypothesis with respect to creativity. Interestingly, both trust

and role clarity, which were significant without identification in the equation, became

non-significant when included with identification. Likewise, identification was only

significant when these variables were included in the equation and not when it was by

itself. These results suggest that further investigation is warranted of the relationship

between trust, role clarity, identification, and creativity.

Hypothesis 10 predicted that obligations between entrepreneurial team members

will be positively associated with (a) creativity, (b) resilience, and (c) coordination.

Hypothesis 10b, which referred to resilience, received strong support for both the role

clarity and accountability operationalizations of obligations, as suggested both by the

significant regression coefficients and the significant changes in R^2. Although both role

clarity and accountability were significantly associated with creativity and coordination when each one was in the equation by itself, when together with the other relational capital variables in equation 6, only accountability was significant. Like trust, when accountability and role clarity were included with the other relational capital variables, they were not significantly associated with perceived performance.

TABLE 5.5
Regression Results for Hypotheses 8-10

	Creativity						Resilience					
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq.6	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6
Constant	4.12***	2.25**	4.33***	3.02***	1.44	1.61*	5.44***	2.20**	5.50***	2.88***	1.47	1.32
	(0.71)	(0.76)	(0.73)	(0.79)	(0.77)	(.77)	(0.83)	(0.75)	(0.86)	(0.79)	(0.79)	(.75)
Industry equivocality	-0.03	0.02	-0.02	0.03	0.01	0.00	-0.06	0.02	-0.06	0.06	-0.01	0.05
	(0.06)	(0.05)	(0.06)	(0.06)	(0.05)	(.05)	(0.07)	(0.05)	(0.07)	(0.06)	(0.05)	(0.05)
Technology innovativeness	0.26*	0.22**	0.26**	0.22**	0.20**	0.21***	0.17	0.10	0.17	0.07	0.08	0.06
	(0.08)	(0.07)	(0.08)	(0.08)	(0.07)	(.07)	(0.09)	(0.07)	(0.09)	(0.08)	(0.07)	(0.07)
Leadership	0.00	0.02	0.01	-0.01	0.03	0.07	-0.06	-0.02	-0.06	-0.09	-0.01	-0.01
	(0.06)	(0.05)	(0.06)	(0.06)	(0.05)	(.05)	(0.07)	(0.05)	(0.07)	(0.06)	(0.05)	(0.05)
Respondent's startup experience	0.04	-0.19	0.05	-0.03	-0.21	-0.23	0.26	-0.14	0.26	0.10	-0.11	-0.14
	(0.20)	(0.19)	(0.20)	(0.19)	(0.18)	(.18)	(0.23)	(0.19)	(0.23)	(0.19)	(0.18)	(0.17)
Industry – Biomedical	0.05	-0.04	0.07	0.06	0.03	0.02	0.25	0.09	0.25	0.26	0.22	0.17
	(0.17)	(0.15)	(0.17)	(0.16)	(0.14)	(.14)	(0.19)	(0.15)	(0.20)	(0.16)	(0.15)	(0.14)
Respondent's gender	0.27	0.08	0.30	0.08	0.04	0.10	0.15	-0.19	0.16	-0.30	-0.21	-0.32
	(0.27)	(0.25)	(0.28)	(0.27)	(0.24)	(.24)	(0.32)	(0.25)	(0.32)	(0.27)	(0.25)	(0.24)
Size of team	-0.03	0.02	-0.03	-0.02	0.03	0.04	-0.12*	-0.02	-0.12*	-0.10*	-0.03	-0.03
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Prior ties (scale)	0.14	0.14*	0.15	0.14	0.15*	0.16*	-0.01	0.00	-0.01	-0.01	0.00	0.02
	(0.08)	(0.07)	(0.08)	(0.07)	(0.07)	(.07)	(0.09)	(0.07)	(0.09)	(0.08)	(0.07)	(0.06)
Proportion of team with whom worked before	-0.15	-0.17	-0.18	-0.18	-0.22	-0.25	0.30	0.28	0.29	0.23	0.20	0.19
	(0.39)	(0.36)	(0.39)	(0.38)	(0.34)	(.34)	(0.46)	(0.36)	(0.46)	(0.38)	(0.35)	(.33)
Heterogeneity in functional background	-0.05	-0.19	-0.02	-0.15	-0.23	-0.18	0.14	-0.10	0.15	-0.10	-0.12	-0.16
	(0.36)	(0.33)	(0.36)	(0.35)	(0.31)	(.31)	(0.42)	(0.33)	(0.42)	(0.35)	(0.32)	(0.30)

TABLE 5.5 continued

Heterogeneity in industry experience	0.00 (0.02)	0.01 (0.01)	0.00 (0.02)	0.00 (0.02)	0.01 (0.01)	0.01 (.01)	-0.03 (0.02)	-0.01 (0.01)	-0.03 (0.02)	-0.01 (0.02)	-0.01 (0.01)	0.00 (0.01)
Heterogeneity in organizational tenure	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.00)
Average industry experience of team	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.02)	0.00 (0.01)	0.00 (0.02)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)
Average organizational tenure of team members	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.01 (0.01)	0.00 (0.00)	-0.01 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Trust		0.33*** (0.07)				0.11 (0.10)		0.57*** (0.07)				0.30*** (0.10)
Identification			-0.07 (0.06)			-0.11* (0.05)			-0.02 (0.07)			-0.09 (0.05)
Role clarity				0.24** (0.09)		-0.10 (0.10)				0.57*** (0.09)		0.22* (0.10)
Accountability					0.46*** (0.08)	0.46*** (0.13)					0.69*** (0.08)	0.29* (0.13)
R^2	.217	.362	.228	.278	.421	.459	.193	.522	.193	.447	.532	.610
Adjusted R^2	.102	.261	.105	.163	.328	.352	.074	.446	.065	.359	.457	.533
F	1.884*	3.561***	1.855*	2.418**	4.548***	4.287***	1.619	6.847**	1.5-1	5.065***	7.113***	1,619
ΔR^2		.145	.011	.061	.203	.242		.330	.001	.254	.339	.418
F for ΔR^2		21.381***	1.352	7.968**	32.977*	10.156***		64.819***	.073	43.238***	68.036***	24.407***

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 110.
Changes in R^2 are from Equation 1.
*p<.05, **p<.01, ***p<.001 (two-tailed).

TABLE 5.5 Continued

	Coordination						Performance					
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6
Constant	4.77***	1.49	4.64***	2.23**	0.79	0.53	4.02***	2.31*	3.83***	2.71**	1.85	1.66
	(0.84)	(0.77)	(0.87)	(0.81)	(0.81)	(0.78)	(0.82)	(0.90)	(0.84)	(0.90)	(0.95)	(0.97)
Industry equivocality	-0.05	0.02	-0.05	0.07	0.00	0.05	-0.05	-0.02	-0.05	0.01	-0.03	-0.01
	(0.07)	(0.06)	(0.07)	(0.06)	(0.05)	(0.05)	(0.07)	(0.06)	(0.07)	(0.07)	(0.06)	(0.07)
Technology innovativeness	0.10	0.03	0.10	0.00	0.01	-0.10	0.19*	0.15	0.19*	0.14	0.14	0.13
	(0.09)	(0.07)	(0.09)	(0.08)	(0.07)	(0.07)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Leadership	0.00	0.04	-0.01	-0.03	0.05	0.04	-0.05	-0.03	-0.06	-0.07	-0.03	-0.04
	(0.07)	(0.05)	(0.07)	(0.06)	(0.05)	(0.05)	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)	(0.07)
Respondent's startup experience	0.46	0.06	0.45	0.31	0.10	0.05	0.50*	0.29	0.48*	0.42	0.30	0.27
	(0.24)	(0.19)	(0.24)	(0.20)	(0.19)	(0.18)	(0.23)	(0.22)	(0.23)	(0.22)	(0.22)	(0.23)
Industry – Biomedical	0.37	0.21	0.36	0.38*	0.34*	0.28	0.41*	0.32	0.40*	0.42*	0.39*	0.35
	(0.20)	(0.15)	(0.20)	(0.17)	(0.15)	(0.15)	(0.19)	(0.18)	(0.19)	(0.19)	(0.18)	(0.18)
Respondent's gender	0.51	0.16	0.49	0.06	0.15	0.03	0.51	0.33	0.48	0.27	0.31	0.25
	(0.33)	(0.26)	(0.33)	(0.28)	(0.25)	(0.25)	(0.32)	(0.30)	(0.32)	(0.32)	(0.30)	(0.31)
Size of team	-0.08	0.01	-0.08	-0.07	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.06
	(0.06)	(0.04)	(0.06)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Prior ties (scale)	-0.02	-0.01	-0.03	-0.02	-0.01	0.00	0.03	0.04	0.02	0.03	0.04	0.03
	(0.09)	(0.07)	(0.09)	(0.08)	(0.07)	(0.07)	(0.09)	(0.08)	(0.09)	(0.09)	(0.08)	(0.08)
Proportion of team with whom worked before	-0.11	-0.13	-0.10	-0.17	-0.21	-0.19	0.03	0.02	0.06	0.00	-0.03	0.00
	(0.47)	(0.36)	(0.47)	(0.39)	(0.36)	(0.34)	(0.46)	(0.43)	(0.46)	(0.44)	(0.43)	(0.43)
Heterogeneity in functional background	-0.40	-0.65	-0.42	-0.65	-0.67*	-0.72*	-0.19	-0.30	-0.22	-0.31	-0.31	-0.35
	(0.43)	(0.33)	(0.43)	(0.36)	(0.33)	(0.31)	(0.41)	(0.39)	(0.42)	(0.40)	(0.39)	(0.39)
Heterogeneity in industry experience	-0.01	0.01	-0.01	0.00	0.00	0.01	-0.04*	-0.03	-0.04*	-0.03	-0.03	-0.03
	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Heterogeneity in organizational tenure	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)

