

The Impact of Team Knowledge Heterogeneity on Entrepreneurial Opportunity Identification: A Moderated Mediation Model

Chongrong Huang¹

Liuqi Sun¹

Qingchen Liu¹

Yuzhou Yan²

Chengyan Li²

¹Faculty of Education, Shanghai Normal University, Shanghai, People's Republic of China; ²College of Philosophy, Law & Political Science, Shanghai Normal University, Shanghai, People's Republic of China

Purpose: Due to the low success rate of entrepreneurship, the correct identification of entrepreneurial opportunities is one of the important concerns in the field of entrepreneurship research. Therefore, this study focuses on the influence mechanism of entrepreneurial opportunity identification, so as to enrich the influence path of entrepreneurial opportunity identification and provide suggestions for improving the success rate of entrepreneurship.

Methods: After screening and judging the quality of the questionnaires, the valid questionnaires were numbered and matched with 106 team samples. The researchers carried out telephone communication with participants to ask for their attendance, and then took samples on-site at the appointed time and place.

Results: The results show that: (1) team knowledge heterogeneity has a significant positive impact on entrepreneurial opportunity identification. (2) Social capital plays a mediating role between team knowledge heterogeneity and entrepreneurial opportunity identification. (3) Promotional regulatory focus, a type of regulation that tends to adopt a radical approach to achieve goals, positively moderates the mediating effect of team knowledge heterogeneity on entrepreneurial opportunity identification through social capital. However, preventive regulatory focus, a type of regulation that tends to adopt a cautious and vigilant way to achieve goals, has no moderating effect.

Discussion: In order to improve the correct identification of entrepreneurial opportunities, it is necessary to establish team with knowledge heterogeneity rationally and excavate different levels of social capital behind heterogeneous members. In addition, it also reveals that team style can retain certain promotive in the process of entrepreneurship, which is conducive to the feasibility and profitability of entrepreneurial opportunity identification.

Keywords: team knowledge heterogeneity, social capital, regulatory focus theory, entrepreneurial opportunity identification

Introduction

At present, innovation and entrepreneurship are hot research spots worldwide. Many countries regard entrepreneurship as the important engine and necessary driving force for economic growth.¹ However, due to the complexity and high risk of entrepreneurial activities, the success rate of entrepreneurship is low, which is only 5% in China (China Innovation and Entrepreneurship Report, 2017). To cope with the uncertainty and high risk of the entrepreneurial environment, most entrepreneurs form complementary teams in the initial stage of entrepreneurship, and use team knowledge, skills, and values to maximize the success rate. Research shows that the success rate of team entrepreneurship

Correspondence: Chengyan Li
College of Philosophy, Law & Political Science, Shanghai Normal University, 81 Guilin Road, Shanghai, 200000, People's Republic of China
Tel +86 13501842154
Email lily2@163.com

is generally higher than that of individual entrepreneurship.² With team entrepreneurship becoming an important entrepreneurial phenomenon, entrepreneurial teams have gradually become the main force for new ventures to cope with external challenges. In particular, the correct identification of opportunities is a necessary prerequisite for the survival and development of entrepreneurial teams in the early stage of entrepreneurship.³ Entrepreneurial opportunity identification is the first impulse in entrepreneurship and one of the most concerning entrepreneurship research issues.⁴⁻⁶ Therefore, opportunity identification of entrepreneurial teams is worthy of further study. It is helpful to improve the success rate of entrepreneurial behavior.⁷⁻¹⁰ Previous studies on entrepreneurial opportunity recognition have mostly explored the causal relationship between individuals and opportunity recognition and examined individual characteristics,^{11,12} prior knowledge,¹³ and social networks¹⁴ on opportunity identification. The study of entrepreneurial opportunity identification from the perspective of entrepreneurial team composition and resource acquisition is rare.

The impact of team heterogeneity on entrepreneurial activities has always been a hot spot in entrepreneurial research.¹⁵ However, the current research mainly pay attention to the impact of team heterogeneity on entrepreneurial performance and creativity.^{16,17} There is still a lack of research on team heterogeneity regarding entrepreneurial opportunity recognition.¹⁸ Knowledge heterogeneity is a significant characteristic of team heterogeneity that belongs to deep heterogeneity,¹⁹ and plays a key role in team performance.²⁰ Based on this, this study explores the impact of knowledge heterogeneity of new-venture entrepreneurial teams on entrepreneurial opportunity identification for a better understanding of the related influencing factors. At the same time, this study places its perspective in the early stage of entrepreneurship, pays attention to the problem of entrepreneurial opportunity identification of new ventures, and provides reference information for new-venture entrepreneurial teams to grasp entrepreneurial opportunities and successfully start a business.

