Curr Psychol (2018) 37:648–660
DOI 10.1007/s12144-016-9547-7

Risk Propensity, Self-Regulation, and Entrepreneurial Intention: Empirical Evidence from China

Jibao Gu[1] · **Lingyu Hu**[1] · **Jianlin Wu**[1] · **Augustine A. Lado**[2]

Published online: 5 January 2017

Abstract Drawing on a self-regulation perspective, we develop and test a theoretical model linking risk propensity to entrepreneurial intention through the mechanisms of entrepreneurial self-efficacy and regulatory focus. Using survey data collected from a sample of 210 employees and managers in China, the results indicated that entrepreneurial self-efficacy and promotion focus (but not prevention focus) are positively associated with entrepreneurial intention. Furthermore, these two self-regulatory mechanisms partially mediate the relationship between risk propensity and entrepreneurial intention. Implications for entrepreneurship research and practice are offered.

Keywords Entrepreneurial intention · Self-regulation · Risk propensity · China

✉ Lingyu Hu
lingyuh@mail.ustc.edu.cn

Jibao Gu
jibao@ustc.edu.cn

Jianlin Wu
wjl@ustc.edu.cn

Augustine A. Lado
alado@clarkson.edu

[1] School of Management, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui, People's Republic of China

[2] School of Business, Clarkson University, 8 Clarkson Street, 5790, Potsdam, NY 13699, USA

Introduction

Researchers have devoted a great deal of attention to understanding how entrepreneurial intentions are formed (e.g., Fitzsimmons and Douglas 2011; Krueger et al. 2000). Entrepreneurial intentions refer to "entrepreneurs' states of mind that direct attention, experience, and action toward a business concept" (Bird 1988, p. 442). In existing literature, researchers have identified a number of psychological characteristics (e.g., Przepiorka 2016) to explain entrepreneurial intentions. Insofar as establishing a new venture is fraught with risk and uncertainty (Gasse 1982), risk propensity has been regarded as an important predictor of entrepreneurial intention (Nabi and Liñán 2013). As one of the psychological characteristics, risk propensity describes "the general tendency of a decision maker to take or avoid risks" (Sitkin and Pablo 1992, p. 18). However, the empirical findings regarding the influence of risk propensity on entrepreneurship are inconclusive, with some studies finding a positive relationship (Stewart and Roth 2001), and others finding a negative relationship (Miner and Raju 2004). These inconsistent findings suggest that the mechanisms linking risk propensity and entrepreneurial intention are ambiguous. Therefore, scholars have called for more studies to further clarify the nature of the intervening mechanisms in this relationship (Stewart and Roth 2004).

The self-regulation perspective (Bandura 1991) provides a useful framework to understanding the mechanisms through which risk propensity affects entrepreneurial intention. This perspective explicates the socio-cognitive mechanisms that "not only mediate the effects of most external influences, but [also] provide the very basis for purposeful action" (Bandura 1991, p. 248). Self-regulation refers to how individuals monitor, evaluate, direct, and adjust their behavior so as to progress toward goals (Bandura 1991). In achieving self-regulation, individuals mainly engage in two self-regulatory processes:

self-efficacy and regulatory focus (Tumasjan and Braun 2012). Accordingly, self-efficacy helps individuals formulate beliefs in their own ability to accomplish a goal or outcome, while regulatory focus helps individuals adopt strategies used to accomplish a goal or outcome. Empirically, Zhao et al. (2005) have documented how the one self-regulatory process – self-efficacy – mediated the relationship between risk propensity and entrepreneurial intention. However, little work has examined the mediating effects of both self-regulatory processes (as well as their joint effects) in this relationship.

The current study contributes to this stream of research by documenting the mediating role of two self-regulatory processes together. Self-efficacy refers to a person's belief in his or her ability to accomplish a specific task or goal (Bandura 1997). Previous study has found that self-efficacy plays a critical mediating role in risk propensity – entrepreneurial intention relationship (Chen et al. 1998; Zhao et al. 2005). Regulatory focus refers to a socio-cognitive approach that an individual uses in the pursuit of desired end states or goals (or the avoidance of undesired end states or goals) (Higgins 1998). Individuals strive to achieve desired goals using two distinct strategies (Crowe and Higgins 1997): *promotion focus* and *prevention focus*. Individuals with a promotion focus are motivated by growth and advancement needs, and they are likely to use strategies or actions that involve "ensuring hits and ensuring against errors of omission or misses" (or *eagerness means*), whereas those with a prevention focus are motivated by security and safety needs, and they are likely to use strategies for "ensuring correct rejections and ensuring against errors of commission or false alarms" (*or vigilance means*) (Higgins 2000, p. 1219). The existing literature indicates that risk propensity may affect the level of promotion focus and prevention focus, which in turn influence entrepreneurial decision (Bryant and Dunford 2008). Hence, the current study extends prior research by integrating self-efficacy and regulatory focus as a set of self-regulatory processes, and examining their mediating influences in the link between risk propensity and entrepreneurial intention.

