



International Journal of Entrepreneurial Behavior & Res

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Article information:

To cite this document:

Wencang Zhou Huajing Hu Michael Zey , (2015), "Team composition of new venture founding teams: does personality matter?", International Journal of Entrepreneurial Behavior & Research, Vol. 21 Iss 5 pp. 673 - 689

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Team composition of new venture founding teams: does personality matter?

New venture
founding
teams

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Received 29 April 2014
Revised 24 November 2014
27 March 2015
Accepted 9 April 2015

Abstract

Purpose – First, using the task-relationship dichotomy as a framework, the purpose of this paper is to examine the direct effects of team personality level and team personality diversity on new venture growth. Second, the study examines the interaction effects of team personality level and diversity on venture growth.

Design/methodology/approach – The sample consisted of 154 teams in a technology incubator in China. Data were collected through an online survey.

Findings – Results indicate that high level but low diversity of team task-oriented personality was beneficial for new venture founding teams. Diversity of team task-oriented personality would hurt the new venture growth more when the level of task-oriented personality was low. Relationship-oriented personality diversity, but not the level of relationship-oriented personality, influenced new venture growth.

Research limitations/implications – These findings advance research in entrepreneurship, groups, and teams, and provide practical policy implications as well.

Practical implications – This study provides practical implications for policy makers regarding what supports should be provided in incubators and for entrepreneurs regarding team member selection.

Originality/value – This is one of the first papers to study the personality composition of new venture founding teams.

Keywords Personality, Entrepreneurial teams, Team composition

Paper type Research paper

Introduction

More new ventures are created by teams rather than by sole entrepreneurs (Aldrich *et al.*, 2004; Davidsson and Honig, 2003). Hunsdiek (1987) reports that new high-tech ventures in Germany have a median of 2.2 entrepreneurs. Entrepreneurial teams are founders of 70 percent of the firms in the high-tech industries in the USA (Cooper *et al.*, 1990). And team-started businesses account for a disproportionately greater number of high-growth firms (Kamm *et al.*, 1990). The composition of new venture founding teams potentially shapes new business growth (Wright and Vanaelst, 2009), because the members of the team at the top make big decisions and shape the strategy, culture, and structure of the new venture (Finkelstein *et al.*, 2009). Although recent research has paid increasing attention to the composition of new venture founding teams (Cooney, 2005; Harper, 2008; Zhou *et al.*, 2015), significant research gaps exist regarding how new venture founding teams form and how team composition relates to new



venture growth. A review of the entrepreneurial team literature (Zhou and Rosini, 2015) reveals three specific research needs.

First, while prior research generally focusses on team demographic composition and human capital variables, such as age (Wiersema and Bantel, 1992), race (Cooper *et al.*, 1994), education (Almus and Nerlinger, 1999; Zhou *et al.*, 2015), functional background (Amason *et al.*, 2006), and experience (Shrader and Siegel, 2007), research on personality composition of new venture founding teams remains limited (Simsek *et al.*, 2010; Zhou and Rosini, 2015). This is surprising given the fact that the importance of team personality composition to team performance has been documented in research on small groups (Harrison *et al.*, 2002; Bell, 2007). Since studies focussing on demographic variables only found mixed results regarding the effects of team composition on venture growth (Zhou *et al.*, 2015), it would seem desirable to investigate the issue of personality composition of founding teams.

Second, to study the personality composition of teams, researchers must address the issue of how the individual personality traits should be aggregated to the team level. Plenty of studies have used the influential Big Five model of personality (Costa and McCrae, 1988; Digman, 1990) to examine team personality composition (Stewart, 2006; Bell, 2007; Barrick *et al.*, 1998). However, recent reviews have suggested that personality traits hold weak overall relationships with team performance (Bell, 2007; Peeters *et al.*, 2006). Halfhill *et al.* (2005) attribute the weak overall relationships to the method by which the trait scores were aggregated to the team level and called for appropriate aggregation methods to study team personality composition.

Moreover, previous research on personality in teams has been focussing on its direct effects on team outcomes (Stewart, 2006; Bell, 2007; Barrick *et al.*, 1998; Mohammed and Angell, 2003). However, the understanding of how personality affects team outcomes via its influence on team processes remains underdeveloped (Moynihan and Peterson, 2001). Team personality diversity influences team outcomes not only as an input factor but also as a contextual factor, altering the team processes.

