

Article

The role of supervisor leadership in fostering sustainable job satisfaction and entrepreneurial behavior

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Lim S, Yoon S. The role of supervisor leadership in fostering sustainable job satisfaction and entrepreneurial behavior. *Sustainable Social Development*. 2026; 4(5): 8546.
<https://doi.org/10.23812/ssd8546>

ARTICLE INFO

Received: 7 April 2026
Revised: 8 June 2026
Accepted: 15 June 2026
Available online: 3 September 2026

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Abstract: This study empirically examined how supervisors' leadership styles influence employee entrepreneurial behavior and analyzed the role of job satisfaction in this relationship. An anonymous online survey was conducted with ordinary employees in South Korea, and 170 valid responses were used for the analysis. Exploratory factor analysis, reliability analysis, multiple regression analysis, and an additional Sobel test were performed. The results show that transformational leadership positively affects task, reward, and relationship satisfaction, while transactional leadership significantly affects only reward satisfaction. Servant leadership has a significant positive effect on all four dimensions of job satisfaction. In addition, transformational and transactional leadership positively influence innovative risk-taking and proactiveness, whereas servant leadership shows no significant direct effect. Among the job satisfaction dimensions, task satisfaction positively affects both dimensions of employee entrepreneurial behavior, promotion satisfaction shows a negative effect, and relationship satisfaction positively affects innovative risk-taking. These findings provide practical implications for leadership development and organizational strategies to foster entrepreneurship. This study contributes to the literature by extending leadership and entrepreneurship research to ordinary employees in the South Korean organizational context. It also advances prior research by integrating transformational, transactional, and servant leadership with multidimensional job satisfaction and by examining how these factors are differently associated with innovative risk-taking and proactiveness.

Keywords: sustainable leadership; job satisfaction; entrepreneurial behavior; transformational leadership; transactional leadership; servant leadership

1. Introduction

In recent years, the industrial sector has faced complex crises driven by factors such as digital transformation, global supply chain instability, shortening of technology cycles, and rising labor costs. Among these factors, digital transformation goes beyond the mere adoption of information technology; it fundamentally reshapes existing industrial structures, thereby exposing the limitations of traditional operational methods and value-chain-centric strategies [1]. Under these circumstances, merely acquiring external resources is not enough for companies to secure a sustainable competitive advantage. They need to restructure the capabilities of their internal resources and foster a spontaneous capacity for change based on the creativity and self-directed initiative of individual members [2,3].

Mukhtar et al. [4] argued that entrepreneurship does not stem from a reactive attitude toward external opportunities but rather from members' intrinsic drive to pursue innovation and take on challenges. This is closely interlinked with leadership, organizational culture, and job satisfaction. Organizations that actively foster

entrepreneurship enable members to autonomously define and execute tasks, directly contributing to overall innovation within the organization [5,6]. Further, members' autonomy and innovation are not just matters of personal characteristics but are also significantly influenced by structural factors, such as leadership attitudes, job environments, and collaborative atmospheres within the organization [7,8]. This indicates that, as uncertainty across industries increases, developing autonomous and creative internal capacities among organizational members becomes a critical component of corporate survival strategy [9,10].

Accordingly, academic interest in the role of leadership is rising. Many studies have empirically demonstrated that leadership has a structural influence on organizational members' perceptions, attitudes, and behaviors. Among different leadership types, transformational leadership stimulates members' autonomy and intrinsic motivation through vision-setting and individualized consideration. Meanwhile, transactional leadership strengthens organizational order through clear performance criteria and rewards [11]. Servant leadership induces psychological stability and engagement by emphasizing care, support, and communal values for members, and its effectiveness has been particularly evident in small and medium enterprises [4,5].

Although prior studies have extensively discussed transformational, transactional, and servant leadership, several research gaps remain. First, many studies have examined these leadership styles separately, making it difficult to compare their relative effects within the same empirical framework. Second, job satisfaction has often been treated as a general attitudinal outcome, although its subdimensions may have different implications for entrepreneurial behavior. Third, relatively limited attention has been paid to how supervisors' leadership fosters employee entrepreneurial behavior among ordinary employees in South Korea, where hierarchical organizational structures coexist with increasing pressure for innovation and autonomous work behavior. Therefore, the originality of this study does not lie in introducing entirely new constructs, but in clarifying how well-established constructs operate together in a specific employee-level and national context. In particular, the South Korean organizational context is meaningful because employees are increasingly expected to behave innovatively and proactively, while many organizations still retain hierarchical leadership practices, formal promotion systems, and strong supervisor–subordinate relationships.