Entrepreneurial Self-Efficacy as Mediator

Self-efficacy is "important for advanced cognitive functioning, such as managing complexity, uncertainty and risk, where [individuals] require greater confidence and commitment to perform sophisticated cognitive tasks" (Bryant 2007, p. 735). Individuals high in self-efficacy are more likely to believe they have an actionable idea (Wennberg et al. 2013), perceive more opportunities (Krueger and Dickson 1994), and generate more alternatives for consideration along a series of entrepreneurial decisions (Kickul et al. 2009). Researchers have shown that people high in self-efficacy are inclined to show stronger entrepreneurial intentions (Bullough et al. 2014; Chen et al. 1998; Wilson et al. 2007). For instance, Markman et al. (2002) found that, in high-technology industries, inventors who started their own ventures had higher levels of self-efficacy than those who chose to work in established firms, a finding which is also consistent with that of Chen et al. (1998). Thus, to the extent that higher levels of entrepreneurial self-efficacy are associated with new venture creation, it is argued that entrepreneurial self-efficacy is an important antecedent to entrepreneurial action (Arora et al. 2013; Boyd and Vozikis 1994). Thus, it suggests that entrepreneurial self-efficacy is positively related to entrepreneurial intention in present study.

Risk propensity influences self-efficacy through individuals' judgment of their physiological states when deciding on pursuing an entrepreneurial venture (Gist and Mitchell 1992). Accordingly, individuals with high levels of risk propensity tend to be more comfortable dealing with situations of risk and in fact perceive the objectively same situation as less risky than do others (Sitkin and Weingart 1995). They are, therefore, likely to anticipate experiencing less debilitating anxiety about an entrepreneurial opportunity, perceive a greater sense of control over outcomes, and judge the likelihood of receiving positive rewards more highly, which are factors associated with higher levels of entrepreneurial self-efficacy. This higher entrepreneurial self-efficacy, in turn, may increase the individuals' intentions to set up new ventures. Therefore, entrepreneurial self-efficacy mediates the relationship between risk propensity and entrepreneurial intention.

Promotion Focus as Mediator

Promotion focus is controlled by the need for growth and advancement, which inspires individuals to ensure accomplishment and development using eagerness means (Crowe and Higgins 1997). Promotion-focused individuals tend to be open minded, engage in more thorough information search, and consider a wide range of ideas (Tumasjan and Braun 2012). They have an advantage in generating new possibilities, considering novel alternatives, and developing entrepreneurial opportunities (Brockner et al. 2004), which could motivate them to make an attempt on entrepreneurship. This motivation would, in turn, drive an individual's desire or intention to establish a business venture. Further, promotion-focused individuals exhibit higher levels of perseverance in a cognitive task (Crowe and Higgins 1997), even in the situations of unfamiliarity, uncertainty, and difficulties (e.g. entrepreneurship) (Markman and Baron 2003). Such perseverance will give them an advantage on moving the entrepreneurship processes forward, such as turning business ideas or opportunities into actionable entrepreneurial intentions. In addition, promotion-focused individuals possess the belief that any number of action steps is sufficient for goal attainment

(Brockner et al. 2002). This insight suggests promotion focus might lead individuals to perceive a high likelihood of success even when others see a low chance of success. Thus, it implies that promotion focus is positively related to entrepreneurial intention in this study.

Previous literature indicates that risk propensity may trigger a promotion focus, which, in turn, increase individuals' motivation and willingness to establish a business venture (i.e., entrepreneurial intention) (Higgins and Spiegel 2004). Specifically, individuals with high risk propensity exhibit a willingness to take on challenges, and to show desire for growth, skill development and career advancement (Sitkin and Weingart 1995). This psychological characteristic evokes a promotion focus which primarily motivates the individuals to align their behaviors with their so-called "ideal selves" (i.e., the person they want to be), and to attend to potential gains (Higgins and Spiegel 2004). Such an orientation can reinforce the individual's own beliefs as it essentially bestows the individual with inner stimulus to act. Therefore, a promotion focus will likely propel the individuals to identify different possible approaches of action to pursue a particular opportunity (Piperopoulos and Dimov 2015). This increases the likelihood that at least some of these actions would be perceived as feasible, thereby strengthening the individual's entrepreneurial intention. Therefore, promotion focus mediates the relationship between risk propensity and entrepreneurial intention.

Prevention Focus as Mediator

Prevention focus is controlled by the need for security and safety, which motivates individuals to guarantee safety and to fulfill responsibilities using vigilance means (Crowe and Higgins 1997). Prevention-focused individuals are primarily concerned with protection and safety (Crowe and Higgins 1997; Piperopoulos and Dimov 2015). They are more likely to notice and recall the information which is associated with loss and failure (Higgins and Tykocinski 1992), and to attain desired end-states with vigilance and accuracy (Förster et al. 2003). To the extent that entrepreneurship involves uncertainty and risk (Shane and Venkataraman 2000), prevention-focused individuals would likely be more vigilant and cautious when contemplating setting up a new business venture. Thus, they are more likely to set a higher bar in forming entrepreneurial intention. Moreover, prevention-focused individuals are driven by "ought" self-guides, concerning obligations and in accordance with in-role work (Crowe and Higgins 1997). They are inclined to comply with explicit expectations and avoid over-stepping the boundary (Higgins et al. 1994). This idea suggests that individuals with a prevention focus would fulfill explicit work-related responsibilities and are less likely to engage in entrepreneurial ventures outside their work roles. In addition, prevention focus is associated with the belief that all action steps are necessary for goal attainment (Brockner et al. 2002). Thus, prevention focus would lead individuals to perceive a low probability of entrepreneurial success unless all obstacles are overcome. Consequently, prevention focus is negatively related to entrepreneurial intention in this study.