In response to these research needs, this study explores not only the direct effects of team personality composition but also its interaction effects on new venture growth. Thus, this study has two primary goals. First, we used the task-relationship dichotomy (Halfhill *et al.*, 2005; Prewett *et al.*, 2009) as a framework to aggregate individual trait scores into the team level and examined the direct effects of team personality level and team personality diversity on new venture growth. Second, we examined the interaction effects of team personality level and diversity on venture growth.

Theory and hypotheses

Since its conception, the Big Five model of personality (Costa and McCrae, 1988; Digman, 1990) has been commonly used to study the team personality composition (Stewart, 2006; Bell, 2007; Barrick *et al.*, 1998). While meta-analytic evidence has witnessed the effect of Big Five traits on team performance, this link has been found to be weak (Bell, 2007; Peeters *et al.*, 2006). And moreover, the study of personality traits on team performance in the context of entrepreneurship remains scarce (Zhou and Rosini, 2015). One possible explanation regarding the weak link between personality composition and team performance is how the trait scores were aggregated to the team level (Halfhill *et al.*, 2005). Rather than studying Big Five personality traits, Halfhill *et al.* (2005) used a task-relationship dichotomy as a framework to aggregate the Big Five personality traits into two broad categories: task-oriented personality and relationship-oriented personality. This method is consistent with Rauch and

Frese's (2007) claim that in the study of team personality composition researchers should ask if the trait is matched to the task or not. As a matter of fact, the notion of a task-relationship dichotomy in general team process is well established (McGrath, 1984) and has been adopted by recent meta-analytic reviews (e.g. Prewett *et al.*, 2009). Therefore, in this study we propose that a good match between traits and the tasks of running a business allows for higher validities in the context of entrepreneurship research than personality traits not matched to entrepreneurship.

Task-oriented personality composition and venture growth

Which personality traits are task-oriented? According to Halfhill *et al.* (2005) some personality traits help individuals to complete work-related activities. Such traits are referred to as task-oriented personality traits. Among the Big Five personality traits, conscientiousness and openness to experience are this type of task-oriented personality traits. More specifically conscientiousness represents the degree to which individuals are achievement oriented, orderly, punctual, dependable, and self-disciplined, and openness to experience refers to whether people accept new experiences, are interested in unusual thought processes and possess creative tendencies (McCrae and John, 1992).

In researching the impact of team task-oriented personality composition on new venture growth, it is desirable to discuss the nature of tasks or activities that new venture founding teams have to deal with daily. The nature of the entrepreneurial tasks requires that the founding team members have a high level of task-oriented personality traits. First, new venture activities are usually unambiguous, unstructured, and complex (Ensley *et al.*, 2006). These activities particularly require team members to be highly detail-focussed and achievement oriented so that the team could establish the structure and rules that benefit the new venture over time. Second, new ventures usually face extensive market competition with competitors. To succeed in the competitive market, founding team members need to be highly motivated and hard working. Third, the entrepreneurial tasks that new venture teams face are also characterized by innovation and creativity. Founding teams with higher level of task-oriented personality traits are better off carrying on these entrepreneurial activities. For example, the team needs a higher level of conscientiousness to organize and direct necessary behaviors to produce targeted outcomes and motivate employees to fulfill their job duties more diligently and with more effort (Peterson *et al.*, 2003). New venture teams high in openness to experience question old assumptions and stimulate new perspectives or ways of doing things (Judge *et al.*, 2002). Consequently, founding teams with greater openness are more likely to encourage creative, unconventional behaviors in the workplace. Such creativity is relevant for new ventures for recognizing opportunities and stimulating novel ideas about products and practices (Ensley *et al.*, 2002). Therefore, we propose the effects of overall task-oriented personality level and each single task-oriented personality trait level:

H1. Team task-oriented personality level will positively relate to new venture growth.

H1-1. As a task-oriented personality trait, team openness level will positively relate to new venture growth.

H1-2. As a task-oriented personality trait, team conscientiousness level will positively relate to new venture growth.

