



Supervisor Leadership and Subordinates' Innovative Work Behaviors: Creating a Relational Context for Organizational Sustainability

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Abstract: Under turbulent environmental changes during the pandemic, organizational sustainability requires employees of all levels to perform innovative work behaviors in their daily jobs. Since virtual work environments could deteriorate the quality of collaborative interactions and interpersonal bonds among employees, organizations need to create more relation-focused contexts to trigger innovative behaviors from people. This study aims to explore the influence of supervisors' relational leadership on the contexts in which subordinates are drawn to innovative work behaviors. Particularly, this study explains the process of this relationship by considering the psychological contract construct as the mediating variable, assuming that the social exchange between employees and the organization influences their decision to perform innovative behaviors. A total of 237 newcomers from a Korean conglomerate participated in the study, and surveys were conducted at two time points for the same participant to detect changes over time. The results showed that the perception of supervisors' relational leadership was positively related to employees' performance in innovative work behaviors over time. This relationship was partially mediated by an individual's perception of employee promises, implying that a sense of obligation towards the organization could be an essential condition for innovative work behaviors. The theoretical and practical implications are discussed.

Keywords: innovative work behavior; relational leadership; psychological contract; sustainability



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1. Introduction

Recently, innovative work behavior (IWB) has been critical for organizational sustainability and resilience [1–3]. Organizational success is grounded in each individual's creative ideas and innovative behaviors, especially when the organization undergoes turbulent environmental changes [4,5]. Being creative in work behavior is no longer demanded only for management or special teams but for almost every employee [6,7]. Therefore, understanding organizational contexts to trigger innovative behaviors from employees becomes more important for organizational sustainability [8,9]. This understanding could provide valuable guidelines for the organization to formulate practical human resource management practices more creatively and efficiently.

In nature, innovative work behaviors are considered challenging for individuals because they could be risky from employees' perspectives [10]. Innovative behavior is not a simple action but rather a complex and risky behavior requiring employees to change their perspective and tolerance to a considerable level of uncertainty [11,12]. In most cases, innovative behavior deviates from routine workflows and procedures. This divergence from the norm creates unexpected risks for employees, such as the misinterpretation of motives, rejection by colleagues, potential loss of reputation, and interruption of normal work systems [13]. These characteristics can cause employee hesitation and create a psychological barrier to performing the behavior. Furthermore, in most cases, the performance of IWB exists outside the boundary of job descriptions. IWB is not driven by formal requirements and, thus, only occurs when employees are willing to display such behavior [14].

Sustainability **2022**, 14, 3230 2 of 15

Therefore, organizations should understand the contexts in which individuals become naturally inclined to overcome psychological burdens and take risks. Among various contextual factors, supervisor leadership has been considered an important factor in facilitating this behavior [15–19]. Although several leadership models (e.g., ethical and transformational leadership) have been suggested to be related to innovative behaviors, specific mechanisms of supervisor leadership that allow subordinates to display innovative behaviors have rarely been investigated [20–23]. Therefore, the individual's decision-making processes and psychological aspects underlying this relationship remain unclear.

This study considers relational leadership, which has barely been researched in the innovation literature, as an important factor in anticipating subordinates' innovative behaviors. Due to the COVID-19 pandemic, organizations find it difficult to provide individuals with sufficient networks or interpersonal closeness. An empirical study notes that working remotely after a pandemic negatively influences employees' workplace relationships [24]. Virtual teamwork is one of the most challenging tasks organizations are now confronted with. Individuals easily experience a lack of communication and difficulties in solving interpersonal conflicts in virtual work environments, and this makes it difficult to inspire trust and teamwork among individuals [25,26]. In such situations, leaders are required to mitigate these relational obstacles and ensure a psychologically safe team climate [27]. Pandemic crises have significantly changed the array of leadership behaviors [27,28]. Leadership is required to demonstrate an understanding of and openly discuss subordinates' feelings and hopes, build close relationships with them, provide prompt feedback and support, and develop mutual trust through remote and online interactions [27,29]. In this respect, this study focuses on the relational leadership of supervisors as a critical resource to generate creative work contexts and sustainable organizations.

