

## Article

# Entrepreneurial Leadership and Turnover Intention in Startups: Mediating Roles of Employees' Job Embeddedness, Job Satisfaction and Affective Commitment

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**Abstract:** Entrepreneurial leadership is critical for the sustainable development of start-ups and plays a key role in employees' turnover intentions. The purpose of this study was to examine the relationship between entrepreneurial leadership and turnover intentions of employees within enterprises established in the last five years. This paper explored this relationship through multiple serial mediators, specifically, employee affective commitment, job embeddedness, and job satisfaction. A quantitative approach was employed on a sample of 403 participants from 62 ventures. The results demonstrated that entrepreneurial leadership can reduce employee turnover intentions, and the impact is through job embeddedness, job satisfaction, and affective commitment, in series. This study is the first try of a three-serial-mediator model for the relationship between entrepreneurial leadership and turnover intentions, and it leads to a better understanding of the significance of entrepreneurial leadership.

**Keywords:** entrepreneurial leadership; affective commitment; job embeddedness; job satisfaction; turnover intention

## 1. Introduction

With the popularization of the Internet, a wave of entrepreneurship in China has burgeoned. According to data from the report on China's private enterprise development, 150,000 private enterprises have been established and more than 100,000 perish every year [1]. Further, 60% of private enterprises go bankrupt within five years, 85% collapse within 10 years, and the average duration of existence is only 2.9 years. However, entrepreneurship continues to evolve as a key driver of innovation and job creation [2]. The latest empirical studies show that entrepreneurial leaders who can deal with an uncertain business environment are critical for entrepreneurial success and sustainability [3]. Entrepreneurial leadership highlights the entrepreneurial behavior and capability a leader shows in reaction to dynamic changes with characteristics common to both successful leaders and entrepreneurs [4].

It has generally been recognized that the leadership of start-ups influences employee behavior, and several empirical studies have shown that leaders of start-ups have an influence on employee's job satisfaction and organizational commitment [5], employee's innovation behavior [6] and enterprise performance [7]. Entrepreneurial leadership promotes adaptive capacity in highly uncertain and turbulent environments and assists in achieving business goals involving the identification and development of entrepreneurial opportunities [8]. These empirical studies have greatly enriched

entrepreneurial leadership theory and have further promoted the development of entrepreneurial leadership practice. However, to date, there are few empirical studies investigating the intermediate influence mechanism between entrepreneurial leadership and the turnover intentions of newly established enterprises. This study is a response to Chen's [9] call for more significant contextual factors to be studied so as to better understand how entrepreneurial leadership exerts a positive impact on followers' behavior, and also, a response to Leitch and Volery's [10] call for studies of a wider range of entrepreneurial and small to medium enterprise contexts (e.g., size, stage of development) of entrepreneurial leadership.

This paper first reviews the literature related to the relationship between entrepreneurial leadership and employees' turnover intentions, and then explores the serial mediating role of employee job embeddedness, job satisfaction, and affective commitment between the two. Then, we introduce the methodology, data and measurement, and analysis, and provide the corresponding results. The final sections of the study are mainly discussing the implications and conclusions.

## 2. Literature Review

### 2.1. Entrepreneurial Leadership (EL)

In recent years, there has been increasing research attention directed to Entrepreneurial Leadership (EL). This is demonstrated by the proliferation of literature on both leadership and entrepreneurship [11,12]. EL not only functions in mature enterprises, but also plays a crucial part in start-up ventures [13]. Due to the more uncertain business environment and more competitive market faced by the majority of new ventures, EL is considered a key indicator of venture development [14] and has a significant impact on the success of enterprises in a highly uncertain and turbulent environment [8].

Despite many relevant studies, scholars have not reached an agreement on a unified and precise definition of EL [10]. To date, there are two categories of definitions. The first category emphasizes the special abilities of entrepreneurial leaders, such as high-risk behaviors, openness, achievement needs, and impulsively [15]. The second category emphasizes the behavior of the founder in the early stage of the company [16], that is, EL is a leadership role in an entrepreneurial enterprise, rather than an entrepreneurial style of leadership in a general sense [13].

Although the lack of a unified definition, it is clear that EL is the crossing field of entrepreneurship and leadership [17,18], which highlights the entrepreneurial behavior and capability a leader shows in reaction to dynamic changes. For example, to recognize and discover entrepreneurial opportunities [19,20] and to explore and exploit strategic value creation [12] are both essential qualities of entrepreneurial leadership. In a well-known definition of EL by Gupta et al. [12], EL is defined as, "leadership that creates visionary scenarios that are used to assemble and mobilize a 'supporting cast' of participants who become committed by the vision to the discovery and exploitation of strategic value creation". The definition proposed by Gupta et al. [12] is the most complete definition of EL because it not only describes the attributes, but also operationalizes the construct of EL and measures its validity by using the GLOBE survey data. In China, many scholars have used this measurement in their studies (e.g., [5,7,21,22]), but not considered in the context of start-up enterprises. Thus, this study considers EL in the initial stage of an enterprise, within the first five years of its establishment.