In addition, this study further explores the situational variables that affect the occurrence of these impacts. Based on social capital theory, which emphasizes the social resources obtained through network members can help individuals achieve goals,²¹ the study infers that the diverse backgrounds behind the heterogeneous teams' members are conducive to obtain rich and diverse social capital. The social capital can help teams and organizations continuously obtain fresh knowledge and information

from the outside, further promoting the identification of entrepreneurial opportunities. In addition, according to regulatory focus theory, individuals with different types of regulatory focus adopt different decision-making methods in their entrepreneurial process.²² This leads to the individual differences in information perception, risk-taking tendencies and creativity.²³ This study attempts to further examine the moderating effect of regulatory focus on the relationship between team knowledge heterogeneity and entrepreneurial opportunity identification.

Theoretical Background and Hypothesis Development

Relationship Between Team Knowledge Heterogeneity and Entrepreneurial Opportunity Identification

Entrepreneurship opportunity refers to the possibility of meeting new and unsatisfied needs in the market through the reorganization of resources. The goal is to create value, increase commercial benefits, and ultimately realize enterprise growth and development.²⁴ Entrepreneurial opportunity identification is the starting point of the entire entrepreneurial process, the primary issue of entrepreneurship and an important factor influencing the success rate of entrepreneurship.^{9,25} Team knowledge heterogeneity is an important factor that affects entrepreneurial opportunity identification,¹³ referring to the differences in educational background, knowledge skills and values among team members.²⁶

According to upper echelons theory, the heterogeneity of entrepreneurial teams, involving a wide range of cognitive bases, rich experiences and personality characteristics, can help entrepreneurial teams deal with various complex situations, make a variety of choices, and affect strategic choices and organizational performance levels.^{27,28}

The study also considers different dimensions of team knowledge heterogeneity. In the aspect of educational background, the greater differences in educational background are associated with more abundant experience and skills of entrepreneurial team and more diverse perspectives of team members to analyse problems. It is effective in avoiding enterprise risk in market competition, grasping growth opportunities and carrying out more products and service innovations.²⁹ In the aspect of knowledge and skills, entrepreneurial behaviour and its process involve knowledge transfer activities,³⁰ and the stronger heterogeneity of knowledge and skills in the team is linked to greater knowledge difference between team members in

specific functional tasks. It leads to an increase in the knowledge of products and service through team members' mutual communication and integration. In the aspect of values, some researchers emphasized that individual values affect the views and behaviours of the outside world, determine the thinking of strategic objectives and tasks, and lead to conflicts among team members.³¹ Some conflicts can encourage members to further discuss and generate innovative decisions and positively affect entrepreneurial activities.³²

Overall, the complementary knowledge, experience and skills of entrepreneurial team members mean that the broad cognitive basis and rich knowledge structure are conducive to the accurate inference of market trends, which improves the level of enterprise adaptation to environmental changes^{27,33} and enable businesses to identify opportunities more effectively.¹³ Through empirical research, some researchers showed that the different industry experience and education levels of executive team play a significant role in promoting entrepreneurial opportunity recognition ability.³⁴ Therefore, this study proposes the hypothesis that:

Hypothesis 1: Entrepreneurial team knowledge heterogeneity is positively correlated with entrepreneurial opportunity identification.

The Mediating Role of Social Capital

The effect path from team knowledge heterogeneity to entrepreneurial opportunity identification is also explored in this study. Previous research on entrepreneurial opportunity recognition have mostly examined individual characteristics,^{11,12} prior knowledge¹³ and social networks¹⁴ on opportunity identification. The study of entrepreneurial opportunity identification from the perspective of entrepreneurial team composition and resource acquisition is rare. Here, we introduce the concept of social capital to further clarify the relationship between team knowledge heterogeneity and entrepreneurial opportunity identification. Previous studies have shown that social capital had contributed to entrepreneurial literature.^{8,35–38}

Social capital is the sum of resources through relational networks, including available and potential resources.³⁹ Social capital theory is based on the nature of resources in social networks.²¹ This theory suggests that the social capital embedded in individual networks is obtained through direct or indirect social relationships of individuals. Individual resources affect the social capital that a person can obtain.