Average industry experience of team	0.03 (0.02)	0.02 (0.01)	0.03 (0.02)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.02)	0.01 (0.01)	0.02 (0.02)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Average organizational tenure of team members	-0.01 (0.01)	-0.01 (0.00)	-0.01 (0.01)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.02** (0.01)	-0.02** (0.00)	-0.02** (0.01)	-0.02** (0.01)	-0.02** (0.00)	-0.02** (0.00)
Trust		0.57*** (0.07)				0.31** (0.10)		0.31*** (0.08)				0.14 (0.13)
Identification			0.04 (0.07)			-0.02 (0.05)			0.06 (0.07)			0.03 (0.07)
Role Clarity				0.56*** (0.09)		0.20 (0.10)				0.29** (0.10)		0.07 (0.13)
Accountability					0.69*** (0.09)	0.28* (0.14					0.38*** (0.10)	0.20 (0.17)
R^2	.201	.524	.204	.440	.528	.594	.310	.394	.316	.368	.403	.416
Adjusted R^2	.083	.448	.077	.351	.453	.513	.210	.298	.208	.269	.309	.301
F	1.706	6.890***	1.606	4.933***	7.022***	1.706	3.086**	4.113***	2.931**	3.695***	4.279***	3.086**
ΔR^2		.323	.003	.240	.327	.393		.083	.006	.058	.093	.105
F for ΔR^2		63.694***	.360	40.234***	65.279***	21.987***		13.066**	.832	8.737**	14.776***	4.140**

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 110.
Changes in R^2 are from Equation 1.
*p<.05, **p<.01, ***p<.001 (two-tailed).

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A few observations from Table 5.5 are noteworthy. Prior ties among team members were significantly positively associated with creativity in equations 2 and 5. Being in the biomedical industry was significantly positively associated with coordination in equations 4 and 5 and with perceived performance in equations 1, 3, 4, and 5. Heterogeneity in functional background was significantly negatively associated with coordination in equation 5. Heterogeneity in industry experience was negatively associated with perceived performance in equations 1 and 3. Finally, the average organizational tenure of team members was significantly negatively associated with perceived performance in all five equations. That is, the more time, on average, that team members had worked in the startup, the lesser the perceived performance reported by the respondent.

As an additional check, I ran the regressions reported above without the control variables in the model. This enabled assessing whether the findings were influenced by the presence of so many controls and also to assess possible influences of multicollinearities among the variables. The results for Hypotheses 8-10 were identical to the results presented above. These results lend support to the analyses reported in Table 5.5.

Finally, hypotheses 11-16 were tested through a series of regressions following the guidelines of Baron and Kenny (1986). According to this method, mediation occurs when the following four criteria are met: (1) the independent variable (in this case communal schemas and contracting practices) significantly predicts the dependent variable (in this case creativity, resilience, and coordination), (2) the independent

variable predicts the mediator (in this case trust and obligations), (3) the mediator predicts the dependent variable (in this case creativity, resilience, and coordination), controlling for the independent variable, and (4) the independent variable does not predict the dependent variable, controlling for the mediator. Thus for each test of mediation, three regression equations were run. The first set of equations included each independent variable (one equation for communal schemas and another for contracting practices) as the predictor variable. The second condition of Baron and Kenny's method was assessed in the equations presented in Table 5.4. Those results ruled out identification as a mediator, as neither communal schemas nor contracting practices significantly predicted identification. Thus Hypotheses 11b-16b, all pertaining to identification, were not supported. For trust and obligations, however, this second condition was met. The third and fourth conditions were assessed through another series of regressions, where both independent variable (either communal schemas or contracting practices) and the mediators (either trust, role clarity, or accountability) were the predictor variables. Mediation is supported if in these equations, either communal schemas or contracting practices were no longer significant predictors. These steps were repeated for all three dependent variables: creativity, resilience, and coordination. Table 5.6 presents the results of these regressions.

As noted above, Hypotheses 11b-16b, all pertaining to identification, were not supported. Hypothesis 11 dealt with the relationship between communal schemas and creativity, predicting that it will be mediated by trust, identification, and obligations. The results presented in Table 5.4 suggest that communal schemas met Baron and Kenny's second criterion, as it was significantly associated with trust. With respect to obligations,

the results presented in Table 5.4 suggest that communal schemas was only positively

significantly associated with role clarity, not with obligations. Thus the requirement for

mediation was only met for role clarity.

TABLE 5.6
Regression Results for Hypotheses 11-16

	Creativity							
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6	Eq. 7	Eq. 8
Constant	3.69***	3.52***	2.17**	2.88***	1.30	2.14**	2.89***	1.43
	(0.73)	(0.72)	(0.76)	(0.79)	(0.77)	(0.76)	(0.78)	(0.77)
Industry equivocality	-0.03	-0.02	0.01	0.01	0.00	0.02	0.02	0.01
	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)
Technology innovativeness	0.24**	0.26**	0.21**	0.21**	0.19**	0.22**	0.23**	0.20**
	(0.08)	(0.08)	(0.07)	(0.08)	(0.07)	(0.07)	(0.08)	(0.07)
Leadership	0.00	0.00	0.02	-0.01	0.03	0.02	-0.01	0.03
	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)
Respondent's startup experience	0.05	-0.06	-0.17	-0.01	-0.19	-0.22	-0.08	-0.23
	(0.20)	(0.20)	(0.19)	(0.19)	(0.18)	(0.19)	(0.19)	(0.18)
Industry – Biomedical	0.04	0.02	-0.04	0.05	0.03	-0.04	0.04	0.03
	(0.16)	(0.16)	(0.15)	(0.16)	(0.14)	(0.15)	(0.16)	(0.14)
Respondent's gender	0.20	0.21	0.06	0.06	0.00	0.06	0.08	0.03
	(0.27)	(0.27)	(0.25)	(0.27)	(0.24)	(0.25)	(0.27)	(0.24)
Size of team	-0.03	-0.03	0.02	-0.02	0.03	0.02	-0.03	0.02
	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Prior ties (scale)	0.12	0.13	0.14	0.13	0.14*	0.14	0.13	0.14*
	(0.08)	(0.08)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)
Proportion of team with whom worked before	-0.24	-0.11	-0.20	-0.23	-0.26	-0.14	-0.14	-0.20
	(0.39)	(0.38)	(0.36)	(0.38)	(0.34)	(0.36)	(0.38)	(0.34)
Heterogeneity in functional background	0.00	-0.02	-0.16	-0.11	-0.19	-0.16	-0.11	-0.21
	(0.35)	(0.35)	(0.33)	(0.35)	(0.31)	(0.33)	(0.35)	(0.31)
Heterogeneity in industry experience	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
Heterogeneity in organizational tenure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)
Average industry experience of team	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average organizational tenure of team members	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Communal Schemas	0.12*		0.05	0.08	0.07			
	(0.06)		(0.06)	(0.06)	(0.05)			

TABLE 5.6 continued

	Creativity							
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6	Eq. 7	Eq. 8
Contracting Practices		0.15**				0.08	0.11	0.05
		(0.06)				(0.05)	(0.06)	(0.05)
Trust			0.31***			0.29***		
			(0.07)			(0.08)		
Role Clarity				0.21*			0.18	
				(0.09)			(0.09)	
Accountability					0.45***			0.43***
					(0.08)			(0.09)
R^2	.250	.275	.368	.293	.432	.376	.303	.425
Adjusted R^2	.131	.159	.260	.171	.334	.269	.183	.326
F	2.092*	2.372**	3.390***	2.409**	4.418***	3.508***	2.522**	4.297***

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 110.
*$p<.05$, **$p<.01$, ***$p<.001$ (two-tailed).