### 2.2. EL and Turnover Intention

Turnover intention is considered an antecedent of the actual behavior of leaving the organization, and many studies prove a strong correlation between turnover intentions and actual turnover behavior [23]. There has been a lot of research on the relationship between turnover intentions and various styles of leadership (e.g., [24–26]). For example, empirical findings by Gyensare et al. [24] showed a positive association between transformational leadership and turnover intentions. Demirtas and Akdogan [25] examined a mediated model between ethical leadership and turnover intentions. The results indicated that the behavior of ethical leadership could influence the awareness of the ethical

climate, which in sequence positively influenced employees' turnover intentions. Azanza et al. [26] used structural equation modeling to test the mechanism between authentic leadership and the employees' turnover intentions.

A review of the relevant literature indicates that the majority of studies are concerned with the relationship between transformational leadership, ethical leadership, authentic leadership, etc., and turnover intentions. In this study, we position entrepreneurial leaders as pivotal figures in a venture. Through initiating vision, mobilizing employees, and obtaining commitment from them, entrepreneurial leaders are capable of inspiring employees to discover and create strategic value, with the purpose of promoting better venture performance for the success of the firm start-up. Consequently, employees would be more reluctant to resign due to an intense affective commitment, resulting in a low turnover ratio. Based on this logic, we predict that similar results will be found with regard to the relationship between EL and employees' turnover intentions. Therefore, the main purpose of this paper is to test the direct relationship between EL and turnover intentions. Therefore, this study proposes the following hypothesis:

**Hypothesis 1 (H1).** *EL is positively associated with turnover intentions of employees.*

### 2.3. Job Embeddedness, Job Satisfaction, Affective Commitment and Turnover Intention

As mentioned previously, many studies have found not only a direct effect between leadership and turnover intentions, but also an indirect effect. For example, the indirect effect of ethical leadership includes the formation of a sense of ethical climate, which in turn increases affective commitment and reduces turnover intentions [25]. Moreover, several studies have found that transformational leadership has an indirect effect on turnover intentions, as opposed to a direct effect [24]. Therefore, the indirect effects of EL on the turnover intentions of employees should be considered and empirically tested. Three interrelated variables, job embeddedness, job satisfaction and, affective commitment, will be included as mediators in order to reveal the "black box" between EL and turnover intentions.

The existing literature reveals that job embeddedness, job satisfaction, and, affective commitment have a negative impact on turnover intentions [27,28]. Firstly, studies have shown that the global measure of job embeddedness better predicts turnover intentions over as compared to the composite measure [29]. Job embeddedness has been defined as "the combined forces that keep a person from leaving his or her job" [30]. After examining 204 self-initiated expatriates by Hussain and Deery [31], it was found that both on-the-job embeddedness and shocks can predict turnover intentions in the United Arab Emirates. Recently, the strong relevance of job embeddedness and turnover intentions was clearly highlighted by Afsar et al.'s [32] work, which suggested that job embeddedness fully mediates the relationship between high-performance work practices and turnover intentions. The latest research of Coetzer et al. [33] showed that on-the-job embeddedness and each sub-dimension were negatively related to turnover intentions in small and medium enterprises.

Secondly, a considerable number of studies have shown that job satisfaction is negatively related to turnover intentions [34]. Job satisfaction is generally considered a multifaceted construct that includes pay, promotion opportunities, coworkers, supervision, and the work itself [35]. Indeed, several studies on job satisfaction have focused mainly on its effect on an intention to quit and actual turnover [36]. Zeffane and Bani Melhem [37] also showed empirical evidence in support of the negative effect of job satisfaction on public sector employees' turnover intentions by the examination of 311 employees from the service sector in the United Arab Emirates.