Previous literature indicates that risk propensity may also trigger a prevention focus, which, in turn, might reduce individuals' motivation and willingness to establish a business venture (Higgins and Spiegel 2004). Specifically, risk propensity might prime individuals to avoid potential losses rather than seek gains (Sitkin and Pablo 1992). Thus, risk propensity could activate a prevention focus by which individuals are motivated primarily by security and safety needs to align their behaviors with their "ought selves" – their perception of what others (e.g., family, friends, society) want them to be (Higgins and Spiegel 2004). Thus, high risk propensity might induce a prevention orientation toward entrepreneurial action in the sense that any deviation from the ideal could be viewed as detrimental, leading individuals to weigh the risks or costs associated with an entrepreneurial opportunity more heavily than the potential benefits or gains (Piperopoulos and Dimov 2015). As a result, the more risks are identified that in turn have to be avoided, the less likely it is that the individual will pursue an entrepreneurial goal or opportunity. Therefore, prevention focus mediates the relationship between risk propensity and entrepreneurial intention.

Taken together, we propose the following hypotheses:

H1a: Entrepreneurial self-efficacy is positively related to entrepreneurial intention

H1b: Entrepreneurial self-efficacy mediates the relationship between risk propensity and entrepreneurial intention

H2a: Promotion focus is positively related to entrepreneurial intention

H2b: Promotion focus mediates the relationship between risk propensity and entrepreneurial intention

H3a: Prevention focus is negatively related to entrepreneurial intention

H3b: Prevention focus mediates the relationship between risk propensity and entrepreneurial intention

The Present Research

Previous empirical findings regarding the influence of risk propensity on entrepreneurial intention are inconsistent. Scholars have set out to specify the mechanisms through

which the effects of risk propensity on entrepreneurial intention are transmitted. For example, Zhao et al. (2005) documented how self-efficacy mediated the relationship between risk propensity and entrepreneurial intention. However, little work has examined the mediating effects of the set of self-regulatory mechanisms, consisting of entrepreneurial self-efficacy and regulatory focus in the relationship between risk propensity and entrepreneurial intention. Hence, the current study aims to develop and test a theoretical model linking risk propensity to entrepreneurial intention through the mechanisms of self-efficacy and regulatory focus.

Most studies examining the relationship between risk propensity and entrepreneurial intention have largely been conducted in mature market countries (e.g., Zhao et al. 2005). However, it is necessary to assess whether theoretical perspectives developed in mature market contexts are valid in emerging economies (e.g. China). Compared with mature market countries, China is different with respect to cultural traditions (e.g., collectivistic values) (Siu and Lo 2013), and institutional environment (e.g., unfavorable for property rights protection and contract enforcement) (Lu and Tao 2010), among other things. Such differences may account for differences in individuals' entrepreneurial intentions within the Chinese context. For example, the uncertain payoff from entrepreneurship and opportunity costs are still high in China (although China is gradually reforming its institutional environment), which may discourage individuals from becoming entrepreneurs. The current research intends to test the theoretical model in Chinese context and provides additional evidence.

Method

Participants and Data Collection Procedure

Participants in this study were employees who held positions in organizations in China. As suggested by previous researchers, employees of established organizations provide a more relevant and appropriate source of data for investigating entrepreneurship phenomena. This is because employees are more familiar with entrepreneurship in terms of ability, business knowledge and exposure to business opportunities than college students and other groups (Campbell et al. 2012; Zhang and Arvey 2009). Our data collection procedure utilized a snowballing-type approach in order to increase access to, and representation of participants.

Due to the difficulties (e.g. distrust and unwillingness to respond) in collecting data from Chinese organizations and employees directly (Zhou et al. 2007), we contacted students in an MBA class in a leading Chinese university to solicit their participation, both in the pilot-testing phase, and administration of the final questionnaire survey. Generally, MBA students in China are full-time employees of organizations who take classes over the weekends. They have real work and business experience, and possess wider and more stable social networks. They are considered appropriate and practical samples to conduct entrepreneurial intention studies (e.g., Siu and Lo 2013; Chye Koh 1996; Zhang and Yang 2006). In our study, the students are at the initial stage in MBA program, who have not yet developed systematic business and management knowledge through their training. In this regard, the MBA students and their peer networks constitute an appropriate sampling frame for the current study.

We adopted the following data collection procedure. First, we approached the MBA class through a respected faculty member to invite the students to complete paper questionnaires on the spot. Second, for those students who agreed to participate in the survey, we requested them to identify employees in their social network who would be willing to complete the questionnaire survey. In cases where the locations of participants were within the proximity of the MBA students, we asked them to administer the paper version of the questionnaire. In cases where the location of participants were far from the MBA student participant, we requested them to use the online version of the questionnaire.

The cover letter introduced the purpose of the survey and provided instructions for completing the survey. Respondents were assured that participation was voluntary and the data collected would be kept confidential and used for academic research only. Through the two channels above, 250 questionnaires were distributed, of which 100 were paper-based questionnaires and 150 were online-based questionnaires. A total of 236 questionnaires were received, representing a response rate of 79% (Silva and Opsomer 2006). Data with missing values were discarded before conducting the analysis. Finally, 210 survey questionnaires, which comprised 91 paper questionnaires and 119 online questionnaires, were deemed useful for the study.

Of the final combined samples of respondents, 56% were male, 43% were married, 43.3% were between 26 and 30 years old, and 72.9% had a bachelor's degree. More information of participants is shown in Table 1.