TABLE 5.6 continued

	Resilience							
	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6	Eq. 7	Eq. 8
Constant	4.83***	3.95***	2.12**	2.74**	1.27	1.84**	2.53**	1.41*
	(0.84)	(0.71)	(0.76)	(0.79)	(0.79)	(0.66)	(0.70)	(0.71)
Industry equivocality	-0.07	-0.04	0.01	0.05	-0.01	0.01	0.04	-0.01
	(0.07)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
Technology innovativeness	0.14	0.17*	0.09	0.06*	0.07	0.11	0.10	0.10
	(0.09)	(0.08)	(0.07)	(0.08)	(0.07)	(0.06)	(0.07)	(0.06)
Leadership	-0.06	-0.05	-0.02	-0.09	-0.01	-0.02	-0.08	-0.01
	(0.07)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
Respondent's startup experience	0.28	0.01	-0.12	0.12	-0.08	-0.23	-0.04	-0.19
	(0.23)	(0.19)	(0.19)	(0.19)	(0.18)	(0.16)	(0.17)	(0.16)
Industry – Biomedical	0.23	0.18	0.09	0.26	0.21	0.07	0.21	0.18
	(0.19)	(0.16)	(0.15)	(0.16)	(0.15)	(0.13)	(0.14)	(0.13)
Respondent's gender	0.05	-0.02	-0.21	-0.33	-0.25	-0.24	-0.30	-0.24
	(0.31)	(0.26)	(0.25)	(0.27)	(0.25)	(0.22)	(0.24)	(0.22)

TABLE 5.6 continued

				Resilience				
	Eq. 1	**Eq. 2**	**Eq. 3**	**Eq. 4**	**Eq. 5**	**Eq. 6**	**Eq. 7**	**Eq. 8**
Size of team	-0.11*	-0.11*	-0.03	-0.10	-0.03	-0.04	-0.10*	-0.05
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Prior ties (scale)	-0.04	-0.03	-0.01	-0.02	-0.01	-0.02	-0.02	-0.02
	(0.09)	(0.07)	(0.07)	(0.08)	(0.07)	(0.06)	(0.07)	(0.06)
Proportion of team with	0.18	0.41	0.24	0.19	0.14	0.36	0.34	0.30
whom worked before	(0.45)	(0.38)	(0.36)	(0.38)	(0.35)	(0.31)	(0.34)	(0.32)
Heterogeneity in	0.21	0.21	-0.07	-0.06	-0.07	0.00	0.02	-0.02
functional background	(0.41)	(0.34)	(0.33)	(0.35)	(0.32)	(0.28)	(0.31)	(0.29)
Heterogeneity in	-0.03	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00
industry experience	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Heterogeneity in	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
organizational tenure	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Average industry	0.01	-0.01	0.00	0.00	0.00	-0.01	-0.01	-0.01
experience of team	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average organizational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
tenure of team members	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Communal Schemas	0.17*		0.05	0.08	0.10			
	(0.07)		(0.06)	(0.06)	(0.05)			
Contracting Practices		0.37***				0.26***	0.27***	0.25***
		(0.05)				(0.05)	(0.05)	(0.05)
Trust			0.55***			0.45***		
			(0.07)			(0.07)		
Role Clarity				0.54***			0.40***	
				(0.09)			(0.08)	
Accountability					0.66***			0.53***
					(0.08)			(0.08)
R^2	.244	.462	.527	.456	.548	.642	.570	.631
Adjusted R^2	.123	.376	.445	.363	.470	.581	.496	.567
F	2.020*	5.378***	6.470***	4.880***	7.053***	10.433***	7.701***	9.932***

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 110.
*$p<.05$, **$p<.01$, ***$p<.001$ (two-tailed).

TABLE 5.6 continued

	Coordination							
	Eq. 1	**Eq. 2**	**Eq. 3**	**Eq. 4**	**Eq. 5**	**Eq. 6**	**Eq. 7**	**Eq. 8**
Constant	4.05***	3.65***	1.37	2.03*	0.52	1.28	2.02*	0.75
	(0.84)	(0.80)	(0.77)	(0.81)	(0.80)	(0.74)	(0.79)	(0.79)
Industry equivocality	-0.06	-0.04	0.01	0.05	-0.01	0.02	0.05	0.00
	(0.07)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)
Technology innovativeness	0.07	0.10	0.02	0.00	0.00	0.04	0.02	0.02
	(0.09)	(0.09)	(0.07)	(0.08)	(0.07)	(0.07)	(0.08)	(0.07)
Leadership	0.00	0.00	0.04	-0.03	0.05	0.04	-0.02	0.05
	(0.07)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)
Respondent's startup experience	0.49*	0.28	0.09	0.33	0.13	0.01	0.23	0.05
	(0.23)	(0.22)	(0.19)	(0.20)	(0.18)	(0.18)	(0.20)	(0.18)
Industry – Biomedical	0.35	0.31	0.21	0.37*	0.33*	0.20	0.35*	0.32*
	(0.19)	(0.18)	(0.15)	(0.16)	(0.15)	(0.15)	(0.16)	(0.15)
Respondent's gender	0.39	0.38	0.13	0.03	0.09	0.14	0.06	0.13
	(0.32)	(0.30)	(0.26)	(0.28)	(0.25)	(0.25)	(0.27)	(0.25)
Size of team	-0.08	-0.08	0.01	-0.07	0.00	0.00	-0.07	0.00
	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)
Prior ties (scale)	-0.05	-0.04	-0.02	-0.03	-0.03	-0.02	-0.03	-0.02
	(0.09)	(0.08)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)
Proportion of team with whom worked before	-0.25	-0.03	-0.19	-0.24	-0.29	-0.08	-0.11	-0.15
	(0.45)	(0.43)	(0.36)	(0.39)	(0.35)	(0.35)	(0.38)	(0.35)
Heterogeneity in functional background	-0.32	-0.35	-0.60	-0.58	-0.60	-0.59	-0.58	-0.61
	(0.41)	(0.39)	(0.33)	(0.36)	(0.32)	(0.32)	(0.35)	(0.32)
Heterogeneity in industry experience	-0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01
	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
Heterogeneity in organizational tenure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average industry experience of team	0.03	0.01	0.02	0.02	0.02*	0.01	0.01	0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Average organizational tenure of team members	-0.01	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	-0.01
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Communal Schemas	0.20**		0.08	0.11	0.13*			
	(0.07)		(0.06)	(0.06)	(0.05)			

TABLE 5.6 continued

				Coordination				
	Eq. 1	**Eq. 2**	**Eq. 3**	**Eq. 4**	**Eq. 5**	**Eq. 6**	**Eq. 7**	**Eq. 8**
Contracting Practices		0.28***				0.16**	0.16**	0.13*
		(0.06)				(0.05)	(0.06)	(0.06)
Trust			0.54***			0.50***		
			(0.07)			(0.07)		
Role Clarity				0.52***			0.46***	
				(0.09)			(0.09)	
Accountability					0.66***			0.60***
					(0.08)			(0.09)
R^2	.269	.345	.535	.459	.556	.564	.483	.556
Adjusted R^2	.152	.240	.455	.366	.479	.489	.394	.480
F	2.305**	3.299***	6.684***	4.935***	7.272***	7.517***	5.423***	7.293***

Unstandardized regression coefficients are shown, with standard errors in parentheses. Sample size is 110.
*p<.05, **p<.01, ***p<.001 (two-tailed).

Baron and Kenny's first criterion for mediation, that the independent variable is significantly associated with the dependent variable, was assessed through regression 1 in Table 5.6. The results indicate that this criterion was met. Finally, the third and fourth criteria were assessed through regressions 3-5. The results indicate that trust fully mediated the relationship between communal schemas and creativity. When both communal schemas and trust were in the equation, the coefficient for trust was significant, whereas the coefficient for communal schemas was not significant. Sobel's test confirmed that trust mediated the effect of communal schemas on creativity ($Z=3.615$, $p<.01$). Thus Hypothesis 11a was supported. The results also indicated that role clarity fully mediated the relationship between communal schemas and creativity. However, Sobel's test indicated that the mediation was only marginally significant ($Z=1.851$, $p=.06$). Thus Hypothesis 11c was partially supported with respect to role clarity, but not accountability.