Team mean score on a personality trait is only one aspect of team personality composition. Other aspects of a team's personality composition include the diversity of

personality scores across members, the highest member score, and the lowest score. Among these aspects, the mean score and diversity methods have been widely used by researchers in team composition research (Prewett *et al.*, 2009). Mean score and diversity score describe different aspects of a team's personality composition. For example, if a team has a high-mean score on extraversion, this might be due to a uniformly high score on extraversion across team members (diversity is low) or due to some team members having extremely high-extraversion scores (diversity is high as well).

Team task-oriented personality diversity may influence new venture growth as well. For new venture founding teams, it is critical that team members have a common shared purpose (Carson *et al.*, 2007). Shared purpose indicates that all the team members have similar understandings of and commitment to their team's primary objectives and take steps to ensure a focus on collective goals (Carson *et al.*, 2007). Teams with low diversity of task-oriented personality scores should agree with one another on process decisions, including the degree of effort to put forth and the level of performance desired (goal-setting). This will help the team build a higher level of common sense of purpose and agreed-upon goals. Consequently team members are more likely to feel motivated, empowered, and committed to their team and work (Kirkman and Rosen, 1999; Liden *et al.*, 2000; O'Leary-Kelly *et al.*, 1994). Teams with a higher level of diversity on task-oriented personality may find it difficult to build common purpose and agree on major decisions. Moreover, similarity of such attitudes among team members results in a friendly atmosphere and a strong identification with the entrepreneurial team and the new venture. Entrepreneurial teams homogeneous in conscientiousness may prevent social loafing behavior of team members and ensure that all team members put effort into the entrepreneurial process. Otherwise, if entrepreneurial team members are very diverse in conscientiousness, team members will interpret the goals differently resulting in team conflict. Therefore, we hypothesize that team task-oriented personality diversity will negatively relate to new venture growth, and this negative effect will be stronger when the team task-oriented personality level is low:

H2. (a) Team task-oriented personality diversity will negatively relate to new venture growth; (b) this relationship will be moderated by team task-oriented personality level so that when the task-oriented personality level is low the negative effect will be stronger.

H2-1. (a) As a task-oriented personality trait, openness diversity will negatively relate to new venture growth; (b) this relationship will be moderated by team openness level so that when the openness level is low the negative effect will be stronger.

H2-2. (a) As a task-oriented personality trait, conscientiousness diversity will negatively relate to new venture growth; (b) this relationship will be moderated by team conscientiousness level so that when the conscientiousness level is low the negative effect will be stronger.

Relationship-oriented personality composition and venture growth

In addition to the task-oriented personality traits, there are another three Big Five personality traits – extraversion, agreeableness, and emotional stability – that help facilitate the interpersonal interactions necessary for working as an effective team. These three traits were classified as relationship-oriented personality traits. Individuals scoring high on extraversion tend to be assertive, enthusiastic, talkative, and

gregarious and enjoy human interactions. Extraverts generally take pleasure in social activities, such as community activities, public demonstrations, and business groups (Costa and McCrae, 1992). Another relationship-oriented personality trait, agreeableness, reflects individual differences in cooperation and social harmony. On the one hand, individuals scoring high on agreeableness are perceived as being kind, sympathetic, cooperative, warm, considerate, and helpful. On the other hand, they tend to believe that most people are honest, decent, and trustworthy (Digman, 1990). In a team setting, agreeable members are interested in helping peers and dealing with team conflict in a cooperative and collaborative way. The third relationship-oriented personality trait – emotional stability – depicts individuals' capacity to maintain emotional balance under stressful situations. Individuals scoring high on emotional stability are less reactive to stress and tend to be even-tempered, well-adjusted, relaxed, self-assured, and calm (McCrae and John, 1992).

Maintaining a certain level on relationship-oriented personality traits helps founding teams build better team climate and perform effectively on different activities. Effectively resolving relationship conflict and building a cohesive founding team are critical to new venture success. Foo *et al.* (2006) found that the level of interpersonal interaction, pride, and excitement among team members related to higher level of new venture founding team viability and satisfaction. Moreover, because of the high level of uncertainty and extensive competition, members of new venture founding teams usually experience high stress levels. To be successful, it is critical that team members show emotional, psychological, and social support for each other (Carson *et al.*, 2007). Team members could support each other through encouraging and recognizing individual contributions and accomplishments (Marks *et al.*, 2001). Relationship-oriented personality traits help new venture founding teams build the supportive team climate where team members develop a sense of shared responsibility for team outcomes (Kirkman and Rosen, 1999). For example, teams high on agreeableness and emotional stability could create a positive team climate, de-emphasizing status and power differences, and encouraging information sharing among team members (Peterson *et al.*, 2003). Relationship-oriented personality traits not only help build a supporting and cohesive founding team but also help the team effectively interact with outsiders. Cable and Shane (1997) showed that teams with high levels of agreeableness and emotional stability help founding teams establish trusting relationships with venture capitalists (Cable and Shane, 1997). Thus, we propose that relationship-oriented personality level will improve new venture growth:

H3. Team relationship-oriented personality level will positively relate to new venture growth.

H3-1. As a relationship-oriented personality trait, team extraversion level will positively relate to new venture growth.

H3-2. As a relationship-oriented personality trait, team agreeableness level will positively relate to new venture growth.

H3-3. As a relationship-oriented personality trait, team emotional stability level will positively relate to new venture growth.

How would relationship-oriented personality diversity influence new venture growth? That is, should new venture founding teams be composed of members who all score high on relationship-oriented personality dimensions? New venture founding teams are

characterized by high level of interdependence; that is, the performance of a new venture team is highly dependent on the level of cooperation and work interaction among team members (Stewart and Barrick, 2000). Simply put, within founding teams task interdependence requires that team members assume different team roles when the situation dictates. Diversity on relationship-oriented personality traits facilitates team interpersonal process and promotes role differentiation in several ways. Team roles refer to the behavioral characteristics of each team member, and how the interrelationships of team members influence team process. To a certain degree team members adopt natural roles in a team based upon individuals' preference and personality (Belbin, 1993). In a new venture founding team, members need to assume different roles as well. Miner (1997) defined four types of entrepreneurs: personal achiever, real manager, expert idea generator, and empathic super salespeople. While all these roles are necessary for venture growth, each role is more likely to be assumed by different team member based on personality difference. For instance, effectiveness of a founding team depends on each team member assuming a different leadership role and coordinating effectively. For example, in new ventures, team members high in extraversion usually adopt a transformational leadership style, set visionary goals, and encourage risk taking and creativity (Hofmann and Jones, 2005). Moreover, extraverted members show initiative, take actions, and influence the opinions and actions of other members (Bateman and Crant, 1993). Team members who are high in introversion, however, seek depth over breadth, and delve into issues and ideas before moving on to new ones (Neuman *et al.*, 1999). A high level of diversity on agreeableness helps new venture founding teams as well. On the one hand, a high level of agreeableness helps teams build trusting relationships with venture capitalists (Cable and Shane, 1997) or among entrepreneurial team members (Eisenhardt and Schoonhoven, 1990), whereas team members lower in agreeableness might be more likely to express concerns about unreasonable ideas and prevent teams from engaging in groupthink. Moreover, because entrepreneurial teams usually only have limited resources and small room for error, all members being too trusting may be detrimental to the teams' survival and growth (Zhao and Seibert, 2006). Diversity on the other relationship-oriented personality trait, emotional stability, is beneficial to new venture founding teams as well. Research evidence showed that individuals scoring low on emotional stability were better at identifying threats (Tamir *et al.*, 2006) and avoiding the danger from the environment (Nettle, 2006). However, the work environment, workload, work-family conflict and financial risk associated with starting and running a new business can produce high physical and psychological stress. Team members scoring high on emotional stability are able to help the team better deal with these stressors and establish good relations with customers, employees, suppliers, financiers, and other people related to the business to run it effectively and efficiently. Therefore, we hypothesize that team relationship-oriented personality diversity will positively relate to new venture growth, and this effect will be stronger when the team relationship-oriented personality level is high:

H4. (a) Team relationship-oriented personality diversity will positively relate to new venture growth; (b) this relationship will be moderated by team relationship-oriented personality level so that when the relationship-oriented personality level is high the positive effect will be stronger.

H4-1. (a) As a relationship-oriented personality trait, extraversion diversity will positively relate to new venture growth; (b) this relationship will be moderated

by team extraversion level so that when the extraversion level is high the positive effect will be stronger.

H4.2. (a) As a relationship-oriented personality trait, agreeableness diversity will positively relate to new venture growth; (b) this relationship will be moderated by team agreeableness level so that when the agreeableness level is high the positive effect will be stronger.