Thirdly, the affective component of organizational commitment reflects one's liking of the job and emotional attachment to the enterprise [38]. It is the most accepted dimension of the three aspects of organizational commitment, which include affective, continuance, and normative commitment, as it is considered the most consistent and powerful antecedent variable of turnover intentions [28,39]. Joarder et al. [40] examined the connection between affective commitment and turnover intentions, and showed that affective commitment has negatively and significantly impacted

turnover intentions. Consistent with previous studies, A'Yuninnisa and Saptoto [41] examined the link between pay satisfaction and turnover intentions through affective commitment. It was found that pay satisfaction had a direct and indirect effect via affective organizational commitment on turnover intention. Slugoski [42] explored whether job embeddedness, job satisfaction, and organizational commitment influence employee retention. The results showed that organizational commitment had the largest impact on intent to stay, followed by job satisfaction, and job embeddedness. Therefore, it is hypothesized that:

**Hypothesis 2 (H2).** *EL and turnover intention have a mediated relationship, rather than a direct relationship.*

#### 2.4. Mediating Role of Job Embeddedness, Job Satisfaction and Affective Commitment

From the viewpoint of Crossley et al. [29], job embeddedness is distinct from job satisfaction and organizational commitment. Both job satisfaction and effective commitment focus on job-related factors, while job embeddedness not only includes job-related factors but also includes community-related issues. As a result, an off job embeddedness construct is not covered by an organization's centralized constructs [38]. From another perspective, many scholars have confirmed that job embeddedness is the antecedent variable of organizational results such as turnover intentions, work attitudes, and job performance [43,44]. For example, Collins et al. [43] demonstrated that job embeddedness was a mediator between the leader-member exchange relationship and job satisfaction from the Social Role Theory perspective. Ha and Kim [45] evaluated 293 employees from five or four-star hotels in Seoul and found that job embeddedness has a positive effect on job satisfaction and a negative effect on turnover intentions.

Previous studies have shown that job satisfaction is a pre-dependent variable of commitment [46]. Job satisfaction is largely related to specific and tangible aspects of the work environment, such as pay, promotion opportunities, coworkers, supervision, and the work itself [47]. While affective commitment is more associated with intangible and abstract aspects of an organization, for example, the agreement or disagreement with the corporate culture and values. Therefore, satisfaction is a more immediate consequence rather than a commitment [48], and can be seen as a positive emotional reaction, and can lead to higher commitment. Thus, leaders can improve job satisfaction by providing more detail about the actual situation [49], in turn, leads to a high affective commitment. Angle and Perry [46] pointed that job satisfaction is the pre-variable of commitment, which is based on the exchange of resources between individuals and organizations. Rifai [48] presented empirical evidence in support of the positive effects of job satisfaction and affective commitment in a study of 383 samples who were working in private hospitals.

Since leadership behavior is the determinant of job embeddedness, employee satisfaction, affective commitment, and other outcome variables, it can be argued that EL cannot have a direct effect on turnover intention; rather, this relationship is likely to be fully mediated by job embeddedness, employee satisfaction, and organizational commitment, in that specific order. Thus, we hypothesize that:

**Hypothesis 3 (H3).** *In the mediated relationship between EL and turnover intentions, job embeddedness, job satisfaction, and affective commitment act as serial mediating factors.*

According to the above literature review, we can present the conceptual model as follows (see Figure 1).

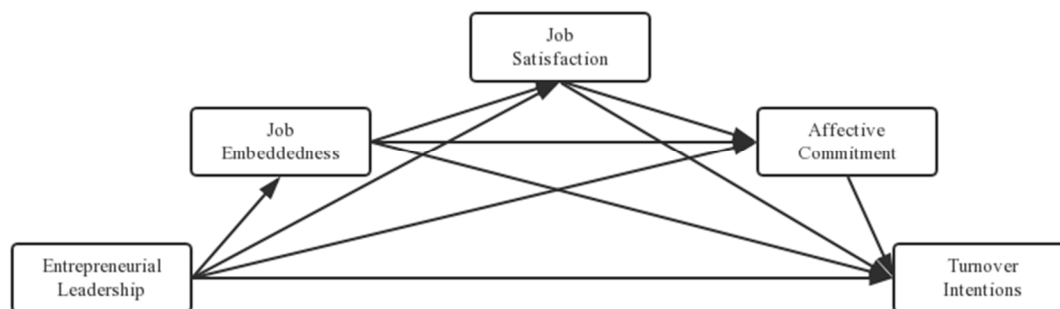


Figure 1. Conceptual model.

### 3. Methodology

#### 3.1. Sample and Data Collection

We used the internet questionnaire tool, which is Wenjuanxing, to collect data by random sampling. The sample of this study comprised of employees from ventures newly established within the past five years, and each business had no more than 10 respondents. We restricted IP access and controlled answer time to avoid repeating questionnaires and to improve the quality of questionnaires. In total, 500 questionnaires were collected; 403 of them were deemed valid after the elimination of those without basic employee information. Thus, the proportion of valid questionnaires was 80.6%. Overall, 142 participants were male (35.2%) and 261 were female (64.8%). Among them, 259 (64.3%) participants were aged between 21 to 30 years, 128 (31.7%) were between 31 to 40 years, and the rest (16) were above 41 years of age. The majority of participants had a bachelor's degree (69.70%), while 31 (7.7%) participants had a salary less than ¥3000, 251 (62.3%) participants had a salary between ¥3001–8000, 102 (25.3%) participants had a salary between ¥8001–15,000, and 19 (4.7%) participants had a salary of more than ¥15,000.