The relationship between leadership and entrepreneurship should not be understood as a simple linear causal link but rather through their interaction with psychological mediating factors. Recent studies regard job satisfaction as a key mediating variable that explains the influence of leadership. This process provides theoretical justification for understanding how members perceive and emotionally accept leadership [9]. Accordingly, this study aims to examine how different supervisor leadership styles influence organizational members' entrepreneurial behavior and how multidimensional job satisfaction is associated with this relationship. Thus, this study extends existing knowledge by showing how established leadership styles are differently associated with multidimensional job satisfaction and employee entrepreneurial behavior in the South Korean organizational context. Rather than claiming novelty from the individual variables themselves, this study contributes by

integrating these variables into an employee-level framework and by explaining how leadership and job satisfaction are linked to specific dimensions of entrepreneurial behavior, particularly innovative risk-taking and proactiveness.

2. Literature review

2.1. Leadership types and job satisfaction

In prior leadership research, leadership styles have often been categorized into three representative types: Transformational leadership, transactional leadership, and servant leadership. Transformational leadership refers to a style in which leaders present a compelling vision, intellectually stimulate followers, and encourage them to pursue collective goals beyond immediate self-interest [12]. By contrast, transactional leadership emphasizes clear expectations, performance monitoring, and contingent rewards, and influences employee satisfaction, effectiveness, and extra effort by clarifying roles and reinforcing desired performance [13]. Servant leadership, meanwhile, places strong emphasis on attending to followers' needs, growth, and development, and fosters positive organizational outcomes such as employee voice behavior and thriving at work [14]. Based on these conceptual distinctions, prior research has examined how each leadership style differently shapes organizational functioning and employee outcomes.

Within the spectrum of leadership styles, transformational leadership refers to a supervisor's ability to articulate a vision to organizational members and enhance their autonomy and motivation through individualized consideration and intellectual stimulation [11]. Kang and Jin [8] reported that transformational leadership positively affects job satisfaction among public officials. Similarly, Cho [15] found that transformational leadership significantly affects organizational commitment and job satisfaction in public institutions. Liu and Cho [16] empirically demonstrated that transformational leadership improves job satisfaction through the mediating role of trust in the supervisor. In particular, transformational leadership has been identified as a factor that strengthens satisfaction with the intrinsic aspects of the job, such as its meaningfulness, growth opportunities, and autonomy. It also enhances trust within the organization and satisfaction with interpersonal relationships.

Meanwhile, transactional leadership is a traditional leadership style in which leaders establish an exchange-based relationship with members by emphasizing clear goals and rewards [17]. Previous studies noted that transactional leadership, grounded in stability and adherence to norms, is incompatible with creativity or autonomy. However, recent studies suggest that it can have positive effects depending on the context. For example, Choi et al. [9] revealed that transactional leadership simultaneously enhances job satisfaction and job performance through work engagement. Hwang and Ha [5] reported that transactional leadership has a significant positive effect on job satisfaction, with organizational trust mediating this effect.

Further, servant leadership is a service-oriented leadership style that prioritizes subordinates' growth and the community's well-being [18]. Kim et al. [19] analyzed military organizations and found that servant leadership reduces job stress, thereby enhancing job satisfaction and engagement. Kim and Park [20] demonstrated that servant leadership indirectly promotes job satisfaction through organizational

commitment. Likewise, Lee and Ju [21] reported that the stewardship aspect of servant leadership has a significant positive impact on multidimensional factors of job satisfaction, such as supervision, rewards, and job promotion. This finding suggests that servant leadership positively affects not only interpersonal satisfaction but also job promotion and rewards.

In summary, different leadership styles influence sub-factors of job satisfaction through various pathways. Their effectiveness may depend on mediating and moderating factors within the organization. Accordingly, the following hypothesis is proposed:

H1: A supervisor's leadership affects organizational members' job satisfaction.

2.2. Leadership types and entrepreneurship

Entrepreneurship within organizations is generally understood as the extent to which organizational members engage in opportunity recognition, idea generation, and the development of new products, services, or processes that contribute to organizational renewal. In recent literature, this construct has been most commonly operationalized through three core dimensions—innovativeness, proactiveness, and risk-taking—reflecting employees' tendency to pursue novel ideas, take initiative ahead of competitors, and act under conditions of uncertainty [22]. Importantly, such entrepreneurial behavior is not solely an individual attribute but is shaped by the broader organizational context. Prior studies suggest that organizational culture plays a critical role in fostering or constraining entrepreneurial orientation by providing norms and support for experimentation and autonomy [23]. At the same time, leadership styles have been shown to influence employees' entrepreneurial behavior by enhancing psychological empowerment, intrinsic motivation, and a willingness to engage in innovative and risk-taking activities [24].