In particular, individuals' psychological contract perceptions of their relationship with the organization were analyzed as a factor to explain the connection between relational leadership and IWBs. Theoretically, it is based on the social exchange perspective that IWB is a reciprocal behavior for the benefits from the organization. Previous research has empirically proved that supervisors' relational behaviors can positively influence newcomers' psychological contract formation [30]. However, its focus has been limited to the relational versus task behaviors of supervisors, rather than covering much broader and ongoing aspects of supervisor–subordinate relationships. A more comprehensive and process-centered leadership theory should be applied to consider the dynamic nature of IWB, which can be driven by multiple interactions and adaptations to changes.

The purpose of this study is to adopt a relational approach to leadership. Considering leadership as an important contextual condition for individual creativity, this study aims to investigate the role of relational aspects between supervisors and subordinates in the performance of IWBs. Furthermore, this study attempts to explain the psychological process involving IWB performance from the perspective of the exchange between organizational benefits and individual contributions. Considering the sense of obligation as an important IWB driver, this study aims to deepen the understanding of the mechanism by which IWBs occur and provide broad implications for organizations. The specific objectives of this study are as follows:

- Empirically examine the influence of relational leadership on subordinates' IWBs.
- Explain the reason for the impact of relational leadership on IWBs based on the role of individuals' perceptions of the psychological contract.
- Propose a new perspective on the process by which IWBs occur considering social exchange in the employment relationship between an individual and the organization.
- Provide practical implications for how organizations can motivate employees to engage in IWBs.

Sustainability **2022**, 14, 3230 3 of 15

1.1. Theoretical Background

1.1.1. Innovative Work Behaviors

Innovative work behavior (IWB) refers to employee behaviors that drive the introduction and implementation of new ideas, products, and procedures that are beneficial for the group or organization [31–33]. IWBs are intentional behaviors performed to improve existing conditions for employees and for the organization [34], and include generating useful ideas, applying these concepts to the real world, and adapting ideas to the existing system [35]. IWB is a multidimensional concept that includes various aspects of work behaviors. Studies have proposed the following dimensions: (1) Investigating better solutions for existing products or services (exploration), (2) generating and specifying new ideas (generation), (3) evaluating the fit between new ideas and existing systems (championing), and (4) actualizing ideas into new products or services (implementation) [36,37]. Although IWB conceptually consists of multiple dimensions, ref. [36] empirically prove that these dimensions are not significantly distinct and propose that IWB is a unidimensional construct.

Previous studies have proposed various antecedents for the performance of IWBs from the perspective of human resource management practices. Job enrichment, job enlargement, task difficulty, and task time were significantly related to the job holder's performance of IWB [38–41]. The inclusion of innovative behaviors as a core competency within performance indices is critical, and distributive and procedural fairness are likewise known to facilitate IWBs [42–45]. As regards the reward system, both extrinsic and intrinsic rewards are significantly related to IWBs [46]. Organizational climate—and the concept of psychological safety in particular—is crucial in helping individuals overcome psychological barriers and perform innovative behaviors [47,48]. Lastly, various leadership styles are proven to significantly impact employees' IWBs [15–20,22,49]. This study focuses on relational leadership as an important antecedent to the performance of IWBs by employees.

1.1.2. Relational Leadership and Innovative Work Behavior

Relational leadership is a process-based leadership that emphasizes social dynamism between leaders and subordinates to increase employee performance, trust, and satisfaction [50,51]. Relational leadership focuses on the social process, which is deemed a crucial ingredient for achieving positive change and improvement [52,53]. In her 'relational leadership theory', Uhl-Bien suggested that relational leadership theory adopts a different approach than other forms of relation-centered leadership concepts such as leader–member exchange theory, Hollander's relational theory, and the concept of charismatic relationships [54]. These forms of leadership take the entity perspective, which views an individual as separable from the relationship and considers leadership a pre-existing state. However, relational leadership views the self and others as interdependent constructs existing only in relation to one another, and the process of organizing the relationship is considered meaningful [54].

Relational leadership is generally deemed an inclusive construct. Ref. [52] suggested five attributes of relational leadership: Inclusive, empowering, purposeful, ethical, and process. Separately, ref. [51] discussed five rather different elements: Collaboration, caring, courage, intuition, and vision. Based on these works, ref. [55] more recently developed a relational leadership questionnaire based on five attributes: Inclusive, empowering, caring, ethical, and vision and intuition. Specifically, 'inclusive' refers to the ability to work together and create synergy within the group. 'Empowering' indicates the ability to develop an individual's capabilities and encourage individuals to share information with others. 'Caring' signifies showing empathy to others and suitably responding to others' needs. 'Ethics' refers to establishing appropriate standards for decision-making and respecting opposing opinions and values. 'Vision' entails establishing inspirational goals and missions with a clear articulation of detail [55].