H4.3. (a) As a relationship-oriented personality trait, emotional stability diversity will positively relate to new venture growth; (b) this relationship will be moderated by team emotional stability level so that when the emotional stability level is high the positive effect will be stronger.

Figure 1 displays the hypothesized relationships among team personality composition and new venture growth.

Method

Sample

The sample of the current study consisted of 200 new venture founding teams in a technology incubator in eastern China. The characteristics of the teams include: team members are college students or those who have graduated within the last five years; the start-up was registered after 2008; and the leading entrepreneur has more than 30 percent of the ownership of the start-up. The focus on firms within a single region allows us to hold constant key labor market and environmental conditions.

Measures

This study used a cross-sectional study design. A web-based survey instrument was created that included questions about independent, dependent, moderator/mediator,

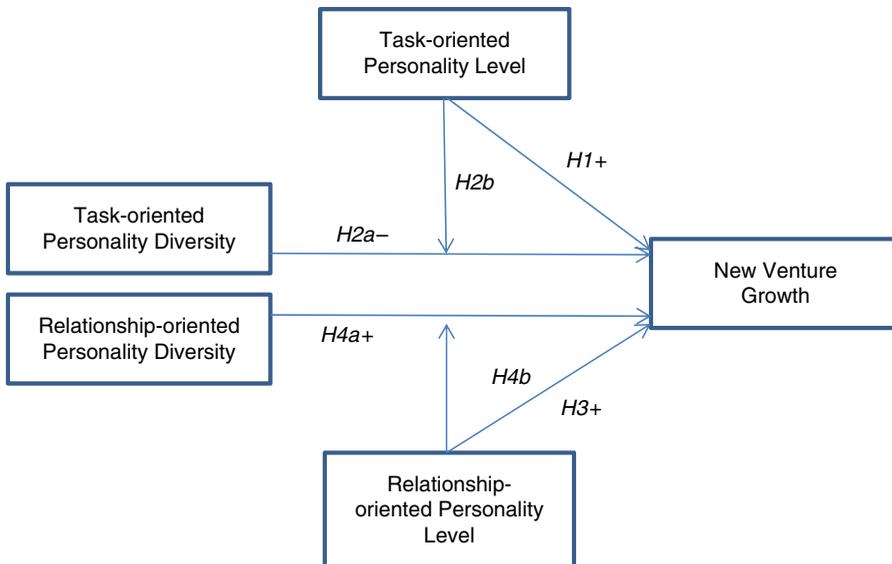


Figure 1. Theoretical framework of team personality diversity and new venture performance

and control variables as well as other background information about the new venture and its founding team. The instrument was translated into Chinese and back-translated into English by two independent bilinguals to ensure meaning equivalence across the two cultures. Details regarding the measures are as follows.

Team personality composition. Team members' Big Five personality traits were measured by the Chinese version of NEO-Five Factor Inventory (NEO-FFI) (Costa and McCrae, 1992). The NEO-FFI has 60 items (12 items per domain) on five NEO domains: openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability. NEO-FFI was used for this study because it is a widely used personality measure with high reliability. The Cronbach's coefficient α for the five dimensions have ranged from 0.75 to 0.83. The scale was also cross-culturally validated, and the robustness of the NEO-FFI has been proven in the Chinese culture (Costa and McCrae, 1992). Means and standard deviations on each Big Five personality trait were calculated at the team level (Barrick *et al.*, 1998). Team mean scores on task-oriented and relationship-oriented personality were calculated by averaging the team members' scores on the corresponding personality traits. Standard deviations on openness and conscientiousness were averaged to get the task-oriented personality diversity score. Standard deviations on agreeableness, extraversion, and emotional stability were averaged to get the relationship-oriented personality diversity score.

New venture growth. New venture growth was measured by the employment growth rate from year 2009 to 2011. The employment growth rate has been widely used in empirical research as an objective measure of start-up performance (Colomb and Delmastro, 2002; Löfsten and Lindelöf, 2002; Westhead and Storey, 1994). The current study adopted this performance measure because other objective performance measures (e.g. profit, sales) were not publically available and the sampled firms were unwilling to provide such data.