Measures

Based on standard practice (Brislin 1986), we followed several steps for developing operationalizations and measures of the study variables. First, we constructed an English-Language questionnaire, which was based on existing validated scales. Second, since all respondents were native speakers of Mandarin Chinese, we translated the questionnaire into Chinese using a translation committee (Beaton et al. 2000). Specifically, the original English questionnaire was translated into Chinese through a committee that included three scholars. These scholars, who are from the research field of innovation, supply chain management and human resource management, are fluent in English and have published papers in international peer-reviewed journals. We requested them to help us

Table 1 Demographic information of participants

Variable	Level	Frequency	Percentage	Variable	Level	Frequency	Percentage
Gender	Male	117	56%	Tenure	<= 1 year	22	10.5%
	Female	93	44%		2–4 years	81	38.6%
Age	<= 25	52	24.8%		5–7 years	48	22.9%
	26–30	91	43.3%		8–10 years	40	19%
	31–35	55	26.2%		> = 11 years	19	9%
	> = 36	12	5.7%	Position	Non-managerial employees	154	73.3%
Education	Master or higher	48	22.9%		Middle manager	48	22.8%
	Bachelor	153	72.9%		Senior manager	8	3.9%
	Two-year college	8	3.8%	Department	Technology	13	6.2%
	High school or lower	1	0.4%		Marketing	61	29%
Marriage	Single	120	57%		Finance	42	20%
	Married	90	43%		Human resources	56	26.7%
					Others	38	18.1%

translate the original English scales separately, and then carefully reviewed every questionnaire item in order to ensure accuracy and consistency with the original questionnaire.

Secondly, we asked four scholars and Ph.D. students to review the translated questionnaire to ensure face and content validity. Third, we selected five employees from potential respondents to participate in the pilot-testing phase of the questionnaire development. Based on their feedback, we reworded several items to enhance clarity and comprehension. Finally, we requested two independent translators to translate the Chinese questionnaire back to English to assure the consistency of measure and meaning (Van de Vijver and Leung 1997). All items were assessed using five-point Likert scales with the descriptive equivalents ranging from "disagree to a large extent" (1) to "agree to a large extent" (5).

Risk propensity was measured with the Risk Propensity (RP) scale (Sitkin and Weingart 1995). The RP scale is a five-item scale designed to assess an individual's business risk propensity (e.g., "If I have the right to make decisions, I would choose more risky alternatives which could have a major impact on the strategic direction of the organization"). The RP scale was shown to have acceptable reliability (Cronbach's alpha coefficient [α] = .86; Sitkin and Weingart 1995). In current study, the RP scale demonstrated acceptable reliability ($\alpha = .86$). According to the suggestion of Hooper et al. (2008) for acceptable thresholds ($2 < \chi2/df < 3$, goodness of fit index (GFI) > 0.95, comparative fit index (CFI) > 0.95, root mean square error of approximation (RMSEA) < 0.07, standardized root mean square residual (SRMR) < 0.08), the RP scale in our study demonstrated acceptable validity ($\chi2 = 12.58$, df = 8, p = .00; GFI = .99, CFI = .98, RMSEA = .03, SRMR = .01).

Promotion focus and prevention focus were measured with the Work Regulatory Focus (WRF) scale (Neubert et al. 2008). The WRF scale is an 18-item scale designed to assess an employee's regulatory focus at work. The WRF scale includes two underlying subscales, which are measured with 8 items each: promotion focus scale (e.g., "I take chances at work to maximize my goals for advancement") and prevention focus scale (e.g., "I concentrate on completing my work tasks correctly to increase my job security"). These two subscales were reliable (for promotion focus scale, $\alpha = .91$; for prevention scale, $\alpha = .93$; Neubert et al. 2008). In current study, the subscales demonstrated acceptable reliability (for promotion focus scale, $\alpha = .82$; for prevention focus scale, $\alpha = .78$). In terms of validity, confirmatory factor analysis (CFA) revealed acceptable fit indices for the promotion focus scale ($\chi2 = 86.66$, df = 27, $p = .02$; GFI = .92, CFI = .96, RMSEA = .00, SRMR = .04) and the prevention focus scale ($\chi2 = 76.56$, df = 27, $p = .01$; GFI = .97, CFI = .98, RMSEA = .00, SRMR = .02).

Entrepreneurial self-efficacy was measured with the Entrepreneurial Self-Efficacy (ESE) scale (McGee et al. 2009). The ESE scale is a 19-item scale designed for assessing a person's belief in their ability to successfully launch an entrepreneurial venture. These items were classified into five dimensions: searching (e.g., "I can identify the need for a new product or service"), planning (e.g., "I can design an effective marketing/advertising campaign for a new product or service"), marshalling (e.g., "I have the ability to clearly and concisely explain verbally or in writing my business idea in everyday terms"), implementing-people (e.g., "I can supervise employees"), implementing-financial ("I can manage the financial assets of my business"), and attitude toward venturing. (e.g., "I think starting a business is worthwhile"). The ESE scale was reliable (i.e., the values for Cronbach's alpha were all above .80; McGee et al. 2009). In current study, the ESE scale demonstrated acceptable reliability ($\alpha = .93$) and validity ($\chi2 = 253.65$, df = 119, $p = .01$; GFI = .95, CFI = .96, RMSEA = .00, SRMR = .01).

Entrepreneurial intention was measured with the Entrepreneurial Decision (ED) scale (Chen et al. 1998). The ED scale is a 5-item scale designed for assessing individual's

intention to start a business (e.g., "I had considered setting up my own business"). The ED scale was reliable (α = .92; Chen et al. 1998). It was adopted by numerous studies to measure individual's entrepreneurial intention (e.g., Zhao et al. 2005). In current study, ED scale demonstrated acceptable internal consistency (α = .91). In terms of validity, CFA revealed acceptable fit for the ED scale ($\chi 2$ = 10.76, df = 5, p = .00; GFI = .98, CFI = .99, RMSEA = .00, SRMR = .00).

