The Multilevel Relationship between Entrepreneurial Progress and Entrepreneurial Effort: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Regulatory Focus

Authors: Qirong Li, Li Chunxuan, Yang Yanyu, Li Qirong

Date: 2022-09-21T00:00:00+00:00

Abstract

Based on the motivational self-regulation framework, this research explores the effect of prior entrepreneurial effort on subsequent entrepreneurial progress and its underlying mechanism—the joint effect of entrepreneurial self-efficacy and regulatory focus—through two independent studies. Conducting longitudinal surveys of 115 novice entrepreneurs over a 6-month period (Study 1) and 70 novice entrepreneurs over a 15-month period (Study 2), we respectively constructed a multilevel cross-temporal mediation effect testing model and a multilevel linear regression model for data analysis. The findings indicate: (1) entrepreneurial self-efficacy plays a mediating role in the relationship between prior entrepreneurial progress and subsequent entrepreneurial effort; (2) overall (i.e., without considering the effect of regulatory focus), prior entrepreneurial progress positively influences entrepreneurial self-efficacy, which negatively affects subsequent entrepreneurial effort; (3) a higher level of promotion focus strengthens the negative effect of entrepreneurial self-efficacy on subsequent entrepreneurial effort, thereby intensifying the indirect negative relationship between prior entrepreneurial progress and subsequent entrepreneurial effort; (4) a higher level of prevention focus weakens the negative effect of entrepreneurial self-efficacy on subsequent entrepreneurial effort, thereby attenuating the indirect negative relationship between prior entrepreneurial progress and subsequent entrepreneurial effort. These results reconcile conflicting conclusions from previous research on entrepreneurial self-regulation processes, extend the motivational self-regulation framework and regulatory focus perspective in the entrepreneurial context, and contribute to revealing the dynamism and complexity of the entrepreneurial process.

Full Text

A Longitudinal Multilevel Approach to Examine the Relationship Between New Venture Progress and Entrepreneurial Effort: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Regulatory Focus

Li Qirong[1],[2], **Li Chunxuan**[1], **Yang Yanyu**[1]
([1] School of Business and Management, Jilin University, Changchun 130012, China)
([2] JLU Research Institute of Innovation and Entrepreneurship, Jilin University, Changchun 130022, China)

Abstract

Based on the motivational self-regulation framework, this paper investigates the impact of prior entrepreneurial effort on subsequent new venture progress and its underlying mechanisms through two independent studies, focusing on the joint effects of entrepreneurial self-efficacy and regulatory focus. Using a six-month longitudinal survey of 115 nascent entrepreneurs (Study 1) and a fifteen-month tracking survey of 70 nascent entrepreneurs (Study 2), we constructed a multilevel cross-temporal mediation model and a hierarchical linear regression model for data analysis. The results reveal that: (1) Entrepreneurial self-efficacy mediates the relationship between prior new venture progress and subsequent entrepreneurial effort; (2) Overall (i.e., without considering regulatory focus), prior new venture progress positively influences entrepreneurial self-efficacy, which in turn negatively affects subsequent entrepreneurial effort; (3) The higher the promotion focus level, the stronger the negative impact of entrepreneurial self-efficacy on subsequent entrepreneurial effort, thereby strengthening the indirect negative relationship between prior new venture progress and subsequent entrepreneurial effort; (4) The higher the prevention focus level, the weaker the negative impact of entrepreneurial self-efficacy on subsequent entrepreneurial effort, thereby weakening the indirect negative relationship between prior new venture progress and subsequent entrepreneurial effort. These findings reconcile conflicting conclusions from previous research on entrepreneurial self-regulation, extend the motivational self-regulation framework and regulatory focus perspective in entrepreneurial contexts, and provide valuable insights into the dynamic and complex nature of the entrepreneurial process.

Keywords: new venture progress, entrepreneurial self-efficacy, entrepreneurial effort, promotion focus, prevention focus
Classification Code: B849:C93

1. Research Question

In today' s most challenging and rapidly changing business environment, entrepreneurs' proactive adoption and adjustment of their positive behaviors (such

as effort) represent key internal factors that enable them to exercise personal agency and drive entrepreneurial goal achievement (Uy et al., 2015; 陈建安等, 2021). This process requires continuous self-direction and self-motivation, leading scholars to frequently employ self-regulation theory to examine the entrepreneurial process (e.g., Lex et al., 2020). Self-regulation theory posits that individuals adjust their attention, cognition, emotion, and behavior based on feedback during goal pursuit to achieve their ultimate objectives. In entrepreneurial activities, the smoothness of prior progress serves as crucial feedback that decisively influences how entrepreneurs adjust subsequent actions, attracting considerable academic attention. However, research from different perspectives has yet to reach consensus on whether entrepreneurs increase or decrease their entrepreneurial effort after achieving better progress (Uy et al., 2015; 李其容等, 2021). Therefore, a more nuanced analysis of the complex relationship between prior new venture progress and subsequent entrepreneurial effort is urgently needed to provide empirical evidence for the development of entrepreneurs' positive behaviors.

We argue that the motivational self-regulation framework offers a potential approach to explaining why contradictory relationships exist between prior new venture progress and subsequent entrepreneurial effort. This framework suggests that individuals combine current situation evaluations with their own motivational tendencies to determine the direction and intensity of subsequent behavior (Sun et al., 2013; Li et al., 2020; Strauman & Wilson, 2010). Specifically, as one source of current situation evaluation, the level of new venture progress alone may not determine whether entrepreneurs allocate more or less subsequent effort. Consequently, neglecting entrepreneurs' motivational tendencies may have caused conflicting findings in previous research regarding the relationship between prior progress and subsequent effort. Therefore, this study seeks to deeply analyze the dynamic process of entrepreneurial self-regulation based on the motivational self-regulation framework and clarify the mechanisms through which new venture progress exerts complex effects on entrepreneurial effort.

Self-efficacy, as a cognitive outcome of individuals' evaluation of their current situation combined with task progress, constitutes one of the key elements of the motivational self-regulation framework (Sun et al., 2013; Li et al., 2020) and plays an important mediating role in how task progress influences subsequent behavior. Inconsistent research conclusions regarding the relationship between self-efficacy and subsequent behavior (Sitzmann & Yeo, 2013) may be the source of the complex relationship between prior new venture progress and subsequent entrepreneurial effort. Differences in motivational tendencies lead individuals to adopt different self-regulation strategies, which result in differential interpretations of self-efficacy (Sun et al., 2013). Regulatory focus theory within self-regulation theory proposes that individuals develop two distinct self-regulation motivational tendencies when pursuing goals: promotion focus and prevention focus (Higgins, 1998). Previous research indicates that individuals with different regulatory foci follow different fundamental self-regulation logics

in their thinking, emotions, and behavior (Lanaj et al., 2012). Therefore, this study introduces the regulatory focus perspective as a direct manifestation of motivational tendencies to examine how these two regulatory focus tendencies influence the effect of entrepreneurial self-efficacy, aiming to unravel the reasons behind the complex impact of new venture progress on entrepreneurial effort.