These resources are embedded in the social structure and can be circulated and acquired through the behaviour of the network members. Social capital can help individuals achieve their goals.

According to social capital theory, this study suggests that the knowledge heterogeneity of an entrepreneurial team may have indirect positive effects on the recognition of entrepreneurial opportunity through social capital. On the one hand, each member of a heterogeneous team has a unique knowledge network closely related to his or her original growth, learning, and work experience. This network is conducive to obtain rich social capital. The differences in the professional backgrounds of team members can create certain differences among the social capital of the members, which affect the preferences and abilities of the members' relationship operations and affect their preferences of cognition and social interaction. This differentiation brings rich social networks, social relationships, diverse views, increases the number of different types of contact subjects, and expands the information advantage of enterprises.⁴⁰

On the other hand, social capital can effectively expand the ways for entrepreneurs to obtain rare resources and help teams and organizations continuously obtain fresh knowledge and information from the outside, which make them acquire more intangible resources such as reputation and ability. The reputation of social capital, which can actively transform social capital activities into subsequent profitable business opportunities, is an important factor in successfully identifying entrepreneurial opportunities.⁴¹ In addition, some empirical studies have proven the mediating role of social capital. For example, Some researchers examined the mediating role of external social capital between team heterogeneity and member innovation performance.⁴²

As discussed above, we hypothesize that:

Hypothesis 2: Social capital has a mediating effect between the knowledge heterogeneity of the entrepreneurial team and the opportunity recognition behavior. The higher the degree of knowledge heterogeneity of the team, the higher the social capital of the team to enhance the ability of the entrepreneurial team to identify entrepreneurial opportunities.

The Moderating Role of Regulatory Focus

In the context of global competition and sharp changes in market demand, many enterprises have suffered "the pain of transformation" such that entrepreneurs do not

recognize when environmental factors have changed, resulting in lost opportunities.⁴³ Therefore, it is necessary to explore what kind of team more easily obtains information in such situations and how entrepreneurs build entrepreneurial teams to successfully cope with the rapidly changing external environment and seize fleeting opportunities. This process provides practical suggestions for potential entrepreneurs and inspires relevant departments to encourage the related entrepreneurial behaviour.

According to regulatory focus theory, individuals with different regulatory focus types have differences in information perception, risk-taking tendencies and creativity in the entrepreneurial process.²³ The regulatory focus types affect the type of information sought and used in the individual decision-making process. Individuals of different regulatory focus types make different decisions with existing resources.⁴⁴ In the case of the same social capital, people with a promotional regulatory focus may make a strategic decision to jump out of an existing situation and take risks.⁴⁵ These individuals pay more attention to development needs and pay attention to progress and achievements. Hence they may be good at seizing small and feasible entrepreneurial opportunities as well as identifying them. Individuals with preventive regulatory focus may be tempted to guide entrepreneurs to focus on how to minimize losses and avoid failures. Without future earnings being known, they will not easily engage in risk-taking strategic changes that deviate from the existing business even if new opportunities are found in new external markets.⁴⁶ Thus, these individuals will be more cautious in searching for potential entrepreneurial opportunities to avoid failure.⁴⁷ Therefore, we believe that individuals with a preventive regulatory focus may identify operable entrepreneurial opportunities through conservative advancement.

Previous studies have shown that the type of promotional regulatory focus is beneficial for individuals in capturing entrepreneurial opportunities,¹¹ while the effect of preventive regulatory focus is controversial. Some studies proclaim that preventive regulatory focus can promote the identification of entrepreneurial opportunities, but other studies suggest that preventive focus is not related to identifying entrepreneurial opportunities¹¹ and may not be associated with all risk-related creative activities.⁴⁸ However, most of these studies focus on individuals rather than entrepreneurial teams. Therefore, the current study pay attention to the team level, including promotional regulatory focus and preventive regulatory focus.

As discussed above, we assume that:

Hypothesis 3: Different regulatory focus types play a moderating role in the relationship between social capital and entrepreneurial opportunity identification.