Transformational leadership promotes members' autonomy and creativity and motivates them to take on new challenges, which strengthens the entrepreneurial attributes of innovativeness and proactiveness. Gumusluoglu and Ilsev [25] found that transformational leadership significantly enhances innovation outcomes in technology-based organizations. Zuraik and Kelly [26] found that leaders who share a clear vision and provide individualized consideration motivate members to engage in proactive behavior. Further, transformational leadership can increase the propensity to take risks by encouraging members to undertake new challenges in uncertain environments Birasnav et al. [27].

Many studies have found adverse effects of transactional leadership on entrepreneurship, as it traditionally prioritizes stability and rule compliance over autonomy and creativity. However, recent studies report that transactional leadership can positively affect entrepreneurial behavior to a certain extent, depending on the context. For instance, Mali et al. [28] suggested that clear performance criteria and rewards can encourage intrinsic motivation, which in turn promotes proactiveness and a propensity for risk-taking. Su et al. [29] empirically demonstrated that structured developmental feedback and expectation management from supervisors can enhance members' creative self-efficacy, acting as an indirect stimulant of innovative behavior.

Mukhtar et al. [4] found that servant leadership strengthens members' sense of

responsibility and prosocial motivation, which in turn promotes innovativeness and proactiveness. Aziz et al. [30] found that the interaction between self-determination and servant leadership increases members' creative attitudes and risk-taking propensity. As such, servant leadership is considered an effective leadership type for promoting psychological safety and intrinsic motivation-based entrepreneurship.

Across leadership types, a consistent pattern emerges in which each style shapes the sub-factors of entrepreneurship in different ways, producing varied outcomes as it interacts with particular organizational cultures or individual characteristics. Accordingly, the following hypothesis is proposed:

H2: A supervisor's leadership affects employee entrepreneurial behavior.

2.3. Types of job satisfaction and entrepreneurship

Organizational entrepreneurship may be understood as a behavioral orientation and an internalized commitment through which employees pursue innovation, proactiveness, and constructive risk-taking within the organization. Because such entrepreneurial tendencies are enacted through employees' day-to-day work experiences, they are likely to vary depending on the level of satisfaction employees derive from their jobs. Recent studies support this view. Stephan et al. [31] showed that employee job satisfaction is shaped by job demands, job control, and social support in entrepreneur-led firms, suggesting that the quality of the work environment conditions employees' attitudes and behavioral responses. Similarly, Extending this logic to entrepreneurial behavior, Escrig-Tena et al. [32] demonstrated that employee well-being links work conditions to innovative behavior, proactive behavior, and risk-taking behavior, while Klein and Ben-Hador [33] reported that organizational support factors such as rewards, management support, work discretion, and tolerance for risk-taking are positively associated with intrapreneurial behavior and employee performance. Taken together, these findings suggest that job satisfaction is not merely an attitudinal outcome, but a critical psychological condition through which different aspects of employees' work experience can shape distinct dimensions of entrepreneurial behavior.

In this context, a clearer conceptualization of job satisfaction is required to explain how it functions as a psychological driver of entrepreneurial behavior. Job satisfaction refers to an individual's satisfaction with the intrinsic value, meaning, challenge, and autonomy of their work. Job satisfaction acts as a central driver of intrinsic motivation. Syed Nisar et al. [34] found that higher job satisfaction leads to a greater sense of responsibility and self-direction among members, fostering proactive behavior. Studying employees of SMEs, Mustafa et al. [35] found that job satisfaction positively influences innovative behaviors, such as idea generation and implementation. They concluded that job satisfaction is directly related to innovation because behaviors related to idea implementation stem from satisfaction with challenging tasks.

Reward satisfaction refers to members' satisfaction with external rewards such as wages, benefits, and incentives and is a key determinant of members' willingness to take risks. Arslan et al. [36] found that satisfaction with rewards and job security significantly affects entrepreneurial behavior among service industry workers. They

explained that clearer reward systems strengthen members' voluntary challenge-seeking behaviors. In a study of professionals, Saha et al. [37] found that higher satisfaction with rewards promotes risk-taking behavior, which in turn leads to participation in new work methods or projects.

Promotion satisfaction reflects members' satisfaction with the growth potential and career development opportunities within an organization. It influences proactiveness and risk-taking propensity in entrepreneurship. In a study of cultural and arts industry workers, Jeong and Choi [38] found that anticipated career development and the perceived attainability of career goals significantly affect entrepreneurial intent. They suggested that the absence of promotion opportunities may prompt the members to pursue independent careers. Similarly, Kim [39] found that higher levels of intrinsic job promotion motivation and a clearer sense of career vision strengthen members' creative task performance and entrepreneurial behavior.

Interpersonal satisfaction captures the degree to which members feel satisfied with their relationships with superiors and colleagues, and it is crucial for fostering psychological safety within the organization and fostering entrepreneurial attitudes. Hidayati et al. [7] revealed that satisfaction with organizational culture and interpersonal relationships positively affect entrepreneurial spirit and innovativeness and that an environment that encourages horizontal communication and emotional support promotes innovative behavior. Akehurst et al. [40] also empirically demonstrated that mutual trust enhances intrinsic entrepreneurial activities in teamwork-based environments.