In summary, this study conducts two content-continuous, logically coherent, and mutually corroborating studies to deepen understanding of entrepreneurs' self-regulation processes in entrepreneurial activities (theoretical model shown in Figure 1 [Figure 1: see original paper]). We first conducted an exploratory study (Study 1) to examine whether entrepreneurial self-efficacy mediates the relationship between prior new venture progress and subsequent entrepreneurial effort based on the motivational self-regulation framework. Building on Study 1' s conclusions, the main study (Study 2) further analyzes how entrepreneurs' regulatory focus moderates the relationship between entrepreneurial self-efficacy and entrepreneurial effort, thereby moderating the relationship between prior new venture progress and subsequent entrepreneurial effort. The combination of exploratory and main studies, besides facilitating theoretical development and hypothesis generation, employs different analytical models across two independently conducted longitudinal surveys. This approach not only compensates for potential methodological limitations but also enables mutual validation of the baseline relationship (i.e., the mediating role of entrepreneurial self-efficacy) to ensure robustness.

2. Study 1: The Relationship Between Prior New Venture Progress and Subsequent Entrepreneurial Effort—The Role of Entrepreneurial Self-Efficacy

[Figure 1: see original paper] Research Theoretical Model

2.1.1 Literature Review

Entrepreneurial effort refers to entrepreneurs' behavioral investment over a period of time to achieve entrepreneurial goals (Foo et al., 2009; Uy et al., 2015) and represents a crucial resource that tangibly advances entrepreneurial activities. Previous research has primarily examined differences in entrepreneurial effort levels among entrepreneurs with different stable characteristics, subjective feelings, or in different environments (e.g., Mueller & Thomas, 2001; 李纪珍, 李论, 2018; Bowen & De Clercq, 2008). Recent scholarship has adopted a process perspective, finding that entrepreneurs' effort levels change continuously over time (Foo et al., 2009) and viewing prior entrepreneurial activity progress as a key basis for entrepreneurs to continuously revise their effort levels (Uy et al., 2015; 李其容等, 2021). Although these studies employed longitudinal designs, they failed to reach consistent conclusions regarding the effect of prior new venture progress on subsequent entrepreneurial effort.

Goal progress perception formed based on current task status represents an in-

tuitive reflection of individuals' perception of task conditions (Neal et al., 2017). This perception cannot directly affect individual self-regulation but must undergo complex cognitive processing, combining task status to form subjective evaluations before guiding subsequent behavior. Building on this, the motivational self-regulation framework further suggests that motivational tendencies influence individuals' interpretation of current situation evaluations, ultimately leading to different self-regulation processes (Sun et al., 2013). As an outcome of comparing task goals with current task status perceptions (Vancouver & Purl, 2017), self-efficacy is regarded as a key self-regulation element reflecting individuals' evaluation of their current situation and has received considerable attention in motivational self-regulation framework research.

As mentioned earlier, the motivational self-regulation framework emphasizes considering individual differences in motivational tendencies during the self-regulation process (Sun et al., 2013), while regulatory focus theory precisely addresses how individuals adopt different self-regulation strategies due to differences in approach-avoidance motivational tendencies (Higgins, 1998). Scholars exploring self-regulation processes in different task contexts have also found that regulatory focus influences the effectiveness of self-efficacy (Scholer & Higgins, 2011; Li et al., 2020). In summary, we contend that considering the conjunctional relationship between regulatory focus and entrepreneurial self-efficacy is key to understanding the complex relationship between prior new venture progress and subsequent entrepreneurial effort.

2.1.2 Hypothesis Development

As a motivational construct reflecting individuals' beliefs about their ability to achieve goals, self-efficacy plays a crucial role in the self-regulation process (Bandura, 1991). As Lord et al. (2010) noted, proximity between current states and desired goals can significantly stimulate self-efficacy, whereas distance reduces individuals' beliefs in their ability to execute tasks and achieve goals. Additionally, performance feedback triggers emotional responses, with positive performance feedback generating positive emotions that enhance self-efficacy (Bandura, 1997; Locke & Latham, 2002). With longitudinal designs gradually adopted in self-regulation research, the positive effect of prior progress on subsequent self-efficacy has been confirmed across different task contexts and timeframes (Beck & Schmidt, 2012; da Motta Veiga & Turban, 2018). Entrepreneurship research also finds that entrepreneurial self-efficacy plays an important role in the self-regulation process, with successful entrepreneurial experiences boosting entrepreneurs' confidence and enthusiasm for entrepreneurial activities (Newman et al., 2019; Gielnik et al., 2015).

However, different self-regulation theoretical perspectives offer divergent predictions regarding how entrepreneurial self-efficacy affects subsequent entrepreneurial effort, leading to conflicting conclusions about the effect of prior new venture progress on subsequent effort. On one hand, the self-regulation view of expanding discrepancies suggests that high self-efficacy

guides individuals to pursue goals more vigorously (Tolli & Schmidt, 2008). High entrepreneurial self-efficacy means individuals evaluate entrepreneurial activities as less difficult and goal achievement as more likely (Bandura, 2012; Vancouver et al., 2008), making entrepreneurial activities a more attractive option. Moreover, individuals with high self-efficacy are sufficiently confident in their abilities, set higher future goals, and participate more actively in task activities (Bandura, 1991, 1997). Indeed, social cognitive theory also supports the positive effect of self-efficacy (Bandura, 1997). Numerous existing entrepreneurship studies find that entrepreneurial self-efficacy is associated with various positive behaviors in the entrepreneurial process, such as continuous work (Cassar & Friedman, 2009) and persistence (Cardon & Kirk, 2015).

Self-regulation theory research suggests that the "input-comparison-output" process constitutes the core of the self-regulation cycle (Vohs & Baumeister, 2016). Individuals compare perceived task performance with preset task goals, and positive or negative comparison results affect their beliefs about their own abilities, thereby influencing subsequent behavior or performance (Sitzmann & Yeo, 2013). Combining the above arguments, we believe that prior new venture progress, as an important task performance input, positively affects individuals' beliefs about their entrepreneurial abilities (i.e., entrepreneurial self-efficacy), which in turn influences subsequent entrepreneurial effort. Based on this, we propose the following hypothesis:

H1a: Entrepreneurial self-efficacy mediates the effect of prior new venture progress on subsequent entrepreneurial effort; specifically, prior new venture progress positively influences subsequent entrepreneurial effort through its positive effect on entrepreneurial self-efficacy.