Moderated Mediation Effects

The above analysis shows that social capital plays a mediating role in the relationship between team knowledge heterogeneity and entrepreneurial opportunity identification, and regulatory focus plays a moderating role in the relationship between social capital and entrepreneurial opportunity identification. Specifically, promotional regulatory focused team members tend to not take risks and potential losses into consideration for the pursuit of improvement and achievement. Therefore, they are more inclined to mobilize rich social capital and promote the identification of every possible entrepreneurial opportunity in teams composed of different levels of knowledge. On the contrary, team members with preventive regulatory focus tend to avoid potential risks and uncertainties in the entrepreneurial process. They may adopt a more cautious attitude towards teams with different levels of knowledge. When dealing with the social capital brought by heterogeneous teams, they may tend to adopt a strategy of conservative advancement. To sum up, this study further proposes the following hypotheses:

Hypothesis 4: Regulatory focus moderates the mediating effect of social capital on team knowledge heterogeneity and entrepreneurial opportunity identification.

The theoretical framework is shown in [Figure 1](#).

Methods

Research Samples and Procedures

This study was carried out in entrepreneurial teams in Hangzhou, Shanghai and Haining in eastern China. Prior to sampling, telephone communication was conducted to explain the purpose of the study and ask participants if they would like to participate. Then, samples were taken on-site at the appointed time and place, and partially by mail questionnaires due to the geographical distance.

The samples were taken in two time periods. In the first wave, demographic information, group knowledge heterogeneity and moderating focus of participants were investigated. In the second wave, social capital and entrepreneurial opportunity identification were investigated. After screening and

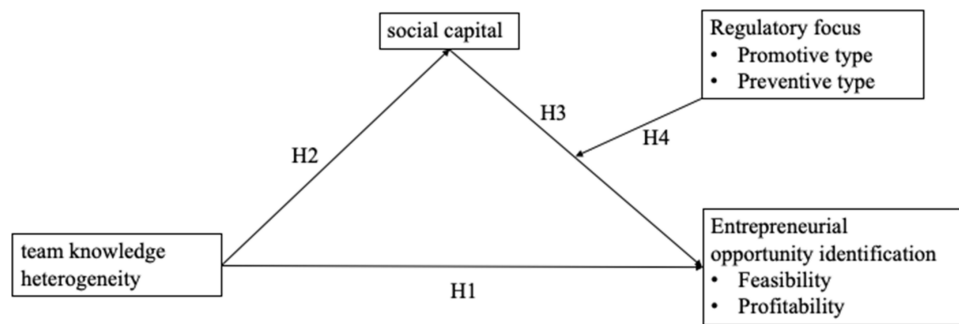


Figure 1 The conceptual model.

judging the quality of the questionnaires, the valid questionnaires were numbered and matched with 106 team samples. In this study, the returned questionnaires were selected according to the following three principles: first, a large amount of sameness in the group data (for example, most of the answers were the same or all the answers were the same); second, the answers were arranged regularly; and third, more than 10% of the values were missing.

The variable demographic distribution of the 106 entrepreneurial teams selected in this study is shown in Table 1.

The descriptive statistics of sample demographic data showed that respondents aged 26–35 had the highest proportion (49.10%), those aged 36–45 and over 55 had 29.50% and 1.40%, respectively. In addition, male respondents accounted for 57.70% and female respondents accounted for 39.90%. In terms of educational background, 38.80% respondents are undergraduates and only 12.40% are postgraduates. The authors also surveyed participants to see if they had started a business. Overall, 55.63% of respondents have started a business, while 44.37% have not. In terms of term, more than half of the teams (52%) were more than eight people, and only 21% of the teams were 2–4 people. 36.7% of the teams were established for 1–3 years. Almost half (42.70%) of the team came from the service and trade industries.

Measurements

Mature scales measured all the research variables, and English scales were translated into Chinese following the back translation method recommended by Brislin in 1980. All measurements were taken on a 5-point Likert scale: “1” indicates completely non-compliant, and “5 indicates completely compliant”.

Team Knowledge Heterogeneity Scale

The team knowledge heterogeneity scale (Cronbach’s $\alpha=0.67$) was compiled by Lewis in 2006. The scale

consists of 9 questions including a subscale of education background, knowledge and skills, and of occupational experience.

Entrepreneurship Opportunity Identification Scale

The entrepreneurship opportunity identification scale (Cronbach’s $\alpha=0.80$) adopts the entrepreneurship opportunity identification scale compiled by Casrurd and Gaglio in 2008. The scale includes the feasibility subscale of entrepreneurial opportunities (Cronbach’s $\alpha=0.74$) and the profitability subscale of entrepreneurial opportunities (Cronbach’s $\alpha=0.65$), with a total of 6 questions.