*Control variables. In this study, s*ocio-demographic variables (i.e., age, gender and education) and employment status variables (i.e., tenure, position and department) were used as controls, because these variables have been shown to play significant roles in entrepreneurial intention (Alba-Ramirez 1994; Crant 1996; Dobrev and Barnett 2005).

Results

We use partial least squares (PLS) as our analytical method. PLS has been used widely in theory testing and confirmation and is appropriate for determining whether relationships exist (Fornell and Larcker 1981). PLS also places minimal restrictions on the sample size and residual distribution (Chin 1998). Moreover, PLS is useful for establishing validity (especially discriminant validity) among variables which may have similar conceptual underpinnings (i.e., in this case, regulatory focus and entrepreneurial self-efficacy are all based upon individual cognitive perceptions). Considering that our study is exploratory and conducted in a different national cultural context, we used PLS 3.0 (Ringle et al. 2005) to analyze the measurement and structural models. Following the two-step analytical procedure (Hair et al. 1998), the measurement model was first examined and then the structural model was assessed.

Measurement Model

The test of the measurement model includes three primary parts: (1) construct reliability, (2) convergent validity, and (3) discriminant validity. Tables 2 and 3 include results for all three parts.

Construct reliability was assessed by using Cronbach's Alpha and composite reliability as suggested by Cronbach (1951), and Fornell and Larcker (1981), respectively. The cut-off values of both Cronbach's Alpha and composite reliability are 0.70 (Nunally 1978). As shown in Table 2, the Cronbach's alphas ranged from 0.82 to 0.93 and the values of composite reliability ranged from 0.84 to 0.93. These results indicated that all the constructs are of satisfactory reliability.

Table 2 Reliability and validity analysis

Variable	Items	Cronbach's α	CR	AVE
Risk propensity	5	.86	.91	.71
Entrepreneurial self-efficacy	19	.93	.89	.72
Promotion focus	9	.82	.84	.52
Prevention focus	9	.78	.89	.57
Entrepreneurial intention	5	.91	.93	.73

CR Composite Reliability, *AVE* Average Variance Extracted

Convergent validity was assessed by the individual item loading and the Average Variance Extracted (AVE). Fornell and Larcker (1981) suggest accepting items which have more explanatory power than error variance. In practice, the generally accepted cut-off is 0.70 or greater. In exploratory research, however, this standard is often relaxed, especially when using well-established scales (Barclay et al. 1995). The confirmatory factor analysis (Shore and Martin 1989) showed that the loadings of most items were higher than the suggested benchmark of 0.70, and the AVE scores, ranging from 0.52 to 0.73 were above the benchmark value of 0.50 (see Table 2).

Discriminant validity was tested by comparing the relationship between shared variances among constructs and the values of AVEs as recommended by Barclay et al. (1995). Specifically, the square root of the AVE of a construct should be greater than the construct's correlation with any other construct in the model (Gu et al. 2015). As Table 3 shows, the square roots of the AVEs for all constructs were greater than the correlations between constructs, which confirmed the discriminant validity of the measurement model.

Structural Model

Results of the test of the structural or theoretical model are shown in Fig. 1. The standardized beta coefficient for each path in the model was obtained from the PLS 3.0. PLS model does not generate the model fit statistics, but uses the R^2 values (explained variance) in the dependent variables to assess the explanatory power of the structural model (Deng et al. 2010). Figure 1 shows that risk propensity explained 37% of the variance in promotion focus, 5% of the variance in prevention focus, and 30% of the variance in entrepreneurial self-efficacy. All of these factors together with control variables explained 46% of the variance in entrepreneurial intention, showing that the structural model exhibits high explanatory power.

The results demonstrated that most of the direct hypotheses were supported, except H3a. The significant impacts of self-regulatory factors on entrepreneurial intention were observed. Specifically, promotion focus (β = .19, p < .01) and entrepreneurial self-efficacy (β = .50, p < .01) were significantly related to entrepreneurial intention. Therefore, H1a and H2a were supported. However, the results show that prevention focus did not significantly relate to entrepreneurial intention. The results also indicated that risk propensity was an important predictor of regulatory focus; that is, risk propensity was positively related to promotion focus (β = .61, p < .01) and

Table 3 Means, standard deviations, and correlations

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Gender	--	--												
2	Age	--	--	-.18*											
3	Education	--	--	.10	-.15*										
4	Marriage	--	--	-.08	.60**	-.11									
5	Tenure	--	--	-.17*	.79**	-.03	.59**								
6	Position	--	--	-.06	.19*	-.10	.16*	.21**							
7	Department	--	--	.01	.11	.21**	-.00	.11	-.13						
8	RP	3.58	.74	-.06	-.16*	-.11	-.20**	-.13	-.10	-.23**	(.84)				
9	ESE	3.33	.63	-.02	-.02	-.03	-.27**	-.18**	.07	-.01	.56**	(.85)			
10	ProF	3.85	.61	.01	-.28**	.02	.19**	.09	-.10	.00	.52**	.44**	(.71)		
11	PreF	3.44	.73	-.02	.12	.08	-.07	-.01	.07	-.21**	-.20**	-.03	-.17*	(.75)	
12	EI	3.06	.92	-.12	-.13	.04	.02	.10	.10	-.12	.52**	.61**	.38**	-.02	(.85)

Means are based on average factor scores; standard deviations (SD) are from the second-order CFA output. The diagonal elements are the square root of AVE (Average Variance Extracted)

RP risk propensity, *ESE* entrepreneurial self-efficacy, *ProF* promotion focus, *PreF* prevention focus, *EI* entrepreneurial intention

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

entrepreneurial self-efficacy (β = .55, $p < .01$), and negatively related to prevention focus (β = −.23, $p < .01$). With respect to control variables, the results indicated that gender (β = −.12, $p < .05$), age (β = −.16, $p < .05$) and position (β = −.15, $p < .05$) significantly influence entrepreneurial intention, whereas other control variables were insignificantly related to entrepreneurial intention.