Hypothesis 12 dealt with the relationship between communal schemas and resilience, predicting that it will be mediated by trust, identification, and obligations. With respect to both trust and obligations, the results presented in Table 5.4 suggest that communal schemas met Baron and Kenny's second criterion, as it was significantly associated with trust, role clarity, and accountability. Regression 1 in Table 5.6 indicates that Baron and Kenny's first criterion for mediation, that communal schemas is significantly associated with resilience, was met.

The third and fourth criteria were assessed through regressions 3-5. The results indicate that trust fully mediated the relationship between communal schemas and resilience. Sobel's test confirmed that trust mediated the effect of communal schemas on

resilience (Z=2.932, p<.01). Thus Hypothesis 12a was supported. The results also indicated that both role clarity and accountability fully mediated the relationship between communal schemas and resilience, supporting Hypothesis 12c. Sobel's test confirmed that the mediation was significant for role clarity (Z=2.383, p<.05) and accountability (Z=1.948, p<.05).

Hypothesis 13 dealt with the relationship between communal schemas and coordination, predicting that it will be mediated by trust, identification, and obligations. With respect to both trust and obligations, the results presented in Table 5.4 suggest that communal schemas met Baron and Kenny's second criterion, as it was significantly associated with trust, role clarity, and accountability. Regression 1 in Table 5.6 indicates that Baron and Kenny's first criterion for mediation, that communal schemas is significantly associated with coordination, was met.

The third and fourth criteria were assessed through regressions 3-5. The results indicate that trust fully mediated the relationship between communal schemas and coordination. Sobel's test confirmed that trust mediated the effect of communal schemas on coordination (Z=2.932, p<.01). Thus Hypothesis 13a was supported. The results also indicated that role clarity fully mediated the relationship between communal schemas and coordination. Sobel's test confirmed that the mediation was significant (Z=2.376, p<.05). However, accountability only partially mediated the relationship between communal schemas and coordination. When both communal schemas and accountability were in the equation, both coefficients were significant, however the coefficient for communal schemas was smaller in size than in the equation without accountability. Sobel's test indicated that the mediation was marginally significant (Z=1.935, p=.053). Thus

Hypothesis 13c was supported for role clarity but was only partially supported for accountability.

Hypothesis 14 dealt with the relationship between contracting practices and creativity, predicting that it will be mediated by trust, identification, and obligations. With respect to trust and obligations the results presented in Table 5.4 suggest that contracting practices met Baron and Kenny's second criterion, as it was significantly associated with trust, role clarity, and obligations.

Baron and Kenny's first criterion for mediation, that the independent variable is significantly associated with the dependent variable, was assessed through regression 2 in Table 5.6. The results indicate that this criterion was met. Finally, the third and fourth criteria were assessed through regressions 6-8. The results indicate that trust fully mediated the relationship between contracting practices and creativity. Sobel's test confirmed that trust mediated the effect of contracting practices on creativity (Z=2.773, p<.01). Thus Hypothesis 14a was supported. The results did not support mediation for role clarity. When both contracting practices and role clarity were in the equation, neither coefficient was significant. However, the results do indicate that accountability fully mediated the relationship between contracting practices and creativity. Sobel's test confirmed that the mediation was significant (Z=3.284, p<.01). Thus Hypothesis 14c was supported with respect to accountability, but not role clarity.

Hypothesis 15 dealt with the relationship between contracting practices and resilience, predicting that it will be mediated by trust, identification, and obligations. With respect to both trust and obligations, the results presented in Table 5.4 suggest that contracting practices met Baron and Kenny's second criterion, as it was significantly

associated with trust, role clarity, and accountability. Regression 2 in Table 5.6 indicates that Baron and Kenny's first criterion for mediation, that contracting practices is significantly associated with resilience, was met.

Baron and Kenny's third and fourth criteria were assessed through regressions 6-8. The results indicate that trust partially mediated the relationship between contracting practices and resilience. When both contracting practices and trust were in the equation, both coefficients were significant, however the coefficient for contracting practices was smaller in size than in the equation without trust. Sobel's test confirmed the significance of the mediation (Z=3.160, p<.01). Thus Hypothesis 15a was partially supported. Likewise, the results also indicated that both role clarity and accountability partially mediated the relationship between contracting practices and resilience, partially supporting Hypothesis 15c. Thus when both contracting practices and role clarity were in the equation, both coefficients were significant, however the coefficient for contracting practices was smaller in size than in the equation without role clarity. The same pattern held for accountability. Sobel's test confirmed that the mediation was significant for both role clarity (Z=3.481, p<.001) and for accountability (Z=3.629, p<.001).

Finally, Hypothesis 16 dealt with the relationship between contracting practices and coordination, predicting that it will be mediated by trust, identification, and obligations. With respect to both trust and obligations, the results presented in Table 5.4 suggest that contracting practices met Baron and Kenny's second criterion, as it was significantly associated with trust, role clarity, and accountability. Regression 2 in Table 5.6 indicates that Baron and Kenny's first criterion for mediation, that contracting practices is significantly associated with coordination, was met.

Baron and Kenny's third and fourth criteria were assessed through regressions 6-8. The results indicate that trust partially mediated the relationship between contracting practices and coordination. Sobel's test confirmed the significance of the mediation ($Z=3.160$, $p<.01$). Thus Hypothesis 16a was partially supported. Likewise, the results also indicated that both role clarity and accountability partially mediated the relationship between contracting practices and resilience, partially supporting Hypothesis 16c. Sobel's test confirmed that the mediation was significant for both role clarity ($Z=3.462$, $p<.001$) and for accountability ($Z=3.546$, $p<.001$). A summary of the regression results is presented in Table 5.7.

As an additional check, I ran the regressions reported above without the control variables in the model. This enabled assessing whether the findings were influenced by the presence of so many controls and also to assess possible influences of multicollinearities among the variables. The results for Hypotheses 11-16 diverged somewhat from the results presented above in that some of the full mediation relationships became partial mediation relationships. Thus the results for Hypotheses 11a, 11c, 12c, 13c, and 14a were partial mediation rather than full mediation. The results for Hypothesis 14c was partial mediation of role clarity in the relationship between contracting practices and creativity. These results suggest that trust, role clarity, and accountability are only partial mediators of the relationship between communal schemas and creativity. Whereas accountability appeared as a full mediator both with controls and without, trust and role clarity were only partial mediators of the relationship between contracting practices and creativity in the model without controls. The mediation results for resilience and coordination were similar in the models with controls and without

controls with the exception that role clarity and accountability were found to be only partial mediators of the relationship between communal schemas and resilience and that role clarity was found to be only a partial mediator between communal schemas and resilience. In all, these additional analyses suggest that without the controls, the coefficients for the independent variables are more likely to remain significant despite the inclusion of the mediator variables, probably because the control variables are not in the equation to absorb variance.

Hypothesis Testing: Structural Equation Model with Parceled Variables

Although my sample size was not large enough for structural equation modeling, I ran exploratory structural equation models using parceled variables. In this analysis, I collapsed indicators by averaging such that the model contained only two indicators per construct. This reduction in parameters enabled the model to converge, despite the small sample size. According to Bagozzi and Edwards (1998), a structural equation model with parceled variables is appropriate in situations where constructs have high reliability, high correlations between the items that are averaged, and the averaged items load on a single factor. The exploratory and confirmatory factor analyses supported the validity of this approach. Structural equation modeling allowed me to model the theorized causal links while controlling for measurement error. Figure 5.1 presents the proposed theoretical model. Figure 5.2 presents the standardized coefficients (betas) for the model using the accountability operationalization of obligations and Figure 5.3 presents the standardized coefficients (betas) for the model using the role clarity operationalization of obligations. The figures also include the standardized factor loadings of the observed variables

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(averaged such that there are only two indicators per latent variable) of each of the latent

factors. Table 5.7 presents the correlation matrix used to generate these models.