Social Capital Scale

The social capital scale (Cronbach’s $\alpha=0.85$) adopts the scale developed by Xie Yaping in 2014, which includes two subscales to measure the entrepreneurial team’s internal and external social capital. The scale has a total of 28 questions using a 5-point Likert scale.

Regulatory Focus Scale

The regulatory focus scale (Cronbach’s $\alpha=0.84$) adopts the adjustment focus scale compiled by Neubert in 2008. The questionnaire consists of 16 questions, including two dimensions: promoting regulatory focus (Cronbach’s $\alpha=0.78$) and preventive regulatory focus (Cronbach’s $\alpha=0.84$).

SPSS22.0 and Process were used to analyze the data.

Research Results

Common Method Bias (CMB)

This research mainly uses the questionnaire method, with variable answers for the same subject. There may be a common method deviation problem; hence, this study

Table 1 Basic Information for the Subjects

Property	Category	Number	Percentage
Gender	Man	183	61.20%
	Woman	116	38.80%
Age	25 years old and under	32	10.60%
	26–35 years old	142	47.02%
	36–45 years old	98	32.45%
	46–55 years old	24	7.95%
	55 years and older	6	1.99%
Educational background	High school and below	54	18.06%
	College	93	31.10%
	Undergraduate	116	38.80%
	Graduate	36	12.04%
Professional type	Liberal	89	30.48%
	Science	85	29.11%
	Engineering	31	10.62%
	Art, sports	26	8.90%
	Other	61	20.89%
Whether you have any entrepreneurial experience	Yes	168	55.63%
	No	134	44.37%
	2~4	59	21.0%
No. of Team	5~7	71	25.30%
	Above 8	146	52.00%
	Below 1 year	35	12.50%
Enterprise creation time	1~3 years	103	36.70%
	3~5 years	47	16.70%
	5~8 years	39	13.90%
	Above 8 years	52	18.50%
	Manufactory	39	13.90%
Industry	Service/Trade	120	42.70%
	High technology	18	6.40%
	Finance/Real Estate	18	6.40%
	Culture, sports and entertainment	36	12.80%
	Others	43	15.30%

carried out corresponding controls. First, some remedial measures were taken to conduct the survey, such as guaranteeing the anonymity of the respondents, emphasizing that there was no right or wrong answer, and trying to reduce the number of socially acceptable questions. Second, the Harman single-factor method was used to test the common method deviation. The explanatory variance of the first factor before rotation was 19.06%, which was far less than the critical criterion of 50%, indicating that the common method deviation of this study was within the acceptable range.⁴⁹

In addition, considering the multicollinearity of prediction variables, the variance expansion factor needs to be tested. In this study, the coefficient of variance expansion of all the prediction variables does not exceed 1.28. In

general, VIF ranges between 0–10, and there is no multicollinearity between the prediction variables. Therefore, there is no multicollinearity in this study.

Data Aggregation at the Team Level

The research level of this study is the team level, and data was collected from individual team members. Thus it was necessary to aggregate individual-level data to team-level data for subsequent analysis.

The within-group interrater reliability coefficient (Rwg) evaluates whether the views of the research objects in the same group on a certain issue tend to be consistent. When Rwg is greater than 0.7, it indicates a high degree of consistency in team members' evaluations of the same variable.⁵⁰ ICC (1) and ICC (2) are intra-group correlation

coefficients, measuring the difference between groups and organizations, that is, the difference between teams. Only when $ICC(1) > 0.05$ and $ICC(2) > 0.5$ can the standard be reached. The variables involved in this study obtain the average level of team knowledge heterogeneity, entrepreneurial opportunity identification, social capital and regulatory focus by means of mean operation. Likert 5-point scales were used for scoring. The calculation results are shown in Table 2. Each team's Rwg value, ICC (1) and ICC (2) values exceed the critical standard, indicating that individual measurement values of each team can be aggregated to the team-level measurement values.