Control variables. Team size has been shown to influence team process and functioning (Bantel and Finkelstein, 1991; Kirkman and Rosen, 1999). Employee ownership affects a member's commitment to an enterprise and willingness to work together productively (Buchko, 1992). Therefore team size and ownership dispersion were included as control variables. Ownership dispersion was measured by the formula used by Jacquemin and Berry (1979):

$$\text{Owner dispersion} = \sum_{i=1}^N S_i \ln \left(\frac{1}{S_i} \right)$$

where S_i is the percentage of shares owned by the i th entrepreneurial team member. The value of ownership dispersion increases as ownership is spread more evenly across team members.

In total 154 new founding teams (response rate = 77 percent) consisting of 516 entrepreneurs responded to our survey. The average age of entrepreneurs was 28 years ($SD = 3.6$): 42 percent of respondents were female and 57.9 percent were male. The final data analysis was based on usable data from 144 new founding teams, because ten founding team consisted of only two members for each team and a diversity measure could not be calculated.

Results

Hypothesis testing using task vs relationship dichotomy

Table I presents the means, standard deviations, and zero-order correlations for all of the variables used in the analysis. Moderated hierarchical regression and simple slopes analysis were used to test all hypotheses. The predictor variables were mean-centered, and the criterion variable was standardized using a *z* score to improve graph interpretability (Cohen *et al.*, 2003). In Step 1, control variables, team size, and ownership dispersion, were entered. In Step 2, main effects of personality composition variables were tested. In Step 3, the product term for the interaction of personality level and diversity were entered.

H1 proposed that task-oriented personality level would positively relate to new venture growth. As indicated in Table II, task-oriented personality level was a significant predictor of venture growth ($\beta = 0.31, p < 0.01$) in Model 1. Model 1 also provided support for *H2a* that task-oriented personality diversity would negatively relate to new venture growth ($\beta = -0.18, p < 0.05$). To test *H2b* that team task-oriented personality level would moderate the relationship between task-oriented personality diversity and new venture growth, moderated hierarchical regression was conducted in Model 1. As noted in Table II, the interaction term of team task-oriented personality level and task-oriented personality diversity was significant ($\beta = -0.15, p < 0.05$). Therefore, *H2b* was also supported. We also conducted a simple slopes analysis (Aiken and West, 1991) to depict the predicted interaction effect of task-oriented personality level and diversity, providing strong support for *H2b* (Figure 2).

	Mean	SD	1	2	3	4	5	6
1 Team size	3.50	0.68						
2 Ownership dispersion	0.20	0.33	-0.06					
3 Task personality level	30.00	3.96	-0.04	0.02				
4 Task personality diversity	6.00	3.05	-0.01	0.07	-0.10			
5 Relationship personality level	28.87	3.60	0.09	0.12	0.52**	0.01		
6 Relationship personality diversity	6.17	2.92	0.10	-0.09	0.31**	0.05	0.05	
7 Employment growth rate	0.49	0.53	0.02	-0.03	0.33**	-0.22**	0.11	0.31**

Notes: *n* = 144 teams. **p* < 0.05; ***p* < 0.01

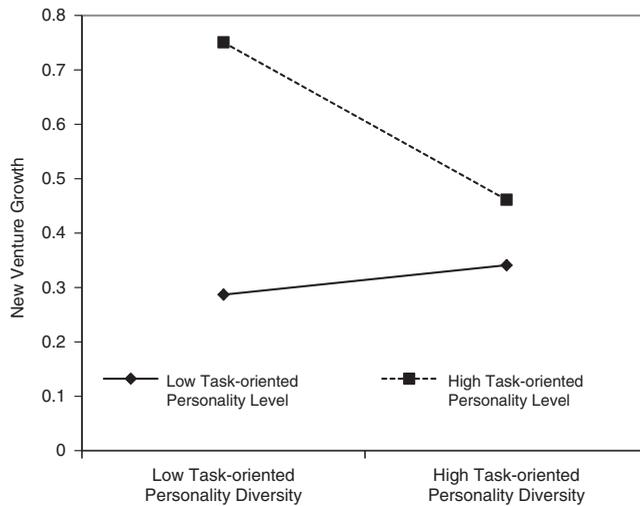
Table I.
Descriptive
statistics

	Step 1	Step 2	Step 3
<i>Control</i>			
Team size	0.02	0.03	0.03
Ownership dispersion	-0.03	-0.02	-0.02
<i>Main</i>			
Task-oriented personality level		0.31**	0.25**
Task-oriented personality diversity		-0.18*	-0.17*
<i>Interaction</i>			
Task-oriented personality level × diversity			-0.15*
Model <i>F</i> statistics	0.09	5.81**	5.07**
<i>R</i> ²	0.01	0.14	0.16
ΔR^2		0.13	0.02