These relational leadership behaviors can be viewed as necessary for developing individuals' IWBs. An empirical study concluded that leadership behaviors such as providing a vision, delegating, and supporting—the main sub-dimensions of relational leadership—

Sustainability **2022**, 14, 3230 4 of 15

significantly improved the level of performance of subordinates' IWBs [46,56]. Employees' perception of psychological empowerment formed by these leadership behaviors proved to be positively related to their performance of IWBs [57]. It has been suggested that the relational aspect of supervisor leadership (i.e., the subordinate's perception of how much the leader trusts the subordinate) could mediate the relationship between a supervisor's risk-taking and the subordinate's satisfaction, commitment, and organizational citizenship behaviors [58].

Although some studies have provided insights into the role of relational leadership, the specific mechanism of the link between relational leadership and IWBs remains unclear. In particular, quantitative investigation of this mechanism based on the process perspective has rarely been performed. This study, therefore, attempts to explain the causal mechanism of this relationship by adopting the concept of 'psychological contract' from a process perspective.

1.1.3. The Mediating Role of the Psychological Contract

A psychological contract is defined as an employee's belief set about their mutual obligations to the organization [59,60]. This represents an individual's perception of what could be exchanged with the organization in the future. 'Promises' are the main component of the psychological contract. Employer promises are the expected future benefits from the organization to employees, and employee promises are the expected contributions from an individual to the organization [61–63]. Given that promises are perceived individually and subjectively, employees under the same employment contract can possess different psychological contracts [64].

Employer and employee promises are centered on major 'content' areas. Studies have empirically revealed highly representative content areas that most individuals and organizations promise to each other. The employer promises the provision of training, fair treatment, fulfillment of personal needs, discretion, humanity, recognition, pay and benefits, and job security. The employee promises contain performing a job effectively, volunteering for tasks outside the job scope, developing new skills, following policies and procedures, and displaying loyalty, honesty, and flexibility [63,65,66].

There are several reasons for conceptually considering the psychological contract as a construct related to relational leadership. First, given the process perspective of the psychological contract, supervisors are the primary contract-makers and can shape the main content of the psychological contract [67,68]. Specifically, supervisors are 'human contractmakers' who send intensive signals regarding what individuals can expect to receive from the organization and what is expected for employees to perform [63,64,69]. Theoretically, promises in a psychological contract are formed implicitly and explicitly [63,64]. The organization explicitly conveys future promises to employees through formal employment contracts, rulebooks, written statements, announcements, and so on. Individuals also formulate their promises implicitly by experiencing human resource practices such as compensation systems, observing how the organization treats others, and interpreting CEOs' speeches or dialogues [63]. Supervisors play a major role in these formation processes because supervisors are naturally perceived as an 'agency' acting on behalf of the organization [67]. Supervisors can be primary contract-makers through both interaction and observation. Subordinates infer the organization's intention towards employees from supervisors' words and behaviors during direct interactions, and by observing supervisors' responses to employee behaviors in diverse situations [64]. Employees tend to interpret the supervisor's attitudes and behaviors as those of the organization, and based on this, individuals finally perceive employer and employee promises. Therefore, the psychological contract formation process is closely related to leadership.

Second, the psychological contract is a 'process-centered' construct, as emphasized by the relational leadership theory [59,70]. As mentioned above, relational leadership postulates that leadership is developed incrementally through social processes between leaders and followers. Uhl-Bien emphasized that relational leadership is 'a social influence process through which emergent coordination and change are constructed and produced' [54] (p. 668). In other words, leadership is not an independent action or a disconnected situation,

Sustainability **2022**, 14, 3230 5 of 15

but a process of interaction that generates changes in values, attitudes, and behaviors. Similarly, a psychological contract is viewed as the process of experiencing and interpreting a series of events and transactions [59,64]. The psychological contract is constantly renegotiated, and contract formation is accomplished through serial interactions between behaviors [62,70,71].