However, other research suggests (Vancouver et al., 2001, 2002) that the self-regulation process has a discrepancy-reduction tendency, meaning that individuals regulate their effort to maintain desired states. Individuals with high self-efficacy may inappropriately interpret prior progress and their own abilities, believing that positive outcomes will be achieved regardless of behavioral approach (Schmitt et al., 2018). This may lead individuals to subsequently relax, reduce effort investment in current goals, and allocate it to other goals (Schmidt & DeShon, 2010; Vancouver et al., 2002). On the other hand, higher self-efficacy may also cause individuals to misestimate the discrepancy between prior progress and desired goals (Vancouver, 2012). Particularly for most entrepreneurs, lack of entrepreneurial experience and ambiguity in perceived progress can lead them into erroneous assessments (Schmidt & DeShon, 2010; Bandura, 2012). Theories such as control theory also support this negative view of self-efficacy effects (Carver & Scheier, 1998; Powers, 1973). Indeed, some entrepreneurship research finds that entrepreneurs with high entrepreneurial self-efficacy may be unwilling to seek additional investment and financing opportunities to continue developing their businesses because they believe their ventures are already strong (Troise & Tani, 2021).

Based on the aforementioned self-regulation logic, we can see that smooth

progress in prior entrepreneurial activities will also generate entrepreneurial self-efficacy, but high entrepreneurial self-efficacy may lead to reduced subsequent entrepreneurial effort due to overly positive assessments and emotions. Based on this, we propose the following hypothesis:

H1b: Entrepreneurial self-efficacy mediates the effect of prior new venture progress on subsequent entrepreneurial effort; specifically, prior new venture progress negatively influences subsequent entrepreneurial effort through its positive effect on entrepreneurial self-efficacy.

2.2.1 Participants

This study recruited first-time entrepreneurs whose ventures were no older than six months and still active from entrepreneurship industrial parks in Jilin, Shandong, Guangdong, and Sichuan provinces through face-to-face interviews, phone calls, or online video conferences. Participants completed three consecutive survey waves. We invited 307 nascent entrepreneurs for the first wave, and after eliminating questionnaires with incorrect answers, missing responses, or invalid personal tracking information, we obtained 200 valid participants for the first wave, who were then followed up in subsequent surveys.

Trained research assistants distributed electronic questionnaires online at three-month intervals. After excluding participants who completed invalid questionnaires at any wave, we obtained complete tracking data from 115 participants[1]. Each entrepreneur who completed all three waves received a USB drive, business card holder, or other souvenirs, and we promised to provide timely feedback on research conclusions and corresponding management consulting advice after study completion.

Among the final sample, 65 were male (56.52%) and 50 were female (43.48%). Participants' ages at the first survey ranged from 25 to 46, with a mean age of 35.96 years (SD = 5.58). Regarding education, 19.13% held a junior college degree or below (n = 22), 33.91% held a bachelor' s degree (n = 39), 34.78% held a master' s degree (n = 40), and 12.17% held a doctoral degree (n = 14). Chi-square and t-test results showed no significant differences between attrition and complete participants in gender ($^2(1) = 0.27$, p = 0.60), age (t(198) = 0.78, p = 0.44), or education ($^2(3) = 1.18$, p = 0.76).

2.2.2 Measures

Entrepreneurial Effort. Morris et al. (2009) noted that entrepreneurs must simultaneously complete both managerial and innovative work—two equally important and indispensable task types, with either alone failing to reflect entrepreneurs' effort. Gielnik et al. (2015) found that entrepreneurs invest effort not only in immediately required tasks but also in tasks beyond current needs to prepare for future entrepreneurial development. To comprehensively measure entrepreneurial effort, this study adopted Gielnik et al.' s (2015) perspective and integrated temporal characteristics into Morris et al.' s (2009) entrepreneurial

effort scale. The integrated scale contains four items, with sample items such as: "How much effort did you devote to managerial tasks that need to be completed immediately?" and "How much effort did you devote to innovative tasks beyond those requiring immediate completion?" A 7-point Likert scale was used, ranging from 1 ("no effort at all") to 7 ("complete effort"). Cronbach' s α for the three measurements were 0.81, 0.81, and 0.89.

Entrepreneurial Self-Efficacy. We used Anna et al.' s (2000) entrepreneurial self-efficacy scale, which includes four dimensions and 12 items. A sample item is: "How confident are you in your ability to identify market opportunities?" A 7-point Likert scale was used, ranging from 1 ("not confident at all") to 7 ("completely confident"). Cronbach' s α for the three measurements were 0.92, 0.92, and 0.93.

New Venture Progress. We adopted Gielnik et al.' s (2015) new venture progress scale, which contains seven items. A sample item is: "To what extent do you feel you have achieved specific goals related to your product or service?" A 7-point Likert scale was used, ranging from 1 ("not achieved at all") to 7 ("completely achieved"). Cronbach' s α for the three measurements were 0.89, 0.87, and 0.89.

2.2.3 Procedure

Before the first survey, we explained the research purpose and data collection procedures to all participants, assured data confidentiality, and promised timely feedback on research conclusions. Trained graduate students in management psychology then distributed electronic questionnaires online. In the first survey, participants completed the tracking questionnaire containing all repeated measures and a demographic characteristics survey. Two follow-up surveys were conducted at predetermined times, with essentially identical content and procedures, only randomizing the order of questionnaire items. Participants required approximately 8–12 minutes to complete each survey.

2.2.4 Data Analysis

We used R 3.2.3 software for data organization and analysis. First, we conducted tests for attrition patterns, reliability and validity, common method bias, and measurement invariance on the tracking data. Then, we used Pearson correlation analysis to examine the relationships among new venture progress, entrepreneurial effort, and entrepreneurial self-efficacy across the three waves. Finally, to test the cross-temporal mediating effect of entrepreneurial self-efficacy in the relationship between prior new venture progress and subsequent entrepreneurial effort while avoiding potential overestimation of cross-temporal effects due to between-person variance, we employed a random intercept cross-lagged panel model (RI-CLPM) to analyze the cross-temporal mediation effect (Wu et al., 2018) and used bootstrapping to test the indirect effects.