#### 3.2. Independent Variables

Huang, Ding, and Chen [50] derived 26 items for measuring EL based on the scale by Gupta et al. [12] who designed 19 items from the GLOBE study. This measure includes the following five dimensions: framing the challenge, absorbing uncertainty, path-clearing, building commitment, and specifying limits. 7-point Likert scales were used for measuring the items where 1 = strong disagreement and 7 = strong agreement. Sample items include “leaders tend to set challenging goals”, “leaders pursue continuous performance improvement”, and “leaders have access to obtain internal and external resources to support change and innovation”. The Cronbach's alpha for EL scale was 0.89.

**Job embeddedness:** Since the purpose of this study was to examine the model with potential structures, the overall scale developed by Crossley et al. [29] was adopted in this study. 7-point Likert scales were used to measure the items where 1 = strong disagreement and 7 = strong agreement and there were two reverses scored questions among the set of items. Sample items include “I feel attached to work”, “It's hard for me to make a decision to leave the organization”, and “I really can't leave my present job lightly”. The Cronbach's alpha for this composite scale was 0.82.

**Job Satisfaction.** Hackman and Oldham [51] developed three items that comprise a unidimensional scale of job satisfaction. The 7-point Likert scales were used for measuring the items where 1 = strong disagreement and 7 = strong agreement. These items included, “Overall, I am satisfied with my job”, “I am generally satisfied with the sense of achievement I get from this job”, and, “I am generally satisfied with the work I have done in this position”. The Cronbach's alpha for this unidimensional scale was 0.82.

**Affective commitment:** Yao et al. [52] derived four items that measure affective commitment based on the scale developed by Allen and Meyer [53] and Ko et al. [54]. The 7-point Likert scales were used to measure the items where 1 = strong disagreement and 7 = strong agreement. Sample items included, “I'm glad to work in this company”, “I feel like I'm part of this company”, “I feel a sense of



belonging in this company”, and, “I have a deep affection for this enterprise”. The Cronbach’s alpha for this four-item scale was 0.88.

### 3.3. Dependent Variables

Turnover intentions: A three-item single-dimension scale by Liang [55] was applied. The 7-point Likert scales was used to measure the items where 1 = strong disagreement and 7 = strong agreement. Sample items included, “I often want to leave this company”, “I will probably find a new job next year”, and, “Recently, I often want to change my job”. The Cronbach’s alpha for this three-item scale was 0.88.

### 3.4. Control Variables

Previous research indicates that employee demographic characteristics (e.g., gender, age, salary) and structural variables (number of staffs, corporate tenure) have a noticeable influence on turnover intentions (e.g., [34,56]). Therefore, this study treated the following variables as control variables: employee age, employee salary, number of people in the venture, and corporate tenure.

### 3.5. Data Analysis

This paper used AMOS 24.0 and SPSS 24.0 to conduct the data analysis. First, we tested the discriminant validity between the variables through confirmatory factor analysis, and then analyzed the relationships between them. Finally, we used the hierarchical regression analysis proposed by Baron and Kenny [57] and the PROCESS macro for SPSS developed by Hayes [58] to conduct hypothesis testing.

## 4. Results

### 4.1. Confirmatory Factor Analysis (CFA)

Since the data on EL, affective commitment, job embeddedness, job satisfaction, and turnover intention were collected from the same source, we conducted confirmatory factor analysis (CFA) using AMOS 24.0 to evaluate the possibility of same-source bias and test the discriminant validity. Based on the results of CFA and the modification indices for the indicator variables, seven items measuring EL and two items measuring job embeddedness were dropped (see Appendix A), so that all of the questionnaire items had a factor loading of 0.5 or above [59].

Model fit was examined according to the following criteria: a value of  $\chi^2/df$  less than 3, the lower the better [60]; GFI > 0.80 [61]; AGFI > 0.80 [62]; RMSEA < 0.08 [63]; TLI > 0.90 [63]; CFI > 0.90. The five-factor model that included all five variables obtained a preferable fit to the data (see Table 1), with  $\chi^2(517) = 1121.95$ ; GFI = 0.85; AGFI = 0.83; RMSEA = 0.05; TLI = 0.88; CFI = 0.90. We confirmed the discriminant validity of the five variables by comparing the five-factor model against four, three and single-factor models (see Table 1).