We followed the procedures proposed by Baron and Kenny (1986) to test the mediating effects of promotion focus, prevention focus, and entrepreneurial self-efficacy between risk propensity and entrepreneurial intention. As shown in Table 4, when only risk propensity was considered, its effect on entrepreneurial intention (β = .53, $p < .01$) was significant. In contrast, when the influence of promotion focus, prevention focus and entrepreneurial self-efficacy on entrepreneurial intention was considered, its effect was still significant, although reduced (β = .19, $p < .01$). In summary, the results indicated that the relationships between risk propensity were partially mediated by promotion focus (β = .16, $p < .01$) and entrepreneurial self-efficacy (β = .49, $p < .01$). Therefore, H1b and H2b were supported.

Post Hoc Analysis

Moderation and Moderated-Mediation Analysis

To ensure the comprehensiveness of the results that test mediating effects of entrepreneurial self-efficacy and regulatory focus, we conducted post hoc analyses to explore the mediation and moderation effects together. Our consideration is

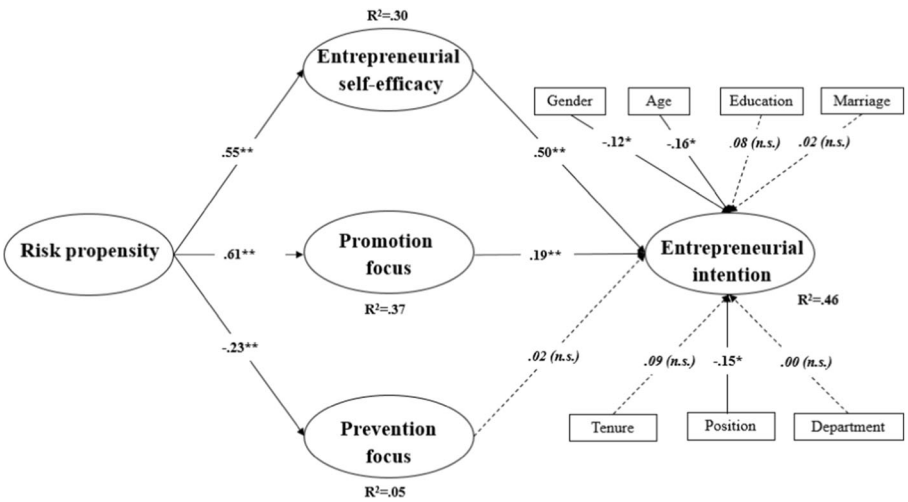

Fig. 1 PLS results for the main effects. *Note:* *$p < .05$, **$p < .01$, n.s. =p>.05

Table 4 Mediating effects of two foci and entrepreneurial self-efficacy

IV	M	DV	IV → DV	IV → M	IV → DV	M → DV	Results
RP	ESE	EI	.53**	.56**	.20**	.45**	Partial
RP	ProF	EI	.53**	.62**	.38**	.26**	Partial
RP	PreF	EI	.53**	-.24**	.52**	-.03	Non
RP	ESE	EI	.53**	.55**	.19**	.49**	Partial
	ProF			.62**		.16**	Partial
	PreF			-.23**		-.07	Non

RP risk propensity, *ESE* entrepreneurial self-efficacy, *ProF* promotion focus, *PreF* prevention focus, *EI* entrepreneurial intention, *IV* independent variable, *M* mediator, *DV* dependent variable

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

based on the argument that self-efficacy and regulatory focus represent distinct, but interrelated self-regulation mechanisms (Higgins 2000; Bandura 1991). Thus, the interaction effects of the self-regulatory variables themselves should be investigated. For example, Bryant (2007) suggested that promotion focus and self-efficacy influence the use of decision heuristics in entrepreneurial opportunity evaluation and exploitation. Further, Tumasjan and Braun (2012) found that two task-specific aspects of self-efficacy (i.e., creative and entrepreneurial self-efficacy) and regulatory focus have interaction effects on opportunity recognition.

Because the results above show prevention focus has no significant influence on entrepreneurial intention, the analyses only considered the influences of entrepreneurial self-efficacy and promotion focus. First, we tested the interaction effect of promotion focus and entrepreneurial self-efficacy on entrepreneurial intention. The variables were mean-centered to minimize multicollinearity (Aiken et al. 1991). As shown in Table 5, the interaction between entrepreneurial self-efficacy and promotion focus was positively related to entrepreneurial intention ($\beta = .14$, $p < .05$). That is, entrepreneurial intention was influenced not only through entrepreneurial self-efficacy or promotion focus separately but also through their joint effects. This analysis lends empirical support to the argument that the constructs of self-efficacy and regulatory focus are closely related and have a joint effect on entrepreneurial outcome.