2.3.1 Common Method Bias Test

Since all variables were self-reported, common method bias might exist. After data collection, we used Harman' s single-factor test (周浩, 龙立荣, 2004) and the marker-variable technique (Podsakoff et al., 2003) to test for common method bias across the three time points. In Harman' s single-factor test results, three factors with eigenvalues greater than 1 were extracted at each time point, with the first factor explaining less than 40% of variance (T1: 27.51%; T2: 27.93%; T3: 30.02%). Following Du et al.' s (2014) specific marker-variable technique procedures, we found that adjusted inter-variable correlations did not change substantially, indicating that common method bias did not significantly alter variable relationships. In summary, no serious common method bias problem existed in this study.

2.3.2 Confirmatory Factor Analysis

We conducted confirmatory factor analysis on data from all three time points to test discriminant validity and compared corresponding fit indices. Results showed that the three-factor model (hypothesized model) at all time points had acceptable fit indices and outperformed alternative models[2]. Multilevel confirmatory factor analysis on all data including new venture progress, entrepreneurial effort, and entrepreneurial self-efficacy showed the three-factor model (hypothesized model) had optimal fit (^{2} = 370.68; df = 454; CFI = 1.00; TLI = 1.03; RMSEA = 0.000; SRMRwithin = 0.05; SRMRbetween = 0.09). This indicates that the factor structure matched expectations, variables had high discriminant validity, and measurement met research requirements.

2.3.3 Descriptive Statistics and Correlation Analysis

Table 1 presents descriptive statistics and correlation analysis results. The results show significant positive correlations among variables across different time points, between new venture progress and entrepreneurial self-efficacy, and between entrepreneurial self-efficacy and entrepreneurial effort. However, new venture progress and entrepreneurial effort did not show the significant positive correlation found in previous cross-sectional research, suggesting complex relationships that require further testing with random intercept cross-lagged analysis.

2.3.4 Longitudinal Measurement Invariance Test

As shown in Table 2 , chi-square difference tests between adjacent configural models were all non-significant, and differences in fit indices were below critical values (ΔCFI $\leq$ 0.01) (Cheung & Rensvold, 2002). This indicates that measurement invariance held, meaning the repeated measurements of new venture progress, entrepreneurial effort, and entrepreneurial self-efficacy scales in Study 1 were reliable.

2.3.5 Hypothesis Testing

To determine the cross-temporal mediating effect model of entrepreneurial self-efficacy in the relationship between prior new venture progress and subsequent entrepreneurial effort, we built upon Wu et al.' s (2018) recommended model and constructed a model with freely estimated autoregressive and cross-lagged coefficients (M1) and a model with equality constraints (M2). Model fit is shown in Table 3. Comparing M1 and M2 reveals that relaxing equality constraints on autoregressive and cross-lagged path coefficients increases model complexity without significantly improving model fit ($\Delta\ ^2/\Delta$df(8) = 0.93, p = 0.33). Indeed, Wu et al. (2018) suggest that in cross-lagged models with more than two waves, autoregressive and cross-lagged path coefficients are often set as equal, particularly in studies with equal time intervals, where equality constraints are more reasonable (Little, 2013).

Table 4 presents path coefficients for the cross-temporal mediation model of prior new venture progress, entrepreneurial effort, and subsequent entrepreneurial self-efficacy[3]. Cross-lagged path results show that Tn-1 new venture progress positively predicted Tn entrepreneurial self-efficacy (β = 0.21, p = 0.010), while Tn-1 entrepreneurial self-efficacy negatively predicted Tn entrepreneurial effort (β = -0.29, p = 0.012). Further bootstrapping analysis (5,000 iterations) showed that the within-person indirect effect of "new venture progress (Tn-1) → entrepreneurial self-efficacy (Tn) → entrepreneurial effort (Tn+1)" was -0.06 (SE = 0.03), with a 95% confidence interval of [-0.16, -0.004], indicating a significant mediating effect. This supports hypothesis H1b.

Additionally, following Liang et al. (2017), we added direct and reverse relationship paths not hypothesized in the above model as a supplementary analysis model to rule out potential interference from alternative relationships. Specifically, we added all other possible influence paths among variables to the above hypothesized model (M2) to form a complete random intercept cross-lagged model. Although fit indices showed good model fit (^{2} = 50.87, df = 23, CFI = 0.93, TLI = 0.90, RMSEA = 0.10, SRMR = 0.08), estimates of these added paths were all non-significant, and the reverse cross-temporal mediation effect (entrepreneurial effort (Tn-1) → entrepreneurial self-efficacy (Tn) → new venture progress (Tn+1)) was also non-significant. Moreover, adding these paths did not change the original hypothesis test results—entrepreneurial self-efficacy still played a cross-temporal mediating role between prior new venture progress and subsequent entrepreneurial effort—indicating robust research conclusions.

3. Study 2: The Conjunctive Effect of Entrepreneurial Self-Efficacy and Regulatory Focus

Although Study 1 confirmed the negative effect of entrepreneurial self-efficacy and explained the negative impact of prior new venture progress on subsequent entrepreneurial effort, this result only represents the overall pattern of entrepreneurs. It confirms the mediating role of entrepreneurial self-efficacy in the

relationship between prior new venture progress and subsequent entrepreneurial effort but does not mean that all entrepreneurs follow the same self-regulation pattern. As the motivational self-regulation framework and previous arguments suggest, analyzing motivational tendencies alongside self-efficacy is necessary to accurately dissect individuals' subsequent behavioral choices. Therefore, building on Study 1' s conclusions, Study 2 further explores the conjunctive effect of entrepreneurial self-efficacy and regulatory focus to more finely analyze the complex impact of prior new venture progress on subsequent entrepreneurial effort.

3.1 Hypothesis Development

Individuals with promotion focus pursue advancement, improvement, and achievement, focusing more on potential gains and tending to use risky strategies in decision-making, willing to accept losses to maximize possible benefits (Molden & Finkel, 2010). In pursuing goal achievement, high promotion focus individuals only show strong positivity when facing challenging situations that offer growth and achievement opportunities (Ferris et al., 2013). Meanwhile, Crowe and Higgins (1997) found that promotion-focused individuals are willing to make more attempts to achieve goals even when facing repeated failures. Low entrepreneurial self-efficacy indicates that entrepreneurs believe they lack ability and may encounter difficulties in achieving entrepreneurial goals, and such real challenges may cause promotion-focused entrepreneurs to invest more resources. Conversely, if individuals believe current goals can be easily accomplished, they are more likely to shift attention to other challenging tasks (Scholer & Higgins, 2011). High entrepreneurial self-efficacy leads entrepreneurs to perceive entrepreneurial task situations as less challenging, making high promotion-focused entrepreneurs more likely to lose focus and motivation for entrepreneurial activities. Indeed, Freitas et al. (2002) also noted that high promotion-focused individuals are more concerned with future achievements, lack sufficient motivation for immediate action, and tend to simply get by. Empirical evidence from entrepreneurship research also supports that promotion focus strengthens the negative effect of entrepreneurial self-efficacy (Tumasjan & Braun, 2012). In summary, for entrepreneurs with high promotion focus, low entrepreneurial self-efficacy is more likely to stimulate their fighting spirit to overcome difficulties and continuously invest resources, while high entrepreneurial self-efficacy entrepreneurs perceive a lack of challenge and shift their attention.