**Table 1.** Results of confirmatory factor analysis.

Model	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	TLI	CFI	RMSEA
Five-factor	1121.95	517	2.17	0.85	0.83	0.88	0.90	0.05
Four-factor	1300.67	521	2.50	0.83	0.80	0.86	0.87	0.06
Three-factor	1331.84	524	2.54	0.83	0.80	0.86	0.87	0.06
Single-factor	1911.91	527	3.63	0.72	0.68	0.76	0.78	0.08

Note: n = 403; the single factor model integrates all variables into a single factor; the three-factor model considers entrepreneurial leadership and turnover intentions as two single factors, while integrating affective commitment, job embeddedness, and job satisfaction into one factor; the four-factor model considers entrepreneurial leadership, affective commitment, and job embeddedness as three single factors, while integrating turnover intention and job satisfaction into one factor; the five-factor model considers all five variables as independent factors.

### 4.2. Descriptive Statistics

Table 2 displays descriptive statistics and correlations between the main constructs. As shown in the table, EL was positively correlated with affective commitment ( $r = 0.62, p < 0.01$ ), job embeddedness ( $r = 0.55, p < 0.01$ ), and job satisfaction ( $r = 0.60, p < 0.01$ ). Moreover, EL and turnover intentions

( $r = -0.49, p < 0.01$ ) were negatively correlated. Also, the average variance extracted (AVE) of each variable was greater than 0.52, which is an acceptable value [64], and the composite reliability (CR) was greater than 0.83 [64,65] (see Table 2).

**Table 2.** Descriptive statistics and correlations between the main variables.

Variable	1	2	3	4	5	6	7	8	9	10
1. Gender										
2. Age	−0.04									
3. Monthly Salary	−0.25 **	0.26 **								
4. Number of Staff	−0.06	0.16 **	0.25 **							
5. Corporate Tenure	−0.00	0.38 **	0.30 **	0.33 **						
6. EL	−0.06	0.15 **	0.16 **	0.17 **	0.25 **					
7. Affective Commitment	−0.05	0.13 **	0.22 **	0.19 **	0.34 **	0.62 **				
8. Job Embeddedness	−0.05	0.20 **	0.23 **	0.19 **	0.37 **	0.55 **	0.76 **			
9. Job Satisfaction	−0.04	0.14 **	0.22 **	0.22 **	0.31 **	0.60 **	0.77 **	0.66 **		
10. Turnover Intention	0.03	−0.19 **	−0.25 **	−0.20 **	−0.27 **	−0.49 **	−0.71 **	−0.70 **	−0.65 **	
Mean	1.65	2.27	2.88	2.78	2.67	5.19	5.05	4.62	5.18	3.08
Standard Deviation	0.48	1.05	1.03	0.93	1.02	0.71	1.25	1.07	1.18	1.55
AVE						0.69	0.66	0.52	0.62	0.72
CR						0.91	0.88	0.84	0.83	0.88

Note: Gender: 1 = male, 2 = female; Age: 1 = 22–25 years old, 2 = 26–30 years old, 3 = 31–35 years old, 4 = 36–40 years old, 5 = 41 years old and above; Monthly salary: 1 = ¥3000 and below, 2 = ¥3001–¥5000, 3 = ¥5001–¥8000, 4 = ¥8001–¥15,000, 5 = above ¥15,000; Number of staff: 1 = below 10 persons, 2 = 10–50 persons, 3 = 50–100 persons, 4 = above 100 persons; Corporate tenure: 1 = below 1 year, 2 = 1–2 years, 3 = 2–3 years, 4 = 3–5 years;  $n = 427$ ; \*  $p < 0.05$  (two-tailed), \*\*  $p < 0.01$  (two-tailed); CR = Composite Reliabilities, AVE = Average Variance Extracted.

### 4.3. Hypothesis Testing

According to Baron and Kenny's [57] criteria, the outcome of the stepwise regression analysis is shown in Table 3. It can be seen that there was a strong negative relationship between EL and turnover intentions ( $M11, \beta = -0.44, p < 0.05$ ). Therefore, we accept Hypothesis 1 with the support of the analytical statistics.

After adding the mediators, the results indicated that (1) EL was positively related to job embeddedness, job satisfaction, and affective commitment ( $M2, \beta = 0.48, p < 0.01$ ;  $M4, \beta = 0.53, p < 0.01$ ;  $M7, \beta = 0.56, p < 0.01$ ); (2) job embeddedness ( $M12, \beta = -0.62, p < 0.01$ ), job satisfaction ( $M13, \beta = -0.29, p < 0.01$ ), and affective commitment ( $M14, \beta = -0.28, p < 0.01$ ) had strong negative effects on turnover intentions; (3) the relationship between EL and turnover intentions became insignificant ( $M13, \beta = -0.04, n.s.$ ;  $M14, \beta = -0.01, n.s.$ ) with the addition of job satisfaction and affective commitment. Therefore, we can conclude that EL and turnover intentions have a fully mediated relationship through job embeddedness, job satisfaction, and affective commitment, and hence, we accept Hypothesis 2.