More specifically, Conway and Briner defined the psychological contract formation process in several stages based on the social exchange theory: Employer promises (stage 1), employer behavior (stage 2), employee promises (stage 3), and employee behavior (stage 4) [64] (p. 57). First, the organization takes action towards employees based on the initial perception of the employer's promise (stages 1 and 2). Subsequently, employees perceive their obligations in exchange for the organizations' actions towards them (stage 3), and finally, employees perform behaviors based on their perception of employee promises (stage 4). For example, if employees are provided benefits from the company (employer behavior), they feel obligated to reciprocate the benefit in a compatible way, such as by demonstrating a high level of loyalty (employee promises). In other words, individuals formulate their perception of the employee promise based on what the organization has provided them, and the perception of employee promises is the foundation for their contributory behaviors towards the organization.

This theoretical proposition has been applied to explain why supervisors' relational leadership increases individuals' perception of employee promises. To subordinates, the supervisor's relational leadership could be considered 'employer behavior' the organization provides. Supervisors' relational leadership comprises many elements considered organizational inducements for employees. The main attributes of relational leadership are closely related to the principal content areas of employer promises. For example, supervisor behaviors regarding 'inclusiveness' (i.e., treatment with respect and creation of opportunities for professional growth) could be interpreted as the organization providing employees with adequate training and development opportunities. Behaviors of 'empowerment' (i.e., promotion of self-leadership and encouragement of information-sharing) can be viewed by individuals as trust in their discretion and accountability in their jobs. 'Caring' behaviors of the supervisor assure individuals that the employer's promise to respect personal circumstances and meet employee needs has been kept. 'Ethical' behaviors (i.e., the establishment of standards, encouragement of a shared process, creation of opportunity, and responsibility for others) satisfy employer promises of fair treatment for individuals, justice in the application of rules, and a good social atmosphere. Therefore, experiencing the supervisor's relational leadership assures individuals that the organization has fulfilled employer promises. This perception can lead employees to form their own obligations towards the organization and be more likely to perceive employee promises.

Perception of employee promises can facilitate an individual's performance of IWBs. Innovative work behavior is discretionary in nature [10,14]. In most cases, IWBs are extrarole behaviors that are not formally rewarded by the organization [71]. Performing IWBs requires that employees invest in distinct cognitive efforts as IWBs involve the intentional creation of something novel based on a change-oriented mindset [11,12]. Furthermore, IWB demands emotional investment from employees because IWB is a risk-taking behavior subjecting the employee to possible rejection from colleagues, or to interference in work streams and collaboration with others [11,13]. Given this uncertainty, individuals are naturally apprehensive and experience difficulty performing IWB in the workplace. IWB can be displayed only when individuals overcome these psychological obstacles [10,13,14].

Therefore, perceiving employee promises can be expected to help drive IWBs among employees. This is because individuals develop a strong sense of willingness to invest efforts for performing IWBs when they strongly perceive employee promises. Obligations towards the organization compel individuals to make exceptional efforts in their work and try to overcome the psychological obstacles to performing IWBs. Furthermore, fulfilling the general areas of employee promises is closely connected to the IWB performance. For example, employee behaviors fulfilling the promise of delivering high-quality work and

Sustainability **2022**, 14, 3230 6 of 15

developing new abilities can drive the individual to develop new ideas and approaches in their job. Volunteering for extra-role tasks, such as assisting and sharing information with colleagues, can further increase the opportunity to receive feedback and support from others about new ideas. In this context, the following hypotheses have been developed:

Hypothesis 1. The supervisor's relational leadership is positively related to employees' performance of innovative work behaviors over time.

Hypothesis 2. The relationship between the supervisor's relational leadership and employees' performance of innovative work behaviors is mediated by the perception of employee promises over time.

2. Materials and Methods

2.1. Participants

Newcomers in a South Korean conglomerate with several subsidiaries participated in the survey. All newcomers in the subsidiaries were recruited over the same period and socialized together for several months. As this study addressed process-centered constructs and their effects, surveys with the same individuals were conducted at two time points during 2021. The first time point (T1) was six months from hire, with respondents subsequently dispatched to the work team after completing all socialization programs. The second time point (T2) was six months after T1. This interval was based on a previous suggestion that three and six months are significant intervals for the socialization of newcomers [72–74]. Among the key study variables, employees' perceptions of relational leadership were measured only once, at T1. This study assumes that there is a time lag before relational leadership takes effect, as it focuses on the process of interactions and relationship building. Therefore, it was measured at T1, which is anticipated to have an outcome later. The perception of employee promises and innovative behavior performance was measured at both T1 and T2 to assess changes over time.

Surveys were conducted online. To ensure that responses from two