Prior studies consistently show that job satisfaction comprises multiple subdimensions rather than a single construct, and each dimension shapes the components of entrepreneurship through various pathways and intensities. A key finding is that satisfaction with one's work itself is closely related to innovativeness and proactiveness, while satisfaction with rewards and job promotion is closely linked to risk-taking propensity and entrepreneurial intention. Finally, satisfaction with interpersonal relationships is closely related to strengthening intrinsic motivation and community-based entrepreneurship. Accordingly, the following hypothesis is proposed:

H3: Organizational members' job satisfaction affects their entrepreneurship.

3. Research method

3.1. Research model

This study empirically examined how supervisors' leadership styles influence employee entrepreneurial behavior through job satisfaction, drawing on insights from prior research. The research model, presented in **Figure 1**, comprises leadership styles, job satisfaction, and the subdimensions of entrepreneurship. The leadership construct consists of transformational, transactional, and servant leadership. Job satisfaction reflects members' psychological responses to work, rewards, promotion, and interpersonal relationships. In this study, employee entrepreneurial behavior is defined as employees' innovation-oriented, proactive, and risk-accepting behavior within an existing organization. It does not refer to founding a new business, but to employees' tendency to pursue new ideas, take initiative, and accept uncertainty in their work roles.

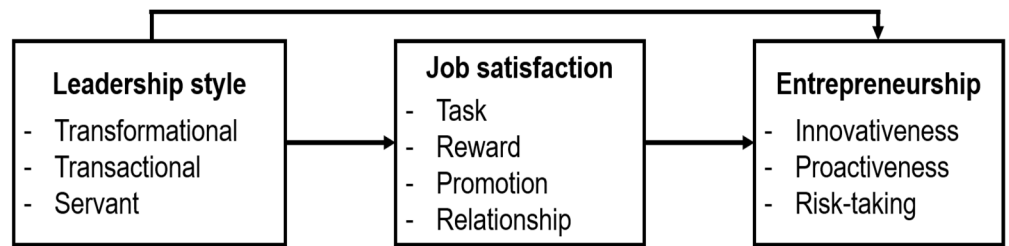


Figure 1. Research model.

Based on this research model, multiple regression analyses were first conducted to examine the relationships among leadership styles, job satisfaction, and entrepreneurship. In addition, a Sobel test was conducted to more directly verify the mediating role of job satisfaction. Because the main regression analyses examined detailed subdimensions of leadership style, job satisfaction, and entrepreneurship, the mediation test was conducted using higher-order composite variables. This approach was adopted to verify the overall mediating mechanism while maintaining the parsimony of the model. Accordingly, leadership style was treated as the independent variable, job satisfaction as the mediating variable, and entrepreneurship as the dependent variable in the mediation analysis.

This study adopted a regression-based analytical approach because its primary purpose was to examine the directional relationships among the subdimensions of leadership style, job satisfaction, and employee entrepreneurial behavior, rather than to test the overall fit of a latent structural model. Exploratory factor analysis and reliability analysis were used to examine the empirical structure and internal consistency of the measurement items, and multiple regression analysis was used to test the proposed relationships among the observed factor-based variables. Therefore, the analysis should be interpreted as a preliminary empirical test of the proposed relationships, not as a full structural equation model.

3.2. Operational definitions of variables

To test the hypothesis, the study employed a questionnaire to measure leadership styles, job satisfaction, entrepreneurial sub-factors, and demographic characteristics. The questionnaire items were drawn from relevant studies and assessed on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) for quantitative measurement.

Leadership styles comprised three sub-variables: transformational, transactional, and servant leadership. Transformational leadership was measured using four items assessing goal emphasis, future vision, group priority, and problem-solving ability. Transactional leadership comprised four items assessing reward clarity, recognition of performance, pointing out errors, and follow-up responses. The items for these two leadership styles were drawn from the same literature. Servant leadership was measured with four items assessing career management, social contribution, learning attitude, and support for organizational members.

Job satisfaction was assessed by classifying four sub-dimensions: work satisfaction, reward satisfaction, promotion satisfaction, and interpersonal satisfaction. Work satisfaction was measured with four items assessing alignment with personal

goals, growth through work, sense of accomplishment, and learning opportunities. Reward satisfaction was measured with four items related to welfare systems, salary level, competitiveness relative to other companies, and the ability of rewards to support livelihood. Promotion satisfaction was measured using four items assessing the fairness of evaluation and human resource management systems, seniority-based rewards, promotion prospects, and advantages relative to other companies. Interpersonal satisfaction was measured using four items regarding the recognition by superiors, acceptance by superiors, cooperation with colleagues, and closeness with colleagues.