To examine Hypothesis 3, Hayes' SPSS PROCESS macro (Model 6) [58] was used. There are three advantages of using PROCESS to conduct chain multiple mediation tests. Firstly, this method can verify and analyze the mediating effect of all mediating variables. Secondly, the effects of individual intermediary paths can be observed after eliminating other mediators. Thirdly, effects of different mediation paths can be compared for significant differences. Here, model six specifies a serial multiple mediator model, which we applied three (job embeddedness, job satisfaction, and affective commitment) mediators in a causal sequence, with a sample size of 5000 and a 95% confidence interval. As presented in Table 4, there were seven significant indirect paths (Ind 1 to Ind 7) whose 95% confidence intervals excluded zero. The indirect path of Ind 1 was the strongest path, which had a 39.15% ratio of indirect to total effect. The indirect effect of Ind 4 was significant with a 95% bootstrap confidence interval of  $-0.10$  to  $-0.02$  ( $b = -0.05, SE = 0.02, 95\% CI = [-0.10, -0.02]$ ). The total indirect effect ( $b = -0.87, SE = 0.09, 95\% CI = [-1.05, -0.71]$ ) is the sum of the specific indirect effects and the total effect ( $b = -0.90, SE = 0.09, 95\% CI = [-1.08, -0.72]$ ) is the sum of the direct and indirect effects. Thus, the evidence supports Hypothesis 3.

**Table 3.** Results of the Hypothesis Testing.

	Job Embeddedness		Job Satisfaction			Affective Commitment				Turnover Intentions				
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
<b>Control Variables</b>														
Gender	−0.03	−0.01	−0.01	0.02	0.02	−0.02	0.01	0.01	0.01	−0.02	−0.04	−0.04	−0.04	−0.04
Age	0.05	0.03	−0.01	−0.03	0.04	−0.02	−0.04	−0.06	−0.05	−0.07	−0.06	−0.04	−0.05	−0.06
Monthly Salary	0.12 *	0.09	0.12 *	0.08	0.04	0.12 *	0.08	0.03	0.01	−0.16 **	−0.13 **	−0.08 *	−0.07	−0.06
Number of Employees	0.04	0.01	0.11 *	0.08	0.07	0.06	0.03	0.02	−0.01	−0.10	−0.07	−0.07	−0.05	−0.05
Corporate Tenure	0.33 **	0.23 **	0.24 **	0.13 **	0.02	0.29 **	0.18 **	0.04	0.03	−0.16 **	−0.08	0.07	0.07	0.08
<b>Independent Variable</b>														
Entrepreneurial Leadership		0.48 **		0.53 **	0.30 **		0.56 **	0.26 **	0.15 **		−0.44 **	−0.14 **	−0.04	−0.01
<b>Mediating Variables</b>														
Job Embeddedness					0.50 **			0.62 **	0.43 **			−0.62 **	−0.48 **	−0.36 **
Job Satisfaction									0.39 **				−0.29 **	−0.18 **
Affective Commitment														−0.28 **
$R^2$	0.17	0.39	0.12	0.38	0.54	0.14	0.42	0.66	0.73	0.12	0.29	0.53	0.57	0.59
$F$ -value	16.73 **	41.53 **	11.07 **	41.15 **	64.81 **	12.47 **	48.06 **	108.79	131.63 **	10.57 **	27.42 **	63.53 **	64.60 **	62.69 **
$\Delta R^2$	0.17	0.22	0.12	0.26	0.16	0.14	0.28	0.24	0.07	0.12	0.17	0.24	0.04	0.02
$\Delta F$	16.73 **	136.90 **	11.07 **	168.22 **	127.76 **	12.47 **	195.45 **	274.21 **	100.24 **	10.57 **	98.68 **	198.26 **	34.43 **	21.08 **

Note: n = 403; \*  $p < 0.05$ , \*\*  $p < 0.01$ .**Table 4.** Mediation Model: Indirect Effect between Entrepreneurial Leadership and Turnover Intention Through Job Embeddedness, Job Satisfaction, and Affective Commitment.