TABLE 5.7
Correlation Matrix Used in SEM Analysis

	Commu 1	Commu 2	Contract1	Contract 2	Trust 1	Trust 2	Ident 1	Ident 2	Accnt 1
Commu 1	1.00								
Commu 2	0.97	1.00							
Contract 1	0.12	0.12	1.00						
Contract 2	0.08	0.09	0.83	1.00					
Trust 1	0.27	0.24	0.42	0.39	1.00				
Trust 2	0.35	0.31	0.34	0.36	0.91	1.00			
Ident 1	-0.01	-0.01	0.03	0.11	0.08	0.09	1.00		
Ident 2	-0.01	-0.01	0.06	0.12	0.12	0.17	0.83	1.00	
Account 1	0.27	0.23	0.39	0.37	0.79	0.74	0.12	0.16	1.00
Account 2	0.23	0.18	0.41	0.38	0.74	0.70	0.07	0.13	0.90
Role Cl 1	0.24	0.20	0.40	0.36	0.53	0.48	0.15	0.17	0.58
Role Cl 2	0.33	0.27	0.42	0.42	0.59	0.57	0.15	0.18	0.65
Creative 1	0.26	0.27	0.30	0.27	0.50	0.43	0.00	0.04	0.49
Creative 2	0.32	0.33	0.33	0.34	0.48	0.42	-0.03	0.01	0.50
Resilien 1	0.35	0.32	0.54	0.53	0.73	0.63	0.00	-0.02	0.65
Resilien 2	0.28	0.25	0.59	0.53	0.71	0.59	0.02	0.01	0.63
Coordin 1	0.33	0.33	0.45	0.43	0.64	0.59	-0.03	0.07	0.61
Coordin 2	0.30	0.28	0.48	0.43	0.66	0.63	0.03	0.11	0.57
S.D.	1.34	1.28	1.35	1.51	0.97	1.14	1.49	1.20	0.87

TABLE 5.7 continued

	Account 2	Role Cl 1	Role Cl 2	Creative 1	Creative 2	Resilien 1	Resilien 2	Coord 1	Coord 2
Account 2	1.00								
Role Cl 1	0.58	1.00							
Role Cl 2	0.65	0.83	1.00						
Creative 1	0.49	0.33	0.36	1.00					
Creative 2	0.51	0.34	0.40	0.86	1.00				
Resilien 1	0.64	0.50	0.60	0.56	0.61	1.00			
Resilien 2	0.66	0.50	0.52	0.50	0.50	0.88	1.00		
Coordin 1	0.62	0.50	0.58	0.42	0.42	0.62	0.61	1.00	
Coordin 2	0.54	0.44	0.51	0.28	0.25	0.54	0.54	0.83	1.00
S.D.	0.94	0.97	0.99	0.79	0.87	0.94	0.93	0.93	1.08

To determine the overall fit of the models, I used several goodness-of-fit indices:

the chi-square test, the Mean Square Error of Approximation (RMSEA), the non-normed

fit index (NNFI), the comparative fit index (CFI), and the Standardized root mean square

residual (SRMR). While there are no hard-fast rules for assessing goodness of fit,

scholars generally agree that a non-significant chi-square, RMSEA at .05 or lower, NNFI

and CFI at .95 or higher, and an SRMR of .08 or lower indicate a good fit (Hu & Bentler,

1999). For the hypothesized model using *accountability* as the operationalization of

obligations, the chi-square (df=56, n=122) is 97.46 (p<.05), the RMSEA is .078, the

NNFI is .97, the CFI is .98, and the SRMR is .031. These findings indicate a reasonable

fit for the proposed theoretical model. Although the Chi-square statistic was significant

and RMSEA was higher than the suggested criteria, both of these indices are sensitive to

sample size. The other indices suggested a good fit. For the hypothesized model using

role clarity as the operationalization of obligations, the chi-square (df=56, n=122) is

102.54 (p<.05), the RMSEA is .083, the NNFI is .97, the CFI is .98, and the SRMR is

.036. Again, these findings indicate a reasonable fit for the proposed theoretical model for

this operationalization as well.

FIGURE 5.1
Hypothesized Model
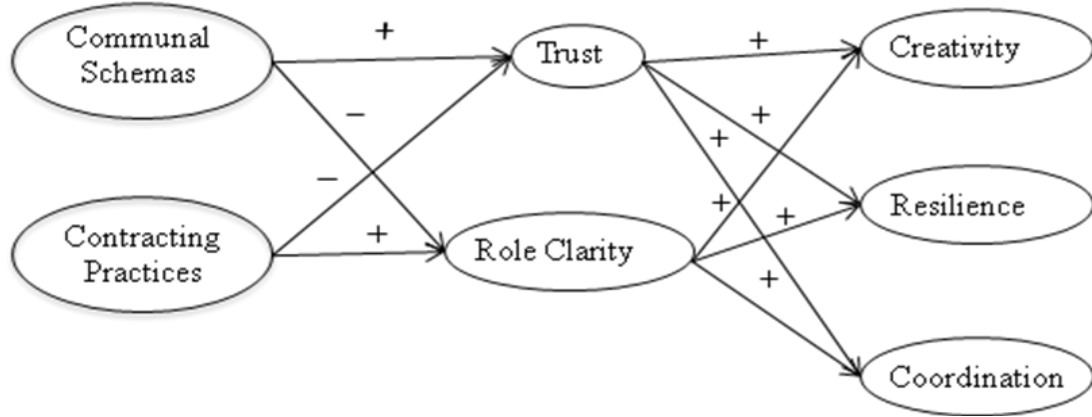
FIGURE 5.2
Structural Equation Modeling Results with Standardized Factor Loadings for the
Accountability Operationalization of Obligations
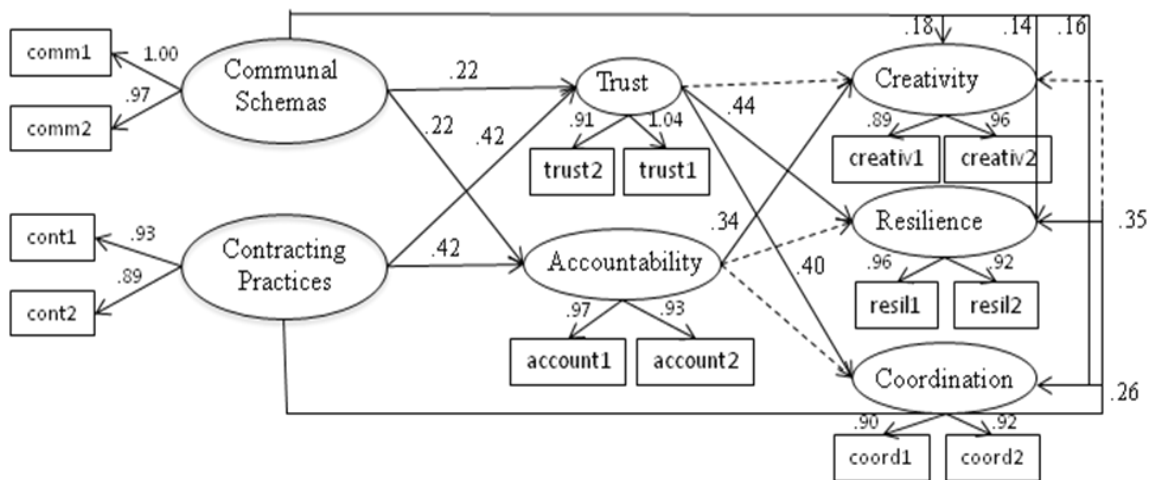
Chi-Square (56, n=122) = 97.46, p<.05
RMSEA = .078
NNFI = .97
CFI = .98
Standardized RMR = .031

——————— p < .05

------------- n.s.

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Figure 5.3
Structural Equation Modeling Results with Standardized Factor Loadings for the
Role Clarity Operationalization of Obligations
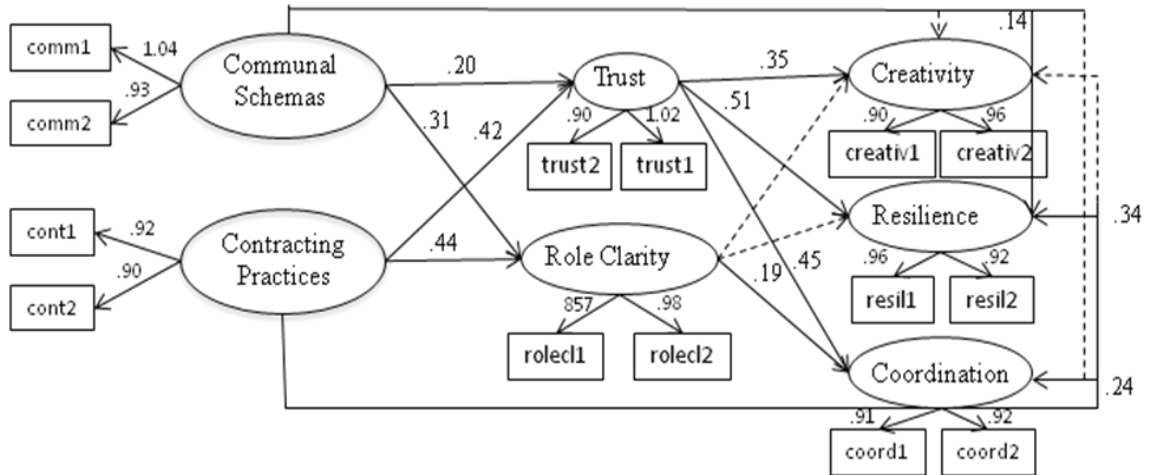
Chi-Square (df=56, n=122) = 102.54, p<.05   —————— p < .05
RMSEA = .083
NNFI = .97   ------------ n.s.
CFI = .98
Standardized RMR = .036