Entrepreneurship was measured using three sub-dimensions: innovativeness, proactiveness, and risk-taking propensity. These dimensions were used to capture entrepreneurial behavior enacted by employees within their organizational roles, rather than entrepreneurial intention or new venture creation. Innovativeness refers to interest in new products or technologies, the value placed on creative ideas, and the necessity of continuous new product development. Proactiveness was measured with three items assessing bold decision-making in uncertain situations: namely, willingness to take on challenges, decisiveness, and the ability to execute. Risk-taking propensity was measured using three items related to adaptability to change, confidence-based pursuit of challenges, and risk-accepting behaviors. **Table 1** summarizes the structure of the questionnaire items.

Table 1. Structure of questionnaire items.

Variable		Number of items	Source
Leadership style	Transformational	4	[41,42]
	Transactional	4	
	Servant	4	
	Task	4	
Job satisfaction	Reward	4	[43–45]
	Promotion	4	
	Relationship	4	
Entrepreneurship	Innovativeness	3	[46,47]
	Proactiveness	3	
	Risk-taking	3	

3.3. Research participants and data collection

To empirically examine the relationships among leadership perception, job satisfaction, and entrepreneurship among ordinary employees in South Korea, this study conducted an anonymous online survey targeting general workers nationwide. In addition, several procedural efforts were made to reduce the possibility of common method variance in the self-report survey. The survey was conducted anonymously to reduce respondents' evaluation apprehension, and the questionnaire did not collect personally identifiable information. The items were written in simple and neutral language to minimize ambiguity and socially desirable responses. Moreover, the questionnaire was structured by construct so that respondents could clearly distinguish between leadership style, job satisfaction, and entrepreneurship items. These

procedures were intended to improve response reliability and reduce potential common method bias at the data collection stage.

Respondents were limited to individuals aged 20 years or older who had worked in a team within an organization in the past year. A total of 200 questionnaires were distributed to those who could evaluate their supervisor's leadership style. The survey was conducted over three weeks from March to April 2025. Links to the Google Form questionnaire were distributed via various online channels, including email, KakaoTalk, and text messages. To enhance response reliability and participation rate, the number of questions was minimized, and the language was kept concise. In total, 170 valid responses were used for the analysis.

4. Analysis results

4.1. Factor and reliability analyses

Exploratory factor analysis was conducted on items measuring leadership, job satisfaction, and entrepreneurship, followed by an assessment of each factor's reliability. Principal component analysis was used for factor analysis, and varimax rotation was applied to account for correlations between the factors.

The factor analysis results for the leadership items showed that transformational leadership items strongly loaded on Factor 1, transactional leadership items strongly loaded on Factor 2, and servant leadership items strongly loaded on Factor 3. These results are consistent with the theoretical distinctions. During this process, two items corresponding to transactional leadership were excluded. Each sub-factor's reliability was close to or exceeded the Cronbach's α criterion of 0.7, indicating that internal consistency was secured (**Table 2**).

Table 2. Factor analysis results of leadership style.

Variable	Factor1	Factor2	Factor3	Cronbach's α
Transformational 1	<u>0.828</u>	-0.040	0.079	0.756
Transformational 2	<u>0.768</u>	-0.001	0.305	
Transformational 3	<u>0.644</u>	-0.146	0.286	
Transformational 4	<u>0.521</u>	-0.402	0.370	
Transactional 1	-0.097	<u>0.859</u>	0.106	0.659
Transactional 2	-0.037	<u>0.815</u>	-0.286	
Servant 1	0.097	-0.006	<u>0.867</u>	0.799
Servant 2	0.253	-0.227	<u>0.726</u>	
Servant 3	0.311	-0.268	<u>0.719</u>	
Servant 4	0.336	0.110	<u>0.627</u>	

The factor analysis of the job satisfaction items produced four distinct factors. Factor 1 was labeled task satisfaction, Factor 2 reward satisfaction, Factor 3 promotion satisfaction, and Factor 4 relationship satisfaction. Each factor's reliability coefficient was also satisfactory (**Table 3**).

Table 3. Factor analysis results of job satisfaction.