Prevention-focused individuals pursue safety and responsibility, generally hoping to avoid losses due to their own decision-making mistakes, and thus tend to adopt conservative strategies to avoid losses and ensure safety (Molden & Finkel, 2010). Unlike promotion focus, high prevention-focused individuals have stronger aversion to failure and loss and are more sensitive to negative discrepancies. On one hand, prevention-focused individuals only show positive behavior when they believe they can complete tasks well; otherwise, they avoid

task-related behavior (Higgins, 1997, 1998). High entrepreneurial self-efficacy represents positive perceptions of expected gains from entrepreneurial activities, which will encourage high prevention-focused entrepreneurs to invest more resources. However, when entrepreneurial self-efficacy is low, prevention-focused entrepreneurs' sensitivity to failure possibilities and tendency to experience negative emotions (Higgins, 1998) may lead them to anticipate potential failure and unpleasantness, which consumes emotional resources and results in less task effort (Bandura, 1997). On the other hand, high prevention-focused individuals' anxiety about failure during task execution also motivates them to adopt more cautious approaches to complete current tasks and avoid goal replacement (Baas et al., 2008). Especially when final goals remain unachieved, higher prevention-focused entrepreneurs are more willing to persist with original action paths (Jiang & Papi, 2021). In summary, for high prevention-focused entrepreneurs, low entrepreneurial self-efficacy more easily triggers frustration and reduces effort, while high entrepreneurial self-efficacy enables them to focus more on entrepreneurial activities and increase entrepreneurial effort. Based on this, we propose:

H2a: Promotion focus moderates the relationship between entrepreneurial self-efficacy and subsequent entrepreneurial effort. When promotion focus is higher, entrepreneurial self-efficacy has a stronger negative effect on subsequent entrepreneurial effort.

H2b: Prevention focus moderates the relationship between entrepreneurial self-efficacy and subsequent entrepreneurial effort. When prevention focus is higher, entrepreneurial self-efficacy has a stronger positive effect on subsequent entrepreneurial effort.

Combining the mediating role of entrepreneurial self-efficacy (Study 1) with the above hypotheses H2a/H2b, we propose that regulatory focus moderates the indirect relationship between prior new venture progress and subsequent entrepreneurial effort:

H3a: Promotion focus moderates the indirect relationship between prior new venture progress and subsequent entrepreneurial effort: when promotion focus is higher, prior new venture progress has a stronger negative effect on subsequent entrepreneurial effort.

H3b: Prevention focus moderates the indirect relationship between prior new venture progress and subsequent entrepreneurial effort: when prevention focus is higher, prior new venture progress has a stronger positive effect on subsequent entrepreneurial effort.

3.2.1 Participants

Following Study 1' s participant selection principles and procedures, this study conducted surveys in entrepreneurship industrial parks in Zhejiang, Shanghai, Jiangsu, and Beijing, inviting 289 nascent entrepreneurs for the first wave. After

eliminating invalid questionnaires, we obtained 200 valid participants for the first wave and conducted subsequent tracking.

Follow-up surveys were conducted at three-month intervals. After excluding participants who completed invalid questionnaires at any wave, we obtained complete tracking data from 70 nascent entrepreneurs. Consistent with Study 1, all participants who completed the full tracking survey received souvenirs and research feedback promises. Among the final sample, 45 were male (64.29%) and 25 were female (35.71%). Participants' ages at the first survey ranged from 28 to 54, with a mean age of 42.44 years (SD = 7.67). Regarding education, 21.43% held a junior college degree or below, 31.43% held a bachelor' s degree, 28.57% held a master' s degree, and 18.57% held a doctoral degree. Chi-square and t-test results showed no significant differences between attrition and complete participants in gender ($^2(1) = 0.42$, p = 0.52), age (t(198) = 1.10, p = 0.27), or education ($^2(3) = 1.93$, p = 0.59).

3.2.2 Measures

Entrepreneurial Effort, Entrepreneurial Self-Efficacy, and New Venture Progress. The same scales as in Study 1 were used. Cronbach' s α for entrepreneurial effort across six measurements were 0.84, 0.89, 0.87, 0.87, 0.89, and 0.92. For entrepreneurial self-efficacy, Cronbach' s α were 0.93, 0.93, 0.93, 0.93, 0.94, and 0.94. For new venture progress, Cronbach' s α were 0.89, 0.88, 0.88, 0.87, 0.89, and 0.88.

Regulatory Focus. We used Lockwood et al.' s (2002) regulatory focus scale, comprising promotion focus and prevention focus subscales. The promotion focus subscale contains nine items, with a sample item: "I often think about how I will achieve my hopes and aspirations." The prevention focus subscale also contains nine items, with a sample item: "I often worry that I fail to live up to my responsibilities." A 7-point Likert scale was used, ranging from 1 ("completely disagree") to 7 ("completely agree"). Cronbach' s α coefficients were 0.87 and 0.86 for the two subscales, respectively.

Control Variables. Previous research indicates that demographic variables affect entrepreneurs' cognition and behavior (Hechavarria & Ingram, 2016). Therefore, this study controlled for entrepreneur gender (female = 1, male = 0), age (in years), marital status (cohabiting or married = 1, other = 0), and education (junior college or below = 1, bachelor' s = 2, master' s = 3, doctoral = 4).

3.2.3 Procedure

Study 2' s procedure was essentially identical to Study 1, with the addition of the regulatory focus questionnaire in the first survey.