As indicated in figures 5.2 and 5.3, the SEM results support Hypothesis 1, that

communal schemas are significantly positively associated with trust. Like the regression

results, the SEM analysis indicates that the path from communal schemas to obligations

(both accountability and role clarity) was positive and significant, rather than negatively

associated as predicted by Hypothesis 3. The results for communal schemas also mirror

the regression results, supporting Hypothesis 4 that communal schemas are positively

associated with obligations (both accountability and role clarity). As in the regressions,

the path from contracting practices to trust was positive and significant, in the direction

opposite to the prediction of Hypothesis 6. Hypothesis 8a, that trust is positively associated with creativity, was supported in the model with accountability but not in the model with role clarity. Hypotheses 8b and 8c regarding the positive significant relationship between trust and both resilience and coordination were supported in both models. Hypothesis 10a, that obligations are positively associated with creativity, was supported for accountability but not for role clarity. Hypothesis 8b regarding the positive relationship between obligations and resilience was supported in both models. Finally, Hypothesis 8c regarding the relationship between obligations and coordination was supported for role clarity but not for accountability.

The mediation hypotheses (11-16) received partial support by the SEM analysis. Trust fully mediated the relationship between communal schemas and creativity in the model with role clarity, thereby supporting Hypothesis 11a, but not in the model with accountability. Obligations partially mediated the relationship between communal schemas and creativity in the model with accountability, thereby partially supporting Hypothesis 11c, but not in the model with role clarity. Trust partially mediated the relationship between communal schemas and resilience in both models, thereby partially supporting Hypothesis 12a. Obligations did not mediate the relationship between communal schemas and resilience in both models. Thus Hypothesis 12c was not supported. Trust fully mediated the relationship between communal schemas and coordination in the model with role clarity, thereby supporting Hypothesis 13a. The mediation was only partial, however, in the model with accountability. Obligations fully mediated the relationship between communal schemas and coordination in the model with role clarity, thereby supporting Hypothesis 13c. However, in the model with

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accountability, this hypothesis was not supported. Trust fully mediated the relationship between contracting practices and creativity in the model with role clarity, thereby supporting Hypothesis 14a. However, in the model with accountability, this hypothesis was not supported. Accountability fully mediated the relationship between contracting practices and creativity, thereby supporting Hypothesis 14c. However, in the model with role clarity, this hypothesis was not supported. Trust partially mediated the relationship between contracting practices and resilience in both models, thereby partially supporting Hypothesis 15a. Hypothesis 15c, that obligations mediate the relationship between contracting practices and resilience, was not supported in either model. Trust partially mediated the relationship between contracting practices and coordination in both models, partially supporting Hypothesis 16a. Finally, role clarity partially mediated the relationship between contracting practices and coordination, thereby providing partial support for Hypothesis 16c. However, with respect to accountability this hypothesis was not supported.

Several other observations of the models presented in Figures 5.2 and 5.3 are noteworthy. First, the pattern of results for role clarity and for accountability differed, suggesting that they do not represent the same underlying construct. For example, the path from role clarity to coordination was significant, whereas the path from accountability to coordination was not. Likewise, the path from accountability to creativity was significant, whereas the path from role clarity to creativity was not. These patterns also affected the mediation results, with role clarity fully mediating the relationship between communal schemas and coordination and accountability fully mediating the relationship between contracting practices and creativity. Another

observation is that in the model with accountability, trust and accountability are complementary, in that trust enhances resilience and coordination, whereas accountability enhances creativity.

Summary of Hypothesis Tests

Table 5.7 summarizes the results of the hypotheses tests. Even with a relatively small sample and a strong set of control variables, most of the hypotheses from the proposed model were supported. Communal schemas and contracting practices are both positively associated with trust, accountability, and role clarity, but not identification. Contracting practices had a marginally significant curvilinear effect on identification and trust. The effects of communal schemas and contracting practices on these forms of relational capital appears to be additive rather than multiplicative, although the relatively small sample size suggests that there was insufficient statistical power to find a multiplicative effect. Trust, accountability, and role clarity, but not identification, are, in turn, positively associated with creativity, resilience, and coordination on the team (though the results for resilience are mixed). The results suggest that trust mediates the effect of communal schemas on creativity, resilience, and coordination, the effect of contracting practices on creativity, and partially mediates the effect of contracting practices on resilience and coordination. Accountability fully mediates the relationship between contracting practices and creativity. Role clarity fully mediates the relationship between communal schemas and coordination and partially mediates the relationship between contracting practices and coordination. The findings of this study indicate that in most equations, existing explanations for relational capital development, namely prior ties (as assessed both by the scale and by the proportion of team members with whom the

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respondent had worked before) and heterogeneity (in functional background, industry

experience, and organizational tenure), did not significantly predict any of the relational

capital, team process quality, or perceived performance variables.

TABLE 5.8

Summary of Results of Hypotheses Tests

	Regressions	SEM (accountability)	SEM (role clarity)	Overall
Hypothesis 1: Communal schemas positively associated with trust.	Yes	Yes	Yes	Supported.
Hypothesis 2: Communal schemas positively associated with identification.	No	N/A	N/A	Not supported.
Hypothesis 3: Communal schemas negatively associated with obligations.	No Positive association (significant for role clarity, marginally significant for accountability)	No Significant positive effect	No Significant positive effect	Not supported. Results support positive effect of communal schemas on role clarity and accountability.
Hypothesis 4: Contracting practices positively associated with obligations.	Yes	Yes	Yes	Supported.
Hypothesis 5: Contracting practices positively associated with identification.	No	N/A	N/A	Not supported.
Hypothesis 6: Contracting practices negatively associated with trust.	No Positive association	No Significant positive effect	No Significant positive effect	Not supported. Results support positive effect of contracting practices on trust.
Hypothesis 7a: The interaction of communal schemas and contracting practices positively associated with trust.	No	N/A	N/A	Not supported.
Hypothesis 7b: The interaction of communal schemas and contracting practices positively associated with identification.	No	N/A	N/A	Not supported.

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TABLE 5.8 continued

	Regressions	SEM (accountability)	SEM (role clarity)	Overall
Hypothesis 7c: The interaction of communal schemas and contracting practices positively associated with obligations.	No	N/A	N/A	Not supported.
Hypotheses 8a: Trust is positively associated with creativity.	Yes	No	Yes	Mixed support.
Hypotheses 8b: Trust is positively associated with resilience.	Yes	Yes	Yes	Supported.
Hypotheses 8c: Trust is positively associated with coordination.	Yes	Yes	Yes	Supported.
Hypotheses 9a: Identification is positively associated with creativity.	No	N/A	N/A	Not supported.
Hypotheses 9b: Identification with the entrepreneurial team is positively associated with resilience.	No	N/A	N/A	Not supported.
Hypotheses 9c: Identification is positively associated with coordination.	No	N/A	N/A	Not supported.
Hypotheses 10a: Obligations are positively associated with creativity.	Yes (both role clarity and accountability)	Yes	No	Supported for accountability; mixed support for role clarity.
Hypotheses 10b: Obligations are positively associated with resilience.	Yes (both role clarity and accountability)	No	No	Mixed support.
Hypotheses 10c: Obligations are positively associated with coordination.	Yes (both role clarity and accountability)	No	Yes	Supported for role clarity; mixed support for accountability.
Hypotheses 11a: Trust mediates the relationship between communal schemas and creativity.	Yes	No	Yes	Mixed support.
Hypotheses 11b: Identification mediates the relationship between communal schemas and creativity.	No	N/A	N/A	Not supported.
Hypotheses 11c: Obligations mediate the relationship between communal schemas and creativity.	No (accountability); Yes (role clarity, marginally significant)	Yes, partial mediation	No	Weak support.