Exploratory Factor Analysis (EFA)

Exploratory factor analysis was conducted on each variable to remove the items with too little factor loading. The results of testing the reliability of team knowledge heterogeneity scale by the exploratory factor analysis shows that $KMO = 0.659$, Sig. (Bartlett's Test) = $0.000 < 0.005$, The factor loading of each item ranged from 0.440 to 0.869. The results of testing the reliability of social capital scale by the exploratory factor analysis shows that $KMO = 0.716$, Sig. (Bartlett's Test) = $0.000 < 0.005$, The factor loading of each item ranged from 0.459 to 0.811. Questions 12 (0.376) and 16 (0.359) were removed. The results of testing the reliability of entrepreneurship opportunity identification scale by the exploratory factor analysis shows that $KMO = 0.788$, Sig. (Bartlett's Test) = $0.000 < 0.005$, The factor loading of each item ranged from 0.543 to 0.794. The results of testing the reliability of regulatory focus scale by the exploratory factor analysis shows that $KMO = 0.696$, Sig. (Bartlett's Test) = $0.000 < 0.005$, The factor loading of each item ranged from 0.415 to 0.871.

Model Tested

We conducted a CFA to ensure that the constructs assessed in the study were distinguishable from each other. We estimated a four-factor model using item-level indicators. Compared with the other three models, the four-factor

model fits the data best, indicating that the four main constructs in this study have good discriminative validity. The results are shown in Table 3.

Correlation Between Variables

The correlations between the variables are shown in Table 4.

Hypothetical Tested

Hierarchical multiple regression analysis was performed on the research variables to test the research hypothesis, and the results are shown in Table 5. Social capital is used as the dependent variable in Models M1 to M2. The feasibility of entrepreneurial opportunity identification is used as the dependent variable in models M3 to M7. The profitability of entrepreneurial opportunity identification is used as the dependent variable in and M8 to M12.

Test of Main Effects

From Table 5, it can be seen that the heterogeneity of team knowledge has a significant positive effect on the recognition of entrepreneurial opportunity (M_4 , $\beta=0.219$, $p<0.08$; M_9 , $\beta=0.259$, $p<0.01$). Hypothesis 1 is supported.

Test of Mediating Effects

Test the mediating role of social capital between team knowledge heterogeneity and the feasibility of entrepreneurial opportunity identification. From the results presented in Table 5, The heterogeneity of team knowledge has a significant positive impact on social capital (M_2 , $\beta=0.290$, $p<0.001$). At the same time, knowledge heterogeneity has a significant positive impact on feasibility through social capital (M_5 , $\beta=0.546$, $p<0.01$; M_4 , $\beta=0.219$, $p<0.08$), that is, social capital plays an intermediary role between knowledge heterogeneity and feasibility. At the same time, knowledge heterogeneity has a positive impact on profitability through social capital (M_9 , $\beta=0.259$, $p<0.01$; M_{10} , $\beta=0.451$, $p<0.001$), that is, social capital plays an intermediary role between knowledge heterogeneity and profitability. It can be seen that social capital plays a mediating role between team knowledge heterogeneity and entrepreneurial opportunity identification. Hypothesis 2 is supported.

Test of Moderating Effects

Test the moderating effect of two types of regulatory focus between social capital and entrepreneurial opportunity identification. As shown in Table 5, the promoting

Table 2 Variables' Rwg, ICC(1), and ICC(2) Coefficients

	Rwg	ICC(1)	ICC(2)
Team knowledge heterogeneity	0.91	0.35	0.58
Entrepreneurial opportunity identification	0.69	0.28	0.54
Social capital	0.97	0.32	0.52
Regulatory focus	0.97	0.33	0.55

Table 3 Model Fit Statistics

Model Tested	χ^2/df	CFI	TLI	IFI	RMSEA
M4(Four-factor model)	1.54	0.90	0.86	0.90	0.05
M3(Three-factor model)	2.05	0.76	0.72	0.77	0.08
M2(Two-factor model)	2.74	0.57	0.54	0.58	0.11
M1(One-factor model)	3.39	0.40	0.37	0.41	0.12

Notes: One-factor model: (team knowledge heterogeneity, social capital, promotional regulatory focus, preventive regulatory focus, profitability, feasibility); Two-factor model: (team knowledge heterogeneity, social capital + promotional regulatory focus + preventive regulatory focus + profitability + feasibility); Three-factor model: (team knowledge heterogeneity, social capital, promotional regulatory focus + preventive regulatory focus + profitability + feasibility); Four-factor model: (team knowledge heterogeneity, social capital, promotional regulatory focus + preventive regulatory focus, profitability + feasibility).