Notes: *n* = 144 teams. β , standardized regression coefficient. **p* < 0.05; ***p* < 0.01

Table II.
Task-oriented
personality
composition and
employment growth

Figure 2.
Interaction effect
of task-oriented
personality level and
diversity on new
venture growth



H3 predicted that team relationship-oriented personality level would positively relate to new venture growth. As noted in Table III, however, this hypothesis was not supported in Model 2 ($\beta=0.10$, ns). *H4a* proposed that team relationship-oriented personality diversity would positively relate to new venture growth; it was supported in Model 2 ($\beta = 0.31, p < 0.01$). The interaction term of relationship-oriented personality level and diversity was insignificant ($\beta = 0.10$, ns), thus *H4b* was not supported.

Hypothesis testing for each of the Big Five personality traits

To test each of the sub-hypotheses (*H1-1, H1-2, H2-1, H2-2, H3-1, H3-2, H3-3, H4-1, H4-2, H4-3*), we regressed employment growth on each of the Big Five personality traits' mean score, diversity score, and the interaction term. By doing so we could understand which of task-oriented or relationship-oriented personality trait has more significant effect on new venture growth. Table IV shows the results for the regression analysis.

	Step 1	Step 2	Step 3
<i>Control</i>			
Team size	0.02	-0.01	0.01
Ownership dispersion	-0.03	-0.02	-0.03
<i>Main</i>			
Relationship-oriented personality level		0.10	0.08
Relationship-oriented personality diversity		0.31**	0.28**
<i>Interaction</i>			
Relationship-oriented personality level x diversity			-0.13
Model <i>F</i> statistics	0.09	4.14**	3.81**
R^2	0.01	0.11	0.12
ΔR^2		0.10	0.01

Notes: $n = 144$ teams. β , standardized regression coefficient. * $p < 0.05$; ** $p < 0.01$

Table III.
Relationship-oriented
personality
composition and
employment growth

	β	New venture founding teams
Openness mean	0.26**	
Openness diversity	-0.16*	
Openness mean \times diversity	-0.18*	
Conscientiousness mean	0.16*	
Conscientiousness diversity	ns	
Conscientiousness mean \times diversity	ns	
Extraversion mean	0.19*	
Extraversion diversity	ns	
Extraversion mean \times diversity	ns	
Agreeableness mean	ns	
Agreeableness diversity	0.31**	
Agreeableness mean \times diversity	-0.22*	
Emotional stability mean	0.16*	
Emotional stability diversity	0.22*	
Emotional stability mean \times diversity	ns	

Notes: $n = 144$ teams. ns, not significant. β , standardized regression coefficient. * $p < 0.05$; ** $p < 0.01$

Table IV.
Big five personality composition and employment growth

Discussion

Research on personality composition of new venture founding teams remains limited (Simsek *et al.*, 2007; Zhou, 2013). The findings of this study increase our understanding of how founding team personality composition influences new venture growth and provide guidance to leading entrepreneurs looking to find team members. Three main findings emerged from the current study. First, high level but low diversity of team task-oriented personality was beneficial for new venture founding teams. Second, diversity of team task-oriented personality would hurt the new venture growth more when the level of task-oriented personality was low. Third, relationship-oriented personality diversity, but not the level of relationship-oriented personality, influenced new venture growth.

Task-relationship dichotomy of founding team personality composition

Research on diversity has paid little attention to personality differences among team members in work settings, especially in entrepreneurial teams. In the entrepreneurship literature, many studies, adopting upper echelons theory, have looked into the potential effects of top management team demographic diversity, such as age, gender, race, tenure, and functional experience diversity, but ignored the effect of team personality diversity. The recent literature review (Zhou and Rosini, 2015) uncovered the need for empirical studies that explore the relationship between personality diversity and entrepreneurial team performance. This study contributes to the entrepreneurship literature by addressing this research gap.