TABLE 5.8 continued

	Regressions	**SEM (accountability)**	**SEM (role clarity)**	**Overall**
Hypotheses 12a: Trust mediates the relationship between communal schemas and resilience.	Yes	Yes, partial mediation	Yes, partial mediation	Supported.
Hypotheses 12b: Identification mediates the relationship between communal schemas and resilience.	No	N/A	N/A	Not supported.
Hypotheses 12c: Obligations mediate the relationship between communal schemas and resilience.	Yes (both role clarity and accountability)	No	No	Mixed support.
Hypotheses 13a: Trust mediates the relationship between communal schemas and coordination.	Yes	Yes, partial mediation	Yes	Supported.
Hypotheses 13b: Identification mediates the relationship between communal schemas and coordination.	No	N/A	N/A	Not supported.
Hypotheses 13c: Obligations mediate the relationship between communal schemas and coordination.	Yes (full sig. mediation for role clarity, partial marginally sig. mediation for accountability)	No	Yes	Supported for role clarity. Weak support for accountability.
Hypotheses 14a: Trust mediates the relationship between contracting practices and creativity.	Yes	No	Yes	Mixed support.
Hypotheses 14b: Identification mediates the relationship between contracting practices and creativity.	No	N/A	N/A	Not supported.
Hypotheses 14c: Obligations mediate the relationship between contracting practices and creativity.	Yes (accountability), No (role clarity)	Yes	No	Supported for accountability. Not supported for role clarity.
Hypotheses 15a: Trust mediates the relationship between contracting practices and resilience.	Yes, partial mediation	Yes, partial mediation	Yes, partial mediation	Partially supported.
Hypotheses 15b: Identification mediates the relationship between contracting practices and resilience.	No	N/A	N/A	Not supported

TABLE 5.8 continued

	Regressions	SEM (accountability)	SEM (role clarity)	Overall
Hypotheses 15c: Obligations mediate the relationship between contracting practices and resilience.	Yes, partial mediation (both accountability and role clarity)	Yes, partial mediation	Yes, partial mediation	Partially supported.
Hypotheses 16a: Trust mediates the relationship between contracting practices and coordination.	Yes, partial mediation	Yes, partial mediation	Yes, partial mediation	Partially supported.
Hypotheses 16b: Identification mediates the relationship between contracting practices and coordination.	No	N/A	N/A	Not supported
Hypotheses 16c: Obligations mediate the relationship between contracting practices and coordination.	Yes, partial mediation (both accountability and role clarity)	No	Yes, partial mediation	Mixed support

DISCUSSION

This study explored the role of communal schemas and contracting practices in building relational capital and facilitating group process quality in early entrepreneurial teams in knowledge-based industries. In Chapter 4 I argued that by structuring their cognitions and behaviors, communal schemas and contracting practices enable entrepreneurial teams to overcome the specific challenges they face. Communal schemas structure entrepreneurs as a community bound together by bonds of caring, whereas contracting practices structure entrepreneurs as an organization tied by bonds of commitment. Overall, the results of Study 2 support this argument. It found that communal schemas and contracting practices enable entrepreneurial teams in knowledge-based new ventures to develop trust and obligations to facilitate their team process quality. Moreover, the results suggest that entrepreneurial teams are better off with both communal schemas and contracting practices than with either one on its own in terms of the amount of relational capital on the team. Finally, the results provide suggestive evidence that contracting has a curvilinear effect on trust and identification, whereby too little or too much is associated with less trust than a moderate degree of contracting.

In contrast to previous literature on relational capital formation in entrepreneurial teams, prior ties and demographic homogeneity were not significantly associated with relational capital or with team process quality. The pattern of findings in this study suggest that these existing explanations are inadequate because they do not account for the mechanisms through which entrepreneurial team members build effective team processes. Whether team members are alike or different on important demographic dimension or whether they have a prior relationship appears to matter less for the extent

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of trust and obligations they feel than whether they think of each other in communal terms and whether they make their expectations and activities explicit and transparent.

This study also shed light on the mechanisms through which communal schemas and contracting practices affect team performance. Specifically, trust appears to be a key mechanism through which both communal schemas and contracting practices have their positive performance affects. Role clarity mediated the effect of both communal schemas and contracting practices on both coordination and resilience. Interestingly, whereas role clarity did not mediate the relationships between communal schemas or contracting practices and creativity, accountability did mediate the relationship between contracting practices and creativity. This pattern suggests that although contracting practices are positively associated with both accountability and role clarity, these two forms of relational capital benefit the team in different ways.

The study presented a few unexpected findings. First, communal schemas were associated with more rather than less obligations. Communal schemas may lead to a sense of obligations because of the responsibility that team members feel to meet each other's needs and act in ways that benefit the relationship (Clark & Mills, 1979). Obligations may also arise from the experience of empathy for one another's viewpoints, needs, and expectations that is associated with communal schemas (Clark et al., 2001). People on a communal team may feel distraught and guilt-ridden if they fail to meet a colleague's needs (Mills et al., 2004). When partners are communal, certain behaviors are appropriate whereas others are inappropriate. For example, McGraw and Tetlock (2005) found that opportunistic behavior, such as shirking responsibilities, is considered unacceptable in communal relationships.

Second, contracting practices were associated with more rather than less trust, contrary to predictions. Contracting practices may particularly positively impact cognitive trust, or calculus-based trust, which is grounded in the belief that others will do as expected (McAllister, 1995; Rousseau et al., 1998). Contracting is a practice that entails extensive interaction. The act of articulating problems, coming to agreement about how to solve them, and carrying out those agreements sheds light on each member's perspectives, goals, and concerns. Members begin viewing one another as predictable, something that enhances trust (Gabarro, 1987; Granovetter, 1992). Contracting entails an extensive *ex ante* process of problem solving, so team members are better prepared to interpret each other's behavior *ex post* (Carson et al., 2006). The marginally significant curvilinear effect of contracting practices on trust does suggest, however, that the arguments for the negative effects of contracting on trust may indeed hold at high levels of contracting.

A final surprise was that neither communal schemas nor contracting practices were significantly associated with identification, except for a marginally significant curvilinear effect of contracting practices. Thus despite recent theoretical (e.g., Sluss & Ashforth, 2007) and qualitative (e.g., Pratt, 2000) work suggesting that personal relationships lead to interpersonal identification, which generalizes to the group level, there was no evidence for this generalization in my sample. The presence of a leader was found to be positively associated with identification; perhaps the relationship with the leader is more important than other relationships for identification. More work is needed to understand when interpersonal connections translate into collective identification. Moreover, identification was not associated with any of the team performance variables,

a puzzling finding in light of the extensive literature empirically documenting the positive effects of identification in organizations (Ashforth et al., 2008). The curvilinear effect of contracting practices does lend some support to the arguments presented in Chapter 4, albeit with respect to moderate, rather than high, levels of contracting.

Several limitations qualify the conclusions drawn from this study. First is the relatively small sample and relatively low response rate. Although both the sample size and response rate are typical for surveys of entrepreneurs (Bartholomew & Smith, 2006), they pose a problem for both statistical power and generalization. The small sample size means that the SEM results are only suggestive. Moreover, the small sample size suggests there may not have been enough statistical power to find significant interaction effects. The relatively small response rate poses problems for generalization to other entrepreneurs. Also, with most of the sample representing venture-back firms, generalization to non-VC-backed firms should also be made with caution.

A second limitation has to do with the operationalization of constructs. Although the hypotheses were at the team level, data were provided by only one team member. Although the single-source bias analyses were supportive of using one informant per team, the possibility remains that informants were not adequately representing the team on the team-level constructs. This issue is particularly problematic in the case of communal schemas. Future work should not only collect data on communal schemas from all team members, but also explore different operationalizations (average level of communal schemas, heterogeneity of communal schemas, lowest value, highest values, etc.) to better our understanding of the effects of communal schemas on entrepreneurial teams.

A final set of limitations stems from the use of a single source, a single method, and at a single time. As a result, I cannot claim definitively that communal schemas and contracting practices lead to relational capital which leads to team process quality. The data from Study 1, which is qualitative and longitudinal, do provide some support for the causal direction hypothesized here. Still, future work should measure these factors longitudinally and obtain data for independent and dependent variables from different sources.

CHAPTER VI
GENERAL DISCUSSION AND CONCLUSIONS

In this dissertation, I have presented a theoretical framework that explains how the startup situation makes the development of three types of relational capital more difficult for members of entrepreneurial teams. Based on a theory-building qualitative study, I have argued that the apparently paradoxical combination of communal schemas and contracting practices can facilitate the development of trust, identification, and obligations, which in turn serve to improve the team's performance. I next conducted a survey of entrepreneurs in young knowledge-based startup which largely supported the theoretical framework.

This dissertation makes several contributions to research on entrepreneurship. First, it deepens our understanding of the highly ambiguous situation faced by entrepreneurs at the very early stages of a venture and highlights a previously unexamined source of advantage: relational capital. I show why relational capital is difficult to establish and why it is important for entrepreneurs to do so given its consequences.