Variable	Factor1	Factor2	Factor3	Factor4	Cronbach's α
Task 1	<u>0.853</u>	0.175	0.076	0.189	0.868
Task 2	<u>0.811</u>	0.163	0.228	-0.007	
Task 3	<u>0.766</u>	0.208	0.187	0.206	
Task 4	<u>0.760</u>	0.104	0.157	0.240	
Reward 1	0.149	<u>0.793</u>	0.204	0.079	0.807
Reward 2	0.331	<u>0.746</u>	0.073	0.111	
Reward 3	0.165	<u>0.685</u>	0.418	0.124	
Reward 4	0.062	<u>0.656</u>	0.246	0.180	
Promotion 1	0.142	0.192	<u>0.794</u>	0.023	0.818
Promotion 2	0.256	0.158	<u>0.708</u>	0.332	
Promotion 3	0.248	0.260	<u>0.697</u>	0.239	
Promotion 4	0.084	0.287	<u>0.653</u>	0.170	
Relationship 1	0.085	0.018	0.345	<u>0.787</u>	0.830
Relationship 2	0.118	0.325	0.173	<u>0.765</u>	
Relationship 3	0.180	0.206	-0.074	<u>0.762</u>	
Relationship 4	0.267	-0.016	0.332	<u>0.716</u>	

The factor analysis of the entrepreneurship variables yielded two factors. Innovativeness and risk-taking loaded together on Factor 1, whereas proactiveness loaded on Factor 2. Accordingly, this study combined innovativeness and risk-taking into a single empirical construct labeled innovative risk-taking. This merger does not imply that innovativeness and risk-taking are theoretically identical. Rather, it suggests that, in this sample of ordinary employees, the pursuit of new ideas and the willingness to accept uncertainty were perceived as closely connected behavioral tendencies. In organizational settings, employees may regard innovative behavior as inherently involving risk because it often requires deviation from established routines, uncertainty about outcomes, and the possibility of failure [48,49]. Therefore, the two-factor structure can be interpreted as a context-specific empirical pattern rather than a rejection of the conventional three-dimensional view of entrepreneurship. Although Cronbach's α for proactiveness was somewhat low at 0.668, it remains acceptable given the exploratory nature of the study and the characteristics of the respondent group (Table 4).

Table 4. Factor analysis results of entrepreneurship.

Variable	Factor1	Factor2	Cronbach's α
Innovativeness 1	<u>0.834</u>	0.085	0.851
Innovativeness 2	<u>0.824</u>	0.179	
Innovativeness 3	<u>0.717</u>	0.258	
Risk-taking 1	<u>0.685</u>	0.217	
Risk-taking 2	<u>0.598</u>	0.526	0.668
Risk-taking 3	<u>0.510</u>	0.478	
Proactiveness 1	0.030	<u>0.831</u>	

Table 4. (Continued).

Variable	Factor1	Factor2	Cronbach's α
Proactiveness 2	0.207	<u>0.715</u>	0.668
Proactiveness 3	0.429	<u>0.616</u>	

4.2. Multiple regression analysis results

Multiple regression analyses were conducted to test the hypotheses. Gender and age were also included as control variables in addition to the variables specified in the research model. **Table 5** presents the results for the effect of leadership styles on job satisfaction. Transformational leadership has a significant positive effect on work satisfaction, reward satisfaction, and interpersonal satisfaction. However, it does not significantly affect promotion satisfaction. Transactional leadership significantly affects only reward satisfaction. Servant leadership has a significant positive effect on all four satisfaction dimensions. These findings indicate partial support for H1, which proposed that supervisors' leadership affects members' job satisfaction.

Table 5. The effect of leadership style on job satisfaction.

Variable	Task		Reward		Promotion		Relationship	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Transformational	0.351	3.88***	0.217	2.36**	0.140	1.53	0.251	3.55***
Transactional	0.079	1.34	0.152	2.52**	0.002	0.03	-0.062	-1.33
Servant	0.210	2.42**	0.202	2.28**	0.410	4.65***	0.424	6.24***
Gender	(Included)		(Included)		(Included)		(Included)	
Age	(Included)		(Included)		(Included)		(Included)	
Cons.	1.606	3.82***	1.660	3.88***	1.327	3.11***	1.644	5.00***
Obs.	170		170		170		170	
F	6.19		3.43		7.40		18.15	
Adj R2	0.1971		0.1031		0.2325		0.4481	

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6 presents the results for the effects of leadership styles and job satisfaction on entrepreneurship. Transformational leadership has a significant positive effect on innovative risk-taking propensity and proactiveness. Transactional leadership also has a significant positive effect on both variables. Servant leadership has no statistically significant effect on either variable.

Among different types of job satisfaction, work satisfaction has a significant positive effect on innovative risk-taking propensity and proactiveness. Reward satisfaction has no significant effect on either variable. Promotion satisfaction has a significant negative effect on innovative risk-taking propensity and proactiveness. Interpersonal satisfaction has a significant positive effect on innovative risk-taking propensity. Therefore, H2 and H3 were partially supported.