3.2.4 Data Analysis

The basic statistical analysis in Study 2 was consistent with Study 1. However, Study 2 used Mplus 8.0 software to build hierarchical linear regression models following Li et al. (2020). This model was adopted to better examine how between-person variables (i.e., regulatory focus) moderate within-person relationships (i.e., the aforementioned relationships among new venture progress, entrepreneurial effort, and self-efficacy). Additionally, following Raudenbush and Bryk (2002), we person-centered the repeatedly measured variables of new venture progress, entrepreneurial self-efficacy, and entrepreneurial effort to prevent overestimation of relationships at the within-person level. Study 2 also used Bayesian estimation rather than maximum likelihood estimation because Bayesian estimation can handle non-normally distributed data (Muthén & Asparouhov, 2012) and provides higher statistical power for complex models such as hierarchical linear regression with moderators (Yuan & MacKinnon, 2009).

3.3.1 Common Method Bias Test

Consistent with Study 1, Study 2 used Harman' s single-factor test and marker-variable technique to test for common method bias across six time points. In Harman' s single-factor test results, three factors with eigenvalues greater than 1 were extracted at each time point, with the first factor explaining less than 40% of variance (T1: 18.70%; T2: 29.62%; T3: 29.59%; T4: 28.93%; T5: 30.71%; T6: 30.09%). Marker-variable technique results also showed that adjusted inter-variable correlations did not change substantially, indicating that common method bias did not significantly alter variable relationships. In summary, no serious common method bias problem existed in this study.

3.3.2 Confirmatory Factor Analysis

We first conducted confirmatory factor analysis on data from the six time points for the three repeatedly measured variables (new venture progress, entrepreneurial effort, and entrepreneurial self-efficacy) to test discriminant validity and compare fit indices. Results showed that the three-factor model (hypothesized model) at all time points had acceptable fit indices and outperformed alternative models. We then conducted multilevel confirmatory factor analysis on all data including new venture progress, entrepreneurial effort, entrepreneurial self-efficacy, promotion focus, and prevention focus. Results showed the five-factor model (hypothesized model) had optimal fit (^{2} = 390.12; df = 303; CFI = 0.98; TLI = 0.98; RMSEA = 0.03; SRMRwithin = 0.03; SRMRbetween = 0.06). This indicates that the factor structure matched expectations, variables had high discriminant validity, and measurement met research needs.

3.3.3 Descriptive Statistics and Correlation Analysis

Means, standard deviations, and correlation coefficients are presented in Table 5 -1 and Table 5 -2. New venture progress and entrepreneurial self-efficacy

maintained a significant positive correlation, while the correlation between new venture progress and entrepreneurial self-efficacy was relatively weak. These results align with theoretical expectations and provide preliminary support for subsequent analyses. Similar to Study 1, ICC results indicated substantial within-person variation in repeated measures, necessitating longitudinal modeling of tracking data to test hypotheses.

3.3.4 Longitudinal Measurement Invariance Test

Using the same method as Study 1, results (see Table 6) showed that chi-square difference tests between adjacent configural models were all non-significant, and differences in fit indices were below critical values. This indicates that measurement invariance held, meaning the repeated measurements of new venture progress, entrepreneurial effort, and entrepreneurial self-efficacy scales in Study 2 were also reliable.

3.3.5 Hypothesis Testing

Table 7 presents RCGM model analysis results. Model 1 shows that Tn-1 new venture progress negatively predicted Tn+1 entrepreneurial effort (β = -0.17, p = 0.014). Model 2 shows that after adding Tn entrepreneurial self-efficacy, Tn-1 new venture progress no longer significantly predicted Tn+1 entrepreneurial effort (β = -0.10, p = 0.10), while Tn entrepreneurial self-efficacy significantly negatively predicted Tn+1 entrepreneurial effort (β = -0.23, p = 0.002). Model 4 shows that Tn-1 new venture progress positively predicted Tn entrepreneurial self-efficacy (β = 0.32, p < 0.001), again providing preliminary support for hypothesis H1b.

Building on Model 2, we added moderators and their interaction terms with the independent variable to form Model 3. Results show that promotion focus strengthened the negative relationship between Tn entrepreneurial self-efficacy and Tn+1 entrepreneurial effort (β = -0.29, p < 0.001), while prevention focus attenuated this negative relationship (β = 0.23, p = 0.016). To better illustrate the moderating effects, we plotted the moderation diagrams (Figure 2 [Figure 2: see original paper] and Figure 3 [Figure 3: see original paper]).

To further test mediation hypotheses (H1a, H1b) and moderated mediation hypotheses (H3a, H3b), Study 2 used Markov Chain Monte Carlo (MCMC) methods in Bayesian analysis. Results in Table 8 show that the indirect effect path of Tn entrepreneurial self-efficacy mediating the effect of Tn-1 new venture progress on Tn+1 entrepreneurial effort was significant (β = -0.07, SE = 0.03, 95% CI [-0.14, -0.03]), again supporting hypothesis H1b. Moderated mediation tests show that when promotion focus was high (+1 SD) versus low (-1 SD), the direct effects (SD) were -0.52 (0.12) and 0.06 (0.11), respectively, with a significant difference (β = -0.58, SE = 0.18, 95% CI [-0.94, -0.24]); indirect effects (SD) were -0.17 (0.05) and 0.02 (0.04), respectively, with a significant difference (β = -0.18, SE = 0.07, 95% CI [-0.34, -0.07]). This indicates sig-

nificant moderation by promotion focus, supporting hypotheses H2a and H3a. When prevention focus was high (+1 SD) versus low (-1 SD), direct effects (SD) were -0.002 (0.12) and -0.46 (0.12), respectively, with a significant difference (β = 0.44, SE = 0.19, 95% CI [0.08, 0.83]); indirect effects (SD) were -0.001 (0.05) and -0.14 (0.05), respectively, with a significant difference (β = 0.14, SE = 0.07, 95% CI [0.02, 0.29]). Although prevention focus moderation was also significant, at high prevention focus, prior new venture progress and entrepreneurial self-efficacy did not positively affect entrepreneurial effort; rather, the negative effect of prior new venture progress on subsequent entrepreneurial effort was attenuated. This indicates that prevention focus moderates the indirect relationship between prior new venture progress and subsequent entrepreneurial effort, but not as hypothesized in the positive direction, so hypotheses H3a and H3b are only partially supported.

3.3.6 Supplementary Analysis

As previously noted, the key to the motivational self-regulation framework is the conjunctive effect of self-efficacy and regulatory focus. This means that entrepreneurs' regulatory focus should influence the relationship between prior new venture progress and subsequent entrepreneurial effort by moderating the relationship between entrepreneurial self-efficacy and subsequent entrepreneurial effort, rather than directly moderating the relationship between prior new venture progress and subsequent entrepreneurial effort. To verify the explanatory power of the motivational self-regulation framework for our theoretical question, we further tested whether regulatory focus directly moderates the direct effect of prior new venture progress on subsequent entrepreneurial effort. Results show that neither promotion focus (β = -0.15, p = 0.30) nor prevention focus (β = -0.05, p = 0.72) could moderate the direct effect[4]. This indicates that our approach of analyzing the conjunctive effect of entrepreneurial self-efficacy and regulatory focus to unravel the complex impact of prior new venture progress on subsequent entrepreneurial effort is theoretically sound.