Moreover, this study goes beyond the general Big Five personality dimensions by including in the analysis the task-oriented and relationship-oriented personality dichotomy. This is a unique contribution of the current study, because it is consistent with the notion that in the study of team personality composition researchers should ask the question of whether the trait is matched to the task or not Rauch and Frese's (2007). While findings of the current study indicated that the influence of team task-oriented personality diversity on the new venture growth would be moderated by the level of task-oriented personality, such moderation effect was not found for relationship-oriented

personality composition. One possible explanation might be that task-oriented personality composition is more related to team outcome (e.g. new venture growth). However, relationship-oriented personality composition is more likely to influence team process. This is consistent with Prewett *et al.* (2009) that team personality composition is more like to influence team processes rather than team outcomes.

Aggregation method for team personality composition

Team personality composition research has to answer two methodological questions. The first one is what variables to use to describe team personality composition. In describing team composition two aspects could be considered: team mean and team diversity on a particular personality trait. While studies have been investigating the impact of team mean and/or diversity of a personality trait on team performance, empirical studies exploring the interaction between team mean and diversity remain limited. The current study contributes to the literature by filling this research gap. Findings of this study indicated that diversity of team task-oriented personality would hurt the new venture growth more when the level of task-oriented personality was low. These findings confirmed the notion that the compatibility of the members in an entrepreneurial team is a function of both similar and diverse traits (Hackman, 1987; Moreland and Levine, 1992). That is, while certain personality traits may enhance team performance when the team diversity is low, other traits may benefit team performance when team diversity is high.

Team composition research usually aggregates team member individual personality scores to form team-level constructs that relate to team process or outcome variables (Kozlowski and Klein, 2000). The second methodological question is which aggregation method should be used to form a team diversity score for a particular personality trait. Harrison and Klein (2007) described three distinctive types of diversity: separation, variety, and disparity. The current study defined diversity as a separation because the study met the key assumptions provided by Harrison and Klein (2007).

Managerial implications

The findings of the current study offer important and valuable implications for policy makers and entrepreneurs. First, this study provides policy implications for institutions that provide support for start-ups in incubators. While the policy and financial support from the supporting institutions is important for new start-ups, it is also critical for these institutions to know the importance of new venture team composition and team process to start-up performance and provide support in team development. Second, for entrepreneurs who plan to start a business with a team, one practical and important question the leading entrepreneur must answer is who he/she wants to select as partners. Findings of the study provide entrepreneurs with implications regarding team member selection. Specifically, this study suggests that when building new venture founding teams, the leading entrepreneurs should take into account the personalities of future team members and ensure that the team has an adequate blend of relationship-oriented personalities, such as agreeableness, extraversion, and emotional stability while minimizing the personality difference on openness to experience and conscientiousness.

Future research directions

Several limitations should be considered in interpreting findings of the current study. The sample of the current study was a university incubator and not random. However,

there is no reason to believe that the results of the study will not generalize to other Chinese university incubators. The new venture founding teams in the sample were characterized by a limited partnership structure, in which certain limited partners relinquish their ability to manage the business in exchange for limited liability for the partnership's debts. Furthermore, since only new start-ups were considered in the current study, it was limited in the extent to which the findings could be generalized to later stages of new ventures. Therefore, it might be useful to examine the relationships between team diversity and entrepreneurial team performance longitudinally across various stages in the entrepreneurship life cycle.

The study's findings suggest several future directions for new venture founding team research. One future research direction is to do refined studies on the relationship between team personality mean and personality diversity. For example, some questions remain unanswered. Would task-oriented and relationship-oriented personality composition have an interaction effect on new venture growth? Would team personality diversity have a curvilinear rather than linear relationship with new venture growth? Second, longitudinal studies on new venture founding team personality composition are desired because research showed the effects of diversity based on attitude and personality increase with time (Harrison *et al.*, 1998). Moreover, future research ought to include other performance measures (e.g. innovation, profitability, and revenue) that are applicable to different stages of venture development. Another direction for future research is the adoption of a configuration approach or pattern-oriented approach to the team personality – performance relationship investigation. Moreover, the current study used a variable approach – assessing the isolating personality traits' impact on entrepreneurial team performance. It may overlook the possibility that the Big Five personality traits together affect entrepreneurial behavior.

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