	<i>b</i>	SE	Bootstrap 95% CI	Ratio of Indirect to Total Effect
Total Effect	−0.9	0.09	[−1.08, −0.72]	
Direct Effect	−0.03	0.09	[−0.20, 0.14]	3.25%
Indirect Effect	−0.87	0.09	[−1.05, −0.71]	96.75%
Ind 1: EL→JE→TI	−0.35	0.07	[−0.51, −0.23]	39.15%
Ind 2: EL→JE→JS→TI	−0.09	0.03	[−0.16, −0.02]	9.53%
Ind 3: EL→JE→AC→TI	−0.12	0.04	[−0.20, −0.05]	13.44%
Ind 4: EL→JE→JS→AC→TI	−0.05	0.02	[−0.10, −0.02]	5.97%
Ind 5: EL→JS→TI	−0.11	0.04	[−0.21, −0.03]	11.84%
Ind 6: EL→JS→AC→TI	−0.07	0.02	[−0.13, −0.03]	7.41%
Ind 7: EL→AC→TI	−0.08	0.03	[−0.15, −0.03]	9.41%

Note: Choosing Model 6 in the PROCESS macro; *b* is the unstandardized regression coefficients; SE is the standard errors; CI is the confidence intervals; EL = entrepreneurial leadership; JE = job embeddedness; JS = job satisfaction; AC = affective commitment.



## 5. Discussion

Since the field of EL is still in the stage of theoretical construction (e.g., [4,12]), research on the effectiveness of EL is sparse. In terms of research methods, previous studies are limited to case studies and studies building conceptual models; there are few empirical studies using tools such as questionnaires. Only a few studies have examined the effectiveness of EL using an empirical approach, such as the impact of EL on thriving innovation activity [66] and on enterprise performance [67]. Therefore, this study focused on the mechanism in which EL influences turnover intentions via three associated simultaneous variables (job embeddedness, job satisfaction, and, affective commitment).

### 5.1. Contributions to Theory and Research

As far as we know, this study is the first try of a three-serial-mediator model for the relationship between EL and turnover intentions. Although there has been a lot of research on the relationship between turnover intentions and various styles of leadership, few researches focused on this relationship. Therefore, this paper fills this gap. It is a very complex model when using three serial mediators together, especially for interpretation purposes [58], as the model can generate seven indirect effects and one direct effect together that EL has on turnover intentions. Exploring the causal relationships between chains of variables is not merely important for understanding the mechanism between EL and turnover intentions, but also represents a milestone toward reducing turnover in start-ups.

This study applies a serial multiple mediator model which assumes a causal chain linking the mediators, with a specified direction of causal relationship [68]. The causal flow of mediators (job embeddedness  $\rightarrow$  job satisfaction  $\rightarrow$  affective commitment) is not manipulated, but is based on theoretical foundation. On the one hand, previous studies have shown a positive relationship between job embeddedness and job satisfaction [38,44]. In addition, Holtom and Inderrieden [69] have noted that job embeddedness is a crucial mediator between specific on-the-job factors. In other words, the style of leadership, such as EL, are key to building job embeddedness, which in turn leads to increasing better employee attitudes and behaviors. On the other hand, Angle and Perry [46] suggest that job satisfaction is a pre-dependent variable of commitment, which is based on the exchange of resources between individuals and organizations. Wanous et al. [49] suggested that employee expectations moderate the relationship between personal experience and affective commitment. Hence, job satisfaction, which means meeting one's expectations and his/her experiences, is significant in building affective commitment. Accordingly, it was assumed in this paper that EL can influence job embeddedness positively, job embeddedness can lead to high job satisfaction, and job satisfaction can lead to high affective commitment, thus leading to low turnover intentions.

### 5.2. Managerial Implications

From a practical viewpoint, small and medium-sized enterprises account for a large share of total enterprises and make significant contributions to real GDP growth and new job creation [70]. EL plays a significant role in start-ups, especially in the current climate, where enthusiasm for entrepreneurship continues to increase. Our findings show several implications for practice, as it relates to leaders in start-ups. First, this study helps leaders in start-ups more thoroughly understand the characteristics and behaviors of entrepreneurial leaders. Further, it illustrates the process of how EL impact followers' turnover intentions. Since the indirect path (EL  $\rightarrow$  job embeddedness  $\rightarrow$  turnover intention) is the strongest path, entrepreneurial leaders should pay more attention to followers' job embeddedness, helping them feel connected at work and at home. In this respect, entrepreneurial leaders can offer flexible scheduling and family friendly programs to enhance employee embeddedness by strengthening employees' social bonds to others within the community [24]. Moreover, entrepreneurial leaders need to learn to encourage employees to be motivated and to work hard. Furthermore, the mechanism in

our findings is not unique, and entrepreneurial leaders should be aware of other possible mediators involved in the relationship between EL and turnover intentions.