Table 5 Interaction effect of ESE and ProF on EI

Variable	Model 1	Model 2	Model 3
Gender	-.13*	-.13*	-.12*
Age	-.32**	-.13	-.09
Education	.05	.08	.08
Marriage	-.05	-.01	.01
Tenure	.26*	.06	.02
Position	.05	.01	.01
Department	.06	-.02	-.10
ESE		.53**	.49**
ProF		.16*	.11
ESE*ProF			.14*
R^2	.07	.41	.42
ΔR^2	.07	.34	.01
F value	3.39**	16.96**	17.20**

RP risk propensity, *ESE* entrepreneurial self-efficacy, *ProF* promotion focus, *PreF* prevention focus, *EI* entrepreneurial intention

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

Second, following Edwards and Lambert (2007) who provided an improved regression technique for testing mediating and moderating effects together, we examined the potential for a moderated-mediation effect of promotion focus. As Table 6 shows, the effects of entrepreneurial self-efficacy on entrepreneurial intention under low and high promotion focus are significantly different ($\Delta\beta = .27$, $p < .01$), which provides further support for our post hoc analysis above: promotion focus moderated the influence of entrepreneurial self-efficacy on entrepreneurial intention. In addition, the results presented in Table 6 indicated that the difference in the indirect effect of promotion focus on the relationship between risk propensity on entrepreneurial intention (through entrepreneurial self-efficacy) was significant ($\Delta\beta = .20$, $p < .01$). This means that promotion focus moderates the indirect effect of risk propensity on entrepreneurial intention which is mediated through entrepreneurial self-efficacy. These analyses provide a complementary and comprehensive understanding of the roles of entrepreneurial self-efficacy and regulatory focus on entrepreneurial intention formation.

Discussion

By empirically investigating the mediating effects of two self-regulation mechanisms in the relationship between risk propensity and entrepreneurial intention, this study advances theory and research in entrepreneurship. By doing so, this study sought to empirically corroborate the assertion that self-regulatory mechanisms mediate the effects of a number of personal factors on individual intentions (Bandura 1991, 2012). Our study findings show that the effects of risk propensity on entrepreneurial intention are partially mediated by entrepreneurial self-efficacy and promotion focus. Furthermore, a post-hoc analysis showing a significant interaction effect and moderated-mediation effect of entrepreneurial self-efficacy and promotion focus on entrepreneurial intention broadens our knowledge and understanding of the influencing mechanisms of self-regulation in this relationship.

Although our hypothesis concerning the mediating effect of prevention focus was not supported, this finding is consistent with previous empirical studies in entrepreneurship. For example, Tumasjan and Braun (2012) found that prevention focus was not significantly related to either aspect of

Table 6 Mediating and moderating effects of ESE and ProF on the relationship between RP and EI

Moderator variable	RP (X) → ESE (M) → EI (Y)				
	Stage		Effect		
	First PMX	Second PYM	Direct effects (PYX)	Indirect Effects (PYM PMX)	Total effects (PYX+ PYM PMX)
Simple paths for low ProF	.54**	.22**	.11	.12**	.23*
Simple paths for high ProF	.65**	.48**	.43**	.31**	.74**
Differences	.11	.27**	.32*	.20**	.52**

Low ProF refers to one standard deviation below the mean of ProF; high ProF refers to one standard deviation above the mean of ProF. Tests of differences for the indirect and total effect were based on bias-corrected confidence intervals derived from bootstrap estimates

RP risk propensity, *ESE* entrepreneurial self-efficacy, *ProF* promotion focus, *PreF* prevention focus, *EI* entrepreneurial intention, *PMX* path from RP to ESE, *PYM* path from ESE to EI, *PYX* path from RP to EI

*$p < 0.05$, **$p < 0.01$

opportunity recognition (i.e., number of opportunities and innovativeness of opportunities). Wu et al. (2008) found that there was no significant effect of a leader's prevention focus on employee creativity. Thus, our non-significant finding is in line with these researchers' contention that a prevention focus may not at all be related to "risky" behavior which, in the context of our study, underpins the association between risk propensity and entrepreneurial intention.

Theoretical Implications

This study offers three main theoretical implications. First, we identify two self-regulatory processes as mediating mechanisms in the risk propensity-entrepreneurial intention relationship. Following the argument that the influence of personal traits on individuals' behavior is carried out through explicit cognitive processes (Baron 2008), our findings suggest that risk propensity positively affects individuals' entrepreneurial intention through increasing entrepreneurial self-efficacy and adopting promotion focus. Hence, by documenting the mediating role of self-regulation, this study complements and extends previous study by Zhao et al. (2005) which investigates the underlying mechanism of entrepreneurial self-efficacy in the relationship between risk propensity and entrepreneurial intention, and provides a more comprehensive understanding of the set of the underlying self-regulatory mechanisms in this relationship. Relatedly, the post hoc analyses reveal the interaction and moderated meditation effects of promotion focus and entrepreneurial self-efficacy. The results suggest that individuals with stronger entrepreneurial self-efficacy and promotion focus are much more likely to engage in entrepreneurship. Further, the results suggest that entrepreneurial self-efficacy mediates the effect of risk propensity on entrepreneurial intention when individuals have high promotion focus but not when they have low promotion focus. These findings are in line with prior argument that self-efficacy and regulatory focus jointly affect individual's behavior (Higgins 2000; Bandura 1991), and complement the empirical work on the joint effects of self-efficacy and regulatory focus in entrepreneurial intention research (Tumasjan and Braun 2012). Thus, the current study advances the self-regulation theory and our understanding of the risk propensity– entrepreneurial intention linkage.