Table 4 Correlation Matrix Between Variables

	M	SD	1	2	3	4	5	6	7	8
1 Team knowledge heterogeneity	3.23	0.39	1							
2 Social capital	3.59	0.32	0.34**	1						
3 Entrepreneurial opportunity identification	3.47	0.44	0.21*	0.40**	1					
4 Feasibility	3.52	0.51	0.17*	0.38**	0.90**	1				
5 Profitability	3.41	0.48	0.21*	0.35**	0.88**	0.59**	1			
6 Regulatory focus	3.66	0.34	0.31**	0.37**	0.35**	0.33**	0.29**	1		
7 Promotive regulatory focus	3.51	0.43	0.20*	0.32**	0.39**	0.37**	0.62**	0.81**	1	
8 preventive regulatory focus	3.80	0.42	0.31	0.29**	0.18	0.16	0.15	0.81**	0.32**	1

Notes: * $p < 0.05$, ** $p < 0.01$.

regulatory focus has a positive moderating effect between social capital and feasibility (M_5 , $\beta = 0.546$, $p < 0.001$; M_6 , $\beta = 0.103$, $p < 0.001$). At the same time, the preventive regulatory focus does not have a positive moderating effect between social capital and feasibility (M_5 , $\beta = 0.546$, $p < 0.001$; M_7 , $\beta = 0.041$, $p > 0.05$). In addition, the promotive regulatory focus has a positive moderating effect between social capital and profitability (M_{10} , $\beta = 0.451$, $p < 0.001$; M_{11} , $\beta = 0.085$, $p < 0.01$). Meanwhile, the preventive regulatory focus does not have a positive moderating effect between social capital and profitability (M_{10} , $\beta = 0.451$, $p < 0.001$; M_{12} , $\beta = 0.039$, $p > 0.05$). It can be seen that the promoting regulatory focus has a moderating effect between social capital and entrepreneurial opportunity identification, while the preventive regulatory focus does not have a moderating effect. Hypothesis 3 is partially supported.

Moderated Mediation Effects

In order to test the moderated mediating effect, PROCESS was used for repeated sampling 5000 times. Results are shown in Table 6. When the dependent variable is feasibility, the low level of promoting regulatory focus has a significant moderating effect on the mediating effect of social capital, with 95% confidence interval [0.025, 0.320].

The high level of preventive regulatory focus also moderates the mediating effect of social capital significantly, with 95% confidence interval [0.022, 0.281]. Neither of these intervals contains 0. When the dependent variable is profitability, the low level of promoting regulatory focus has a significant moderating effect on the mediating effect of social capital, with 95% confidence interval [0.019, 0.278]. The interval does not contain 0. The high level of preventive regulatory focus has no significant moderating effect on the mediating effect of social capital, with 95% confidence interval [-0.028, 0.239]. The interval between them contains 0. Hypothesis 4 is partially supported.

Discussion

The research results show that the heterogeneity of team knowledge plays a significant positive role in identifying entrepreneurial opportunities. The results of this study are basically consistent with previous studies.^{13,27,33} Members of a heterogeneous team can obtain information resources from multiple channels. These members have a strong ability to perceive the outside world and can make more accurate inferences about market trends, thereby promoting the identification of entrepreneurial opportunities.^{27,33} However, it should be noted that this kind of divergence is also beneficial to a certain extent. Specifically, if the

Table 5 The Results of Hierarchical Multiple Regression Analysis

Variable	Social Capital		Entrepreneurial Opportunity Identification									
	M ₁	M ₂	Feasibility					Profitability				
No. of Team	0.018	0.021	-0.012	-0.010	-0.022	-0.064	-0.025	-0.031	-0.029	-0.038	-0.073	-0.041
Enterprise Creation time	-0.017	-0.015	-0.073	-0.071	-0.063	-0.039	-0.065	-0.043	-0.040	-0.034	-0.014	-0.035
Industry	0.003	0.004	-0.013	-0.013	-0.015	-0.014	-0.009	-0.007	-0.007	-0.008	-0.008	-0.003
Team knowledge heterogeneity		0.290***		0.219 [#]	0.061	0.022	0.024		0.259**	0.128	0.096	0.093
Social capital					0.546***	0.051	0.343			0.451***	0.041	0.255
Social capital * promotional regulatory focus						0.103***					0.085**	
Social capital * preventive regulatory focus							0.041					0.039
R ²	0.006	0.118	0.036	0.063	0.173	0.257	0.186	0.018	0.060	0.144	0.209	0.157
Δ R ²	0.006	0.112	0.036	0.027	0.110	0.084	0.012	0.018	0.042	0.085	0.064	0.013
F	0.199	3.333*	1.266	1.680	4.149	5.644***	3.723***	0.610	1.590	3.342**	4.313***	3.049
Δ F	0.199	12.666***	1.266	2.852	13.204***	11.021***	1.493	0.610	4.468*	9.791*	7.987*	1.499