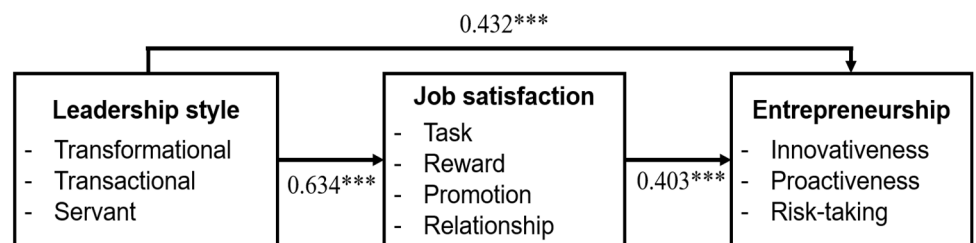
Table 6. The effect of leadership style and job satisfaction on entrepreneurship.

Variable	Innovative risk-taking		proactiveness		Innovative risk-taking		proactiveness	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Transformational	0.383	4.90***	0.245	2.85***				
Transactional	0.098	1.91*	0.128	2.28**				
Servant	-0.018	-0.24	0.045	0.54				
Task					0.479	7.54***	0.434	5.78***
Reward					0.088	1.26	0.042	0.51
Promotion					-0.259	-3.72***	-0.141	-1.71*
Relationship					0.189	2.79***	-0.001	-0.01
Gender	(Included)		(Included)		(Included)		(Included)	
Age	(Included)		(Included)		(Included)		(Included)	
Cons.	2.562	7.05***	2.125	5.33***	2.109	7.04***	2.147	6.05***
Obs.	170		170		170		170	
F	4.94		2.83		11.63		5.40	
Adj R2	0.1572		0.0799		0.3614		0.1899	

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

4.3. Mediation analysis

To further examine whether job satisfaction mediates the relationship between leadership style and entrepreneurship, a Sobel test was additionally conducted using higher-order composite variables. As shown in **Figure 2**, leadership style had a significant positive effect on job satisfaction, and job satisfaction had a significant positive effect on entrepreneurship. Leadership style also had a significant direct effect on entrepreneurship. The Sobel test result confirmed that the indirect effect of leadership style on entrepreneurship through job satisfaction was statistically significant. These findings indicate that job satisfaction partially mediates the relationship between leadership style and entrepreneurship. In other words, leadership style influences entrepreneurship not only directly, but also indirectly by enhancing job satisfaction (**Table 7**).

**Figure 2.** Mediation effect of job satisfaction.**Table 7.** Sobel test result.

Path	Z-value
Leadership style → Job satisfaction → Entrepreneurship	5.030***

*** $p < 0.01$.

5. Discussion and conclusion

Supervisors' leadership and employee entrepreneurial behavior are becoming increasingly important within modern companies. This study analyzed how supervisors' leadership styles shape organization employees' entrepreneurial behavior and identified the pathways through which job satisfaction contributes to this relationship. The results indicate that transformational leadership has a significant positive effect on job, reward, and interpersonal satisfaction. However, its relationship with promotion satisfaction is not significant. This suggests that transformational leadership enhances psychological satisfaction and strengthens the perceived meaning of work through vision articulation, individualized consideration, and intellectual stimulation. However, the promotion system within an organization is influenced by more structural and institutional factors, and the result is interpreted to reflect the limitation that the influence of an individual leader alone is insufficient. Transactional leadership has a significant positive effect only on reward satisfaction and does not affect the other job satisfaction factors. This appears to be because transactional leadership, as a reward-centric form of leadership, links clear task instructions and performance-based rewards to members' expectations. Servant leadership positively affects all four job satisfaction factors, suggesting that a leadership style focused on members' welfare and growth significantly enhances their overall job satisfaction.

The analysis of the effect of job satisfaction on innovative risk-taking propensity and proactiveness, the two sub-factors of entrepreneurship, showed that job satisfaction significantly strengthened both sub-factors. Thus, when members find meaning in their work and feel autonomy, they are less fearful of new endeavors and more likely to voluntarily engage in challenging tasks. Reward satisfaction shows no significant relationship with entrepreneurship, suggesting that satisfaction with extrinsic rewards does not necessarily lead to challenge-seeking or creativity. Promotion satisfaction has a negative effect on both innovative risk-taking and proactiveness. This finding suggests that satisfaction with promotion opportunities does not always lead to stronger entrepreneurial behavior. One possible interpretation is that employees who are satisfied with stable promotion prospects may become more oriented toward maintaining their current organizational position than toward pursuing uncertain initiatives. In this sense, promotion satisfaction may create a comfort zone in which employees prefer career security, predictable advancement, and conformity to organizational expectations. This result is consistent with the idea that entrepreneurial behavior requires exploration and deviation from established routines, whereas stable promotion systems may reinforce exploitation, organizational rigidity, and risk avoidance. Interpersonal satisfaction significantly affects innovative risk-taking propensity but not proactiveness. This means that positive interpersonal relationships provide members with emotional support and stability, which may encourage them to take risks.