Second, this study provides new insights on the role of regulatory focus in entrepreneurship research. Previous studies have concentrated on examining the role of regulatory focus in opportunity recognition (Tumasjan and Braun 2012), opportunity exploitation (Hmieleski and Baron 2008), decision heuristics (Bryant 2007), moral awareness (Bryant 2009), and employee creativity (Wu et al. 2008), among other things. These studies are based on a later stage in the entrepreneurship development process. In contrast, we focus explicitly on the early stage of entrepreneurial process by examining the role of self-regulatory mechanisms in entrepreneurial intention formation. In this way, we answer calls to study entrepreneurship in pre-institutional settings (Davidsson 2003). This study also complements the findings of Fitzsimmons and Douglas (2011) who only used an aspect of regulatory focus theory (prevention focus) to explain the negative interaction effect of perceptions of feasibility and desirability in entrepreneurial intention formation. In contrast, our study shows that promotion focus plays an important role in accentuating the effects of risk orientation on entrepreneurial intention, whereas prevention focus does not seem to play a significant role in this relationship. Thus, this study provides greater specificity in explaining how regulatory focus functions as a mediator of the relationship between risk propensity and entrepreneurial intention.

Finally, this study conducted in the Chinese context, provides additional evidence for the positive effects of risk propensity on individual's entrepreneurial intention. Previous research findings also support this positive relationship in

mature market countries (e.g., Caliendo et al. 2009). Thus, the preliminary idea about the universal importance of risk propensity in determining entrepreneurial intention may be supported. On the other hand, the finding of significant predictive power of risk propensity on entrepreneurial intention through entrepreneurial self-efficacy is consistent with results from individualist country contexts, such as the United States (e.g., Zhao et al. 2005). The consistency of these results implies their universal importance in the entrepreneurial intention formation processes across cultural contexts.

Practical Implications

This study also offers two major practical implications. First, the current research may be helpful to intrapreneurship of organizations. Intrapreneurship refers to entrepreneurship within existing organizations (Antoncic and Hisrich 2001). It helps existing organizations to renew and revitalize businesses, to innovate, and to enhance overall business performance (Parker 2011). Building intrapreneurship and developing intrapreneurs are essential for organizational success. Our results suggest that if organizations could figure out employees' risk propensity and levels of self-regulatory focus, they may be able to place employees with the disposition(s) that match the entrepreneurial job requirements, which, in turn, would result in greater efficiency and performance for the organization (Brown et al. 2005). For instance, if a particular job demands a person who should possess the spirit of intrapreneurship and innovation, the leaders or managers could select for that position an employee with high risk propensity.

Second, this research may provide implications for Chinese public policy for encouraging and promoting entrepreneurship. We find that the effect of risk propensity is transmitted through entrepreneurial self-efficacy and promotion focus. This suggests that the Chinese government could encourage entrepreneurship by utilizing its financial institutions to provide low-interest loans for starting new ventures, and strengthening intellectual property protection. Besides, as existing literature pointed, these self-regulation factors can be improved by modeling others who have run successful businesses (Bullough et al. 2014). Through government-controlled media and government-sponsored conferences and speaking events, the government of China could showcase stories of successful new ventures and entrepreneurs, and integrate entrepreneurship curriculum into the educational system, among other things. These actions would help boost entrepreneurial self-efficacy and promotion focus among its citizens.

Limitations and Future Research

This study has several limitations that could be addressed in future research. First, because all the variables in present research were measured at the same point in time, we were unable to document the dynamic processes involved in the formation of entrepreneurial intention. Also, the use of cross-sectional data precluded making causal inferences (Bae et al. 2014). Hence, we recommend the use of longitudinal designs in future research to address this limitation.

Second, we only focused on two specific self-regulatory mechanisms, although other mechanisms, such as self-regulation of motivation and action through goal setting (Latham and Locke 1991; Wood and Bandura 1989), and different types of self-discrepancies (i.e., between an individual's actual self-state and ideal self-state) which generate emotional discomfort, prompting some kinds of resolution (Higgins 1987). Additionally, in the future, researchers could empirically investigate how "regulatory fit" (Higgins 2000) functions as mediator of the risk propensity-entrepreneurial intention relationship. This concept refers to the fit between an individual's regulatory orientation (promotion vs. prevention focus) and the means (*eagerness* vs. *vigilance*) used to accomplish desired goals or outcomes. Accordingly, a good fit is established when an individual with a promotion focus uses eagerness means, which ensure 'hits' and ensure against errors of omission or 'misses', or when an individual with a prevention focus uses vigilance means, which ensure the absence of negative outcomes and ensure against the presence of negative outcomes (Higgins 2000). Thus, assessing the mediating role of regulatory fit in the relationship between risk propensity and entrepreneurial intention could generate additional insights.

Third, the current study examined the influences of personal factors (i.e., risk propensity and self-regulation) on entrepreneurial intention, but did not consider the effects of environmental factors, such as social, political and economic factors that create and shape the context for entrepreneurial activity (Bird 1988). As researchers have suggested, entrepreneurial intention is shaped and regulated by internal dispositions (such as one's chronic regulatory orientation), and environmental influences (Bandura 1989; Bird 1988). Thus, future studies investigating the extent to which both sets of factors affect the formulation of entrepreneurial intention would advance understanding.

Finally, despite the use of several control variables in current study, including gender, age, education, marriage, tenure, position, and department, additional control variables (e.g., industry to which the employees belong) should be considered in future research. Furthermore, as research has suggested, gender plays an important role in the formation of entrepreneurial intention (e.g., Shinnar et al. 2012). Thus, assessing the effect of gender (both direct and moderating effects) on risk propensity, entrepreneurial self-efficacy, regulatory foci, and entrepreneurial intention could generate more in-depth insights.

Compliance with Ethical Standards

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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