Notes: *p<0.05, ** p<0.01, *** p<0.001, [#]p<0.08.

divergence is too large, then it may lead to the disintegration of the organization.⁵¹ Therefore, we also need to rationally use the heterogeneity of knowledge within the team within a certain range. This suggests that partners with different academic backgrounds and values can be considered when building entrepreneurial teams. In the process of entrepreneurship, we should give full play to the thinking advantages of partners with different backgrounds and make better use of the knowledge heterogeneity of entrepreneurial members.

In addition, the research results show that social capital plays a completely mediating role between the heterogeneity of team knowledge and the identification of entrepreneurial opportunities. This suggests that the positive role of team knowledge heterogeneity lies in the mediating role of social capital. The greater the heterogeneity of the team's knowledge means that the network of relationships, potential sources of knowledge, and values from the team members have certain differences, and the social capital brought by these differences will also be richer. Abundant social capital has broadened the knowledge and information flow of team members,⁵² making it more likely for a team to make correct and feasible decisions based on actual conditions. In the long and risky entrepreneurial process, the diversification of team resources also helps entrepreneurial members rationally cope with the challenges of the entrepreneurial process and gradually realize the profitability of entrepreneurship.⁵³ This suggests that it is not enough to gather team members with different levels of knowledge, but more important to explore multi-level social capital. In the face of complex external entrepreneurial environment, employees can use team resources to improve the speed of response to the market and identify entrepreneurial opportunities, so as to better adapt to the external environment.

The results of this study show that promotional regulatory focus play positive roles in regulating the mediating effect of the heterogeneity of team knowledge through social capital regarding the identification of entrepreneurial opportunities, but the preventive regulatory focus does not play a moderating role between the two. Previous studies have found that the promotional regulatory focus method can basically promote the recognition of entrepreneurial opportunities by individuals or groups.¹¹ The results of this study are consistent with previous results. Based on team-level considerations, a team with promotional regulatory focused members pays more attention to team growth and achievements.

Table 6 The Results of Moderated Mediation Effects

Dependent Variable	Mediator Variable	Level	β Standardized Indirect Effect	SE of Boots	95% CI (Lower and Upper)
Feasibility	Promotional regulatory focus	Low	0.124	0.073	[0.025, 0.320]
		Moderate	0.121	0.057	[0.036, 0.267]
		High	0.117	0.062	[0.022, 0.281]
Profitability	Promotional regulatory focus	Low	0.119	0.064	[0.019, 0.278]
		Moderate	0.100	0.052	[0.027, 0.254]
		High	0.082	0.007	[-0.028, 0.239]

At the same time, the research results show that the preventive regulatory focus cannot play a moderating role in the social capital and entrepreneurial opportunities identification, which is inconsistent with the hypothesis. This may be because, no matter at the individual level or the team level, when the overall orientation tends to be conservative, this is not good for the team's risky behavior.

In addition, when the dependent variable is feasibility, the promotional regulatory focus has a moderating effect on the mediation model. When the dependent variable is profitability, the moderating effect of the promotional regulatory focus on the mediation model is not fully supported. Specifically, only when the promotional regulatory focus level is low can the positive effect of knowledge heterogeneity on profitability through social capital be promoted. When the level of promotional regulatory focus is higher than one standard deviation, the moderating effect on the mediation model is not significant. Therefore, we believe that it is not enough to consider profitability only from the perspective of member factors and resource factors. In order to understand the influencing mechanism of profitability, more factors may need to be incorporated into the model and discussed.

There are some limitations in this study that can help further studies. First of all, the sample size of this study is not large enough. Future studies can expand the sample size to increase the stability of related studies. Secondly, in terms of research methods, this study only adopted a cross-sectional study, which could only obtain the correlation between variables and could not determine the causal relation between variables. Future studies can adopt longitudinal studies to clarify the causality between variables. Finally, there may be other mechanisms between team knowledge heterogeneity and entrepreneurial opportunity identification. Future research can consider other impact

paths and put forward more guidance and suggestions for entrepreneurial opportunity identification.

Funding

Project supported by the National Social Science Fund of China (17BGL097).

Disclosure

The authors report no conflicts of interest in this work.

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