Finally, the analysis of the direct paths between leadership styles and entrepreneurship showed that transformational and transactional leadership positively influence innovative risk-taking propensity and proactiveness. Meanwhile, servant leadership does not demonstrate a significant effect. This suggests that members are more likely to embrace and execute challenging tasks according to their leaders' vision

and direction when leaders provide clear goals and motivation. The additional Sobel test further supports the mediating role of job satisfaction. The result shows that leadership style has a significant indirect effect on entrepreneurship through job satisfaction. This finding strengthens the argument that supervisors' leadership does not merely influence employees' entrepreneurial behavior directly, but also operates through employees' psychological evaluation of their work. Since the direct effect of leadership style on entrepreneurship remained significant, job satisfaction can be interpreted as a partial mediator rather than a full mediator.

This study makes three main contributions to the literature. First, it extends leadership and entrepreneurship research by examining ordinary employees in South Korea, rather than focusing only on entrepreneurs, founders, or managerial groups. This context is meaningful because employee entrepreneurial behavior is shaped within existing organizational structures, where supervisors' leadership may either encourage or constrain autonomous and innovative behavior. Second, this study provides an integrated comparison of transformational, transactional, and servant leadership within the same empirical framework, thereby clarifying that different leadership styles do not influence job satisfaction and entrepreneurial behavior in the same way. Third, the study contributes to a more nuanced understanding of employee entrepreneurial behavior by distinguishing innovative risk-taking from proactiveness. The findings suggest that leadership and job satisfaction are associated with different dimensions of entrepreneurial behavior through different patterns.

From a practical perspective, these findings suggest that organizations should design leadership development programs that are directly connected to employee entrepreneurial behavior. Transformational leadership training should focus on helping supervisors communicate an innovation-oriented vision, provide intellectual stimulation, and encourage employees to propose new ideas without excessive fear of failure. Transactional leadership training should focus on setting clear performance expectations and linking rewards to constructive entrepreneurial behaviors, such as idea proposal, experimentation, and proactive task execution. Servant leadership training should emphasize mentoring, listening, employee support, and the creation of psychologically safe relationships, because servant leadership was strongly associated with multiple dimensions of job satisfaction.

The findings also provide implications for reward and promotion systems. Since task satisfaction positively affected entrepreneurship, organizations should design jobs that provide autonomy, learning opportunities, and a sense of achievement. At the same time, the negative effect of promotion satisfaction suggests that promotion systems based only on seniority, stability, or conformity may unintentionally discourage innovative risk-taking and proactiveness. Therefore, organizations should include innovation-related criteria in evaluation and promotion systems, such as attempts to improve work processes, participation in new projects, learning from failed experiments, and contributions to team-level innovation. In this way, leadership training and personnel systems can encourage employees to pursue entrepreneurial behavior without making them feel that innovation threatens their career stability.

Despite its contributions, this study has the following limitations. First, the survey targeted general employees, which enhances the broad applicability of the findings but limits their relevance for developing strategies that reflect specific regional or industry

characteristics. In addition, the sample size was relatively limited, as the analysis was based on 170 respondents. Therefore, although the sample was sufficient for an initial empirical examination of the proposed relationships, the findings should be interpreted cautiously in terms of external validity and generalizability. Subsequent research could address this issue by incorporating larger samples with more diverse demographic, regional, industrial, and organizational characteristics. Second, the reliance on self-report measures introduces the possibility of individual and consistency bias. Specifically, the results for the entrepreneurship questionnaire items did not fully align with the conventional three-dimensional structure of innovativeness, proactiveness, and risk-taking. In this study, innovativeness and risk-taking converged into a single factor, suggesting that ordinary employees may perceive new idea generation and risk acceptance as closely related aspects of entrepreneurial behavior. Future studies should develop more specialized and context-sensitive items and further validate whether the innovative risk-taking construct is unique to employee-level entrepreneurship or to the South Korean organizational context. Finally, as this study analyzed data collected at a single point in time, the temporal context may have significantly influenced the results. Therefore, research based on panel data through continuous longitudinal follow-up is likely necessary.

Author contributions: Conceptualization, SL and SY; methodology, SY; software, SY; validation, SL and SY; formal analysis, SY; investigation, SL; resources, SL; data curation, SL; writing—original draft preparation, SL; writing—review and editing, SY; visualization, SL; supervision, SY; project administration, SY; funding acquisition, SY. Both authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2024S1A5C2A02046448).

Ethical approval: Not applicable.

Informed consent statement: Not applicable.

Acknowledgments: We gratefully acknowledge the support and assistance provided by the participating institutions and universities that contributed to this research.

Conflict of interest: The authors declare no conflict of interest.

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