4. Discussion

Entrepreneurial effort is a critical resource in the entrepreneurial process, yet existing research remains insufficient regarding how entrepreneurs actively adjust subsequent entrepreneurial effort based on prior new venture progress to achieve entrepreneurial goals. Drawing on the motivational self-regulation framework, this study argues that only by jointly examining entrepreneurs' current situation evaluation (entrepreneurial self-efficacy) and motivational tendencies (regulatory focus) can we deeply understand the complex effects of prior new venture progress on subsequent entrepreneurial effort.

4.1 Theoretical Contributions

First, through two independent longitudinal studies, this study unpacks the mechanisms underlying conflicting conclusions about the relationship between prior new venture progress and subsequent entrepreneurial effort, providing rich empirical evidence for self-regulation research in entrepreneurial contexts. Previous empirical research on entrepreneurship and other topics has not reached consensus on how individuals adjust their goal-achievement behaviors based on feedback. By drawing on the motivational self-regulation framework, we find that individuals change their beliefs about their goal-achievement abilities (i.e., self-efficacy) based on prior progress, but different motivational tendencies lead to differential interpretations of self-efficacy and thus different behavioral decisions. Although these conflicting findings have led some scholars to question the explanatory power of self-efficacy (Sitzmann & Yeo, 2013), the ambiguous results actually reflect the breadth and complexity of the self-efficacy concept and should not negate its role in the self-regulation process (Beck & Schmidt, 2018). Our study not only provides a new perspective for understanding the complex relationship between prior progress and subsequent effort, validating the motivational self-regulation framework' s ability to reconcile contradictory findings in self-regulation process research, but also aligns with Schjoedt and Shaver' s (2020) entrepreneurial motivation process model, addressing the lack of empirical research on complete entrepreneurial self-regulation cycles from a longitudinal perspective.

During our research, we additionally found that entrepreneurial self-efficacy generally has a negative effect on subsequent entrepreneurial effort, providing insights for understanding domain-specific self-efficacy effects across different task contexts. It should be noted that this phenomenon can also be explained by other theories (e.g., conservation of resources theory), requiring future research to treat such issues more cautiously. Future scholars should avoid arbitrarily generalizing conclusions from general self-efficacy or domain-specific self-efficacy research to other specific task contexts.

Second, unlike previous research that mostly focused on the direct effects of regulatory focus on entrepreneurial behavior, this study identifies prevention focus (rather than promotion focus) as the conjunctive condition that stimulates entrepreneurial effort. When facing positive prior progress and consequently high entrepreneurial self-efficacy, high prevention focus encourages entrepreneurs to maintain effort levels in subsequent entrepreneurial activities, while high promotion focus leads them to reduce allocation of subsequent energy and physical resources. This conclusion aligns with Tumasjan and Braun (2012), suggesting that promotion-focused entrepreneurs with high entrepreneurial self-efficacy may be detrimental to entrepreneurial behavior generation. The study responds to Brockner et al.' s (2004) call to examine the potential effects of regulatory focus on entrepreneurial self-regulation processes. Therefore, although most research emphasizes the positive role of promotion (rather than prevention) focus in entrepreneurship (Hmieleski & Baron, 2009; Adomako, 2020), based on our

findings, future scholars should break free from this mindset and more comprehensively examine the effects of entrepreneurs' regulatory focus.

Beyond contributions to entrepreneurship research, our findings also benefit self-efficacy researchers. Combined with self-efficacy research in other domains (e.g., Kanar & Bouckenooghe, 2021; Du et al., 2018), we propose that regulatory focus may be an important conjunctive condition for general or domain-specific self-efficacy to take effect. Future research should examine the moderating role of regulatory focus on the relationship between domain-specific self-efficacy and individual behavior across different task contexts, particularly focusing on the potential negative effects of promotion focus.

Third, by distinguishing and controlling for individual differences among entrepreneurs, this study explores the complex recursive relationship between new venture progress and entrepreneurial effort and its mechanisms, providing empirical evidence for entrepreneurial process characteristics research. Existing entrepreneurship research lacks understanding of "the characteristics and mechanisms of entrepreneurial processes from a longitudinal perspective" (孙金云等, 2022), yet the complexity of entrepreneurial activities leads to oscillation and repetition in their advancement process (Lex et al., 2020). Our findings show that for most entrepreneurs, especially promotion-focused ones, perceiving smooth progress increases entrepreneurial self-efficacy, thereby reducing subsequent effort investment, while perceiving poor progress decreases entrepreneurial self-efficacy and maintains subsequent effort investment. As entrepreneurial activities exhibit non-uniform advancement patterns—smooth progress, stagnation, or failure—entrepreneurs periodically adjust their effort levels around specific points. This study clarifies potential reasons for the complexity of entrepreneurial self-regulation processes, offering valuable insights for future entrepreneurial process research.

4.2 Limitations and Future Directions

This study has several limitations and areas for improvement. First, constrained by research context, we did not employ experimental designs that better verify causality, and questionnaire responses may suffer from cognitive recall bias or social desirability effects. Future research could design experiments with similar but more manipulable scenarios and use multi-source data to retest the main variable relationships. Additionally, since our sample was drawn from Chinese nascent entrepreneurs, we call for future cross-cultural comparative studies and comparisons between nascent and serial entrepreneurs to further test the robustness of conclusions or explore sources of differences.

Second, without considering entrepreneurs' regulatory focus, we found that prior new venture progress generally had a negative effect on subsequent entrepreneurial effort. Although this conclusion was replicated in Study 2, and we speculated about the reasons for this discrepancy-reduction self-regulation trend, we did not conduct deeper analysis. Future research could combine experimen-

tal designs to capture and analyze the internal mechanisms through which prior new venture progress negatively affects subsequent effort via entrepreneurial self-efficacy from different theoretical perspectives, thereby deepening research implications and comprehensively revealing entrepreneurial self-regulation processes.

Third, other factors in motivational self-regulation framework research can influence individuals' self-regulation strategies (Wanberg et al., 2010; Melloy et al., 2018). Moreover, although we found that prevention focus can moderate the relationship between entrepreneurial self-efficacy and subsequent entrepreneurial effort, high prevention focus only attenuates the negative effect of entrepreneurial self-efficacy on subsequent effort, rather than producing a positive effect as theoretically inferred. Therefore, we call for future research to theoretically analyze and test whether more diverse factors influence the effectiveness of entrepreneurial self-efficacy or regulatory focus.