### 5.3. Limitations and Recommendations

This study has several limitations that should be acknowledged. First, the impact of EL on turnover intentions among start-ups enterprises should be examined longitudinally. The single cross-sectional study design prevents us from clearly defining the causal relationship between EL and turnover intentions. Future research can collect data at different points in time to provide additional support for model causality. Second, we analyze the influencing mechanism of entrepreneurial leadership from the perspective of employees, research can develop a self-assessment tool for leaders to evaluate their own EL. Finally, although we examined three theoretically relevant mediating variables and tested their effects in series, other factors could help explain the mechanisms between EL and employee turnover intentions. For example, Cunningham et al. [71] have proposed that knowledge sharing could be considered critical for the development of small firms. Future research should provide more exhaustive research of different mediators such as work-group identification, psychological ownership and work-family conflict.

Although research on EL is still in its infancy [10], the contribution of this research provides direction for further theoretical and empirical exploration and provides an opportunity to shape EL and improve start-up outcomes.

## 6. Conclusions

As a rather new field, research on entrepreneurial leadership is at the exploratory stage. In general, this research contributes to the literature by exploring the “black box” between EL and turnover intentions through a causal mechanism in which EL indirectly affects turnover intentions through job embeddedness, job satisfaction, and affective commitment in series. The results support the initial hypotheses, and demonstrate that EL has a negative effect on turnover intentions, and a positive effect on job embeddedness, job satisfaction, and affective commitment. Therefore, the important implication of the results for entrepreneurs in start-ups is that high EL can motivate employees to take voluntary action to engage with their work, thereby improving their job embeddedness, leading to high job satisfaction, enhancing their affective commitment and thus reducing turnover. Hence, entrepreneurs in startups should make efforts to integrate employees into surroundings, feel satisfied and more emotionally attached with the organization to prolong their tenure in the enterprise. It is hoped that this research will attract more scholars to pay attention to the positive effects of entrepreneurial leadership in start-ups, and at the same time, it is hoped that entrepreneurs can imitate the behaviors of entrepreneurial leadership. We suggest that future studies can provide more other possible mediators to explain the dynamic relationship between EL and turnover intentions.

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## Appendix A

Table A1. Adapted Scale of Construct.

Construct	Scale Reference	Adapted Scale
Entrepreneurial leadership	Huang et al. (2014)	Leaders prefer to set high standards for business performance
		Leaders pursue continuous business performance improvement
		Leaders adjust goals according to employee ability (Deleted)
		Leaders draft long-term strategic goals of the company with the premise of understanding the market (Deleted)
		Leaders are prone to set challenging goals (Deleted)
		Leaders have concrete planning for future development to reduce uncertainty in the process
		Leaders have strong predictability and control over the development prospect of the company
		Leaders voluntarily and actively take the business risks to reduce uncertainty for employees in work
		Leaders reduce uncertainty by various means to establish employee's confidence in accomplishing the tasks
		Leaders try to reduce the negative responses employees have during business transformation, such as the fear of uncertainty and concerns of failure, to the greatest extent
		Leaders often communicate with employees regarding future development to reduce employee aversion to business transformation
		Leaders have strong persuasiveness and can easily convince others and gain support
		Leaders anticipate and eliminate both explicit and implicit entrepreneurial and managerial barriers (Deleted)
		Leaders obtain supportive resources for business transformation and innovation both within and outside the company (Deleted)
		Leaders often provide employees with support and help to reduce barriers in work
		Leaders actively establish an atmosphere of innovation
		Leaders strive for employees' appreciation of business innovation and transformation.
		Leaders often encourage employees to realize individual values via work
		Leaders actively structure work teams to facilitate employee cooperation
		Leaders can inspire employees to accomplish the business goals
Turnover intention	Liang (1999)	Leaders have a clear understanding of the business scope, what to do and what not to do (Deleted)
		Leaders clearly define the limits of company ability and avoid unnecessary resource consumption
		Leaders are good at integrating human and material resources to carry out the work within the company capacity
Job Embeddedness	Crossley et al. (2007)	Leaders have strong confidence in employees accomplishing fixed tasks
		Leaders often encourage employees to innovate
		Leaders make quick and effective operational decisions according to company capacity and resources
		I often want to leave this company
		I'm highly likely to find a new job next year
		I often want to change my job recently
		I have an attachment to my work
Job Satisfaction	Hackman and Oldham (1980)	I'm unlikely to leave this company
		I care about this work very much
		I like my present job very much
		I can't leave this company imprudently (Deleted)
		It's difficult for me to leave my present job (Deleted)
affective commitment	Yao et al. (2008)	I am closely tied to this company
		In general, I'm satisfied with my work
		This job brings me the sense of achievement
		I'm generally satisfied with my job position
		I'm glad to work in this company
		I am a part of this company
		I feel a sense of belonging in this company
		I have a great affection for this company

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