Second, this dissertation brings focus to the important role of the apparently paradoxical mechanisms of communal schemas and contracting practices in new ventures and shows how this dual focus is more valuable than perspectives that highlight on either one mechanism or the other, such as the team as a clan (Ensley et al., 2002) or the

benefits of formalization early on (Sine et al., 2006). This "both/and" perspective adds to existing literature on the benefits of paradox in managing complex situations. Paradox means the simultaneous presence of contradictory elements (Quinn & Cameron, 1988). When entrepreneurs are able to accommodate apparent opposites, they can benefit from paradoxical thinking. In established organizations, paradoxical thinking has been shown to enable people to "reframe their assumptions, learn from existing tensions, and develop a more complicated repertoire of understandings and behaviors that better reflects organizational intricacies (Lewis, 2000: 764)." The potentially damaging effect of lack of social structure on entrepreneurial relationships can be offset by an approach that combines elements from the apparently disparate communal and legal realms.

Third, the proposed framework offers a mechanism-based account of how relational capital develops that takes into account unique characteristics of startups. Specifically, it offers both a cognitive mechanism (communal schemas) that pertains to how entrepreneurs *think* about their relationships and a behavioral mechanism (contracting practices) that pertains to how they *act* in them. This framework improves on existing structural explanations for relational capital development, such as the influences of prior ties and demographic homogeneity by specifying the mechanisms through which relational capital develops. It can explain why such structural antecedents sometimes lead to failure. Thus teams without prior ties or demographic homogeneity can apply communal schemas and contracting practices to build the relational capital they need to survive.

Finally, the proposed framework challenges prevalent portrayals of successful entrepreneurs suggesting that they are individualistic and self-interested (e.g., Cable &

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Shane, 1997; McGrath, MacMillan, & Scheinberg, 1992). As summarized by Sexton and Bowman (1985: 136-7), "The entrepreneur may find it difficult to communicate with associates, subordinates, family, or friends. He or she may seem emotionally unresponsive to those around him or her." In contrast, I find that members of successful entrepreneurial teams adopt a communal relational schema. They care about one another, they value relationships for their own sake rather than only as a means to reach desired goals, and they express their emotions.

This shift is substantial, as a quite different portrayal regarding relationships, represented by transaction costs economics and agency theory, has been applied to the study of entrepreneurial teams. Qualitative studies of entrepreneurial teams, including the one described in this dissertation, have suggested that these theories may not capture the experience of many entrepreneurs. For example, Graebner and Eisenhardt (2004) found that founders of new ventures preferred to sell their companies to buyers who were compatible rather than to the highest bidders. That is, they put relationship considerations before economic ones, reporting that they believed the partnership would be more successful as a result.

The view of successful entrepreneurs' relational schema suggested by the findings of the two studies in this dissertation has significant implications for research on entrepreneurial teams. It calls for shifting the focus from opportunism (entrepreneurs' primary aim is to redirect profits from their partners toward personal gain) (Carson et al., 2006) to generativity (entrepreneurs seek mostly to create, develop, transform, or otherwise expand all available resources to benefit their team) (Dutton & Glynn, 2007). It also broadens our understanding of human capital in the context of entrepreneurship. A

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team composed of entrepreneurs with high human capital in terms of education and experience may not succeed if the individuals involved cannot work well together. Likewise, teams low on human capital factors may manage to compensate for their apparent deficiencies by virtue of the wealth of relational capital they have accumulated. Thus understanding relational capital may be more relevant than understanding human capital.

This dissertation also contributes to the organizational behavior literature. First, the findings that communal schemas and contracting practices are beneficial for relational capital development can generalize to other situations where social structure is relatively low. Increasingly, individuals within organization work without a past together or a strong social structure. In such situations, the institutional or normative influences on behavior are considerably lower. Examples include virtual, contract, and independent work, project-based work, disaster relief efforts, open-source software development, and social movements (Ashford, George, & Blatt, 2007). This dissertation contributes toward understand how organizing can occur successfully in these situations of a relative absence of a set structure.

Second, the finding that communal schemas and contracting practices can affect important organizational outcomes in tandem suggests that caring, emotional expression, and community may combine with bureaucracy in organizations to generate benefits in ways not traditionally studied. Although some research has begun to identify and understand the implications of these aspects of organizational life (e.g., Blatt & Camden, 2006; Dutton, Worline, Frost, & Lilius, 2006; Hareli & Rafaeli, 2007; Walter & Bruch,

2008), this aspect of organizing remains relatively under-studied as compared with structural aspects.

The beneficial, albeit apparently paradoxical, coexistence of communal schemas and contracting practices in this study also bears implications for organizational design. Managers who can design teams and organizations to simultaneously practice explicitness and transparency about their expectations and activities while also adopting an attitude and culture of caring toward team members and valuing relationships for their own sake may find that the teams and organizations they build are characterized by creativity, resilience, and coordination.

Finally, the findings about the mechanisms through which communal schemas influence creativity, resilience, and coordination have important implications for our understanding of these phenomena in organizational settings. Thus the relationship between communal schemas and creativity was fully mediated by trust, and the relationship between contracting practices and creativity was fully mediated by trust and by accountability. These findings echo research on improvisation, which suggests that it relies on a combination of supportive relational practices (such as yes/and-ing, or accepting and building on each other's ideas) and a minimal structure composed of basic rules (Weick, 1998). The findings regarding the paths to resilience, in which communal schemas have both direct effects and effects mediated by trust, role clarity, and accountability, shed light on the mechanisms through which this relatively under-studied construct can develop in organizational teams. Specifically, the SEM results suggest that trust is a particularly important mechanism for resilience, as it mediated the effects of communal schemas and contracting practices on resilience (whereas obligations was not

a significant mediator). Apparently the capacity to bounce back and rebound from adversity and face an uncertain future hinges on the leap of faith associated with trust. Finally, the findings regarding the role of trust and role clarity in the relationship between communal schemas and coordination again shed light on the mechanisms through which caring can influence concrete organizational behaviors and outcomes. Importantly, these findings suggest that successful coordination is not only the consequences of an impersonal role structure (e.g., Bechky, 2006), but can also arise from communal attitudes toward others.

A Research Agenda

This dissertation raises many questions for future investigation. One key question concerns antecedents to communal schemas and contracting practices. What increases the likelihood that entrepreneurs care, contract, or both? Antecedents may include professional training or advice disseminated by experts (Aldrich, 1999). Entrepreneurs with an interdependent self-construal (Cross, Bacon, & Morris, 2000) or dispositional communal orientation (Clark et al., 1987) are probably more likely to adopt the communal schema than those with a dispositional exchange orientation (Clark et al., 1987).

Another goal for future work would be to explore the impact of different levels of communal schemas and contracting practices on entrepreneurial teams' performance. The marginally significant findings regarding the curvilinear effects of contracting practices are evocative in that they suggest an optimal level of contracting for entrepreneurial teams (rather than that more is better). Studies could also examine how performance impacts change over time. As new ventures mature and meet key milestones,

entrepreneurial team members will find themselves in less ambiguous circumstances. What does this transition out of the startup phase imply for the development of relational capital? Do founding team members transfer the cognition and behaviors they initially had adopted toward each other to their management of employees? Do they codify these behaviors in a set of roles and procedures? Current research does not provide a clear answer. On one hand, classic studies of the organizational life cycle suggest that the internal dynamics of new ventures change as they proceed through various stages of development: Concerns about cohesion and commitment give way to concerns about stability and formalization (Greiner, 1972; Quinn & Cameron, 1983). On the other hand, Baron, Hannan, and Burton (2001) found that when founders applied a commitment logic of organization to their new venture, based on the concept of love, this logic later guided their management of employees as the venture aged. Thus initial conditions within the team may matter over the long run (Aldrich, 1999).

Concluding Remarks

Most new ventures are started by entrepreneurial teams (Ruef et al., 2003). This dissertation adds to our understanding of why it is so difficult for team-based new ventures to develop the kinds of relationships that foster success by identifying how the relative lack of social structure characteristic of new ventures can undermine relational capital development. It also offers ideas for how entrepreneurial teams can build relational capital in the form of trust and obligations by combining communal schemas and contracting practices. By incorporating contracting practices, the present perspective challenges the notion that formalizing commitments hurts entrepreneurs' ability to be agile and adaptive (Burns & Stalker, 1961). By highlighting communal schemas, it

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challenges prevalent portrayals of entrepreneurs as individualistic and self-interested

(e.g., Cable & Shane, 1997; McGrath et al., 1992). As such, the current perspective

moves us toward a better understanding of new venture creation as a collective endeavor.