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[1] The raw data, analysis syntax, and results have been uploaded to an open data platform for readers: https://osf.io/h6exd/.

[2] For brevity, alternative model comparison results are not reported; available from authors upon request.

[3] For consistency with previous research and model comparison results, control variables were not included in this model. Adding control variables does not change hypothesis test conclusions.

[4] Due to space limitations, supplementary analysis results for control variables and variance component estimates are not presented; available from authors upon request.

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A Longitudinal Multilevel Approach to Examine the Relationship Between New Venture Progress and Entrepreneurial Effort: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Regulatory Focus

LI Cirong[1],[2], LI Chunxuan[1], YANG Yanyu[1]
([1] School of Business and Management, Jilin University, Changchun 130012, China)
([2] JLU Research Institute of Innovation and Entrepreneurship, Jilin University, Changchun 130022, China)

Abstract

Does significant new venture progress always encourage nascent entrepreneurs to dedicate more effort to new venture creation? Although previous entrepreneurship research has demonstrated that new venture progress influences entrepreneurs' subsequent behavior (i.e., entrepreneurial effort), it has yet to come to a consistent conclusion on the positive or negative impact of significant new venture progress. Drawing on motivational self-regulation frame, we offered competing hypotheses with respect to the association between new venture progress and subsequent entrepreneurial effort. Furthermore, entrepreneurial self-efficacy played an important mediating role in these relationships. More specifically, consistent with prior findings of the self-regulation view on expanding the differences, we argue that the more progress entrepreneurs achieve, the more entrepreneurial self-efficacy they perceive, and the more effort they devote. However, the self-regulation view on narrowing the differences suggests that entrepreneurs gain vast progress at work, which boosts their entrepreneurial self-efficacy but subsequently leads them to reduce their efforts, possibly because of overconfidence. Therefore, we propose a novel, longitudinal mediated model of new venture progress, entrepreneurial self-efficacy and entrepreneurial effort. In addition, research on self-regulation has suggested that regulatory foci have always been a boundary condition in the self-regulation process. By integrating motivational self-regulation frame and regulation focus theory, we propose that regulation foci moderate these longitudinal mediated relationships.

We test our theoretical propositions in two field surveys with nascent en-

trepreneurs. In Study 1, we conducted a field survey with three measurement waves over 6 months, resulting in 345 observations from 115 participants. We invited nascent entrepreneurs whose new ventures were still alive yet less than six months from the incubators of Jilin, Shandong, Guangdong, and Sichuan provinces. We measured new venture progress, entrepreneurial self-efficacy and entrepreneurial effort at all three measurement waves using established scales and items. We conducted the RI-CLPM approach to analyze the relationships between new venture progress, entrepreneurial self-efficacy, and entrepreneurial effort. To investigate the theoretical hypotheses in Study 2, we further conducted another field survey, which took 15 months and six measurement waves, resulting in 420 observations from 70 participants. New venture progress, entrepreneurial self-efficacy, and entrepreneurial effort were collected at six measurement waves, and regulatory foci were collected at the first measurement wave. To account for the moderating effect of a between-person variable (i.e., regulatory foci) on the within-person relationships (i.e., the abovementioned relationships between new venture progress, entrepreneurial self-efficacy, and entrepreneurial effort), random coefficient growth modeling was applied.

The statistical analyses mostly supported our hypotheses. Entrepreneurial self-efficacy mediated the effect of new venture progress on entrepreneurial effort. Furthermore, the results showed that entrepreneurial self-efficacy is responsible for the negative effect of new venture progress on subsequent entrepreneurial effort. In other words, prior significant new venture progress would lead to high perceptions in one' s entrepreneurial self-efficacy, which may result in less subsequent entrepreneurial effort, possibly because of the overconfidence due to the high entrepreneurial self-efficacy. Additionally, our results showed that entrepreneurs' promotion focus/prevention focus strengthened/attenuated the direct negative relationship between entrepreneurial self-efficacy (Tn) and entrepreneurial effort (Tn+1) and also strengthened the indirect negative relationship between new venture progress (Tn–1) and entrepreneurial effort (Tn+1). However, the negative relation between entrepreneurial self-efficacy and entrepreneurial efforts became nonsignificant when the prevention focus was high.

By increasing our understanding of the complex relationship between new venture progress, entrepreneurial self-efficacy, and entrepreneurial effort, our study contributes to the literature in three ways. First, drawing on the self-regulation views on expanding and narrowing the differences, we contribute to the emerging yet still underresearched field concerning the role of entrepreneurs'self-regulation. Previous research has complex and ambiguous, even contradicted conclusions regarding the relationship between new venture progress and subsequent entrepreneurial effort. However, by considering self-regulation views, our findings showed that the more progress the entrepreneurs made, the more self-efficacy they perceived, and the less effort they would subsequently devote. By clarifying it, our study offers a different yet comprehensive paradigm for understanding the dynamic nature of entrepreneurship under the self-regulation views. Second, by investigating the role of regulatory focus in modifying entrepreneurs' self-regulation process, we further uncover the boundary condition of the above-

mentioned relationships and, more importantly, confirm the possible negative effect of promotion focus in the entrepreneurial process. In particular, our findings offer empirical evidence that entrepreneurs with high promotion focus dampen the development of negative effects stemming from high entrepreneurial self-efficacy. Since entrepreneurs'states, behaviors, and situations fluctuate regularly and the result of the negative effect may be generally detrimental for nascent entrepreneurs, entrepreneurs with a high promotion focus should pay attention to their entrepreneurial self-efficacy to avoid a negative impact. Third, in revealing the mediating role of entrepreneurial self-efficacy, we further uncovered the time-varying and progressive aspects of new venture creation. The conventional, time-invariant perspective fails to capture complex and dynamic states and only shows the positive aspects of entrepreneurial self-efficacy. However, in our study, drawing on motivational self-regulation frame, we uncover the negative aspects of entrepreneurial self-efficacy and confirm the progressive nature of the entrepreneurial process. By doing so, we offer a means to facilitate future entrepreneurship research to emphasize the constructs and their relationships with one another that may not be possible with a time-invariant, interindividual perspective.

Key words: new venture progress, entrepreneurial self-efficacy, entrepreneurial effort, promotion focus, prevention focus

Note: Figure translations are in progress. See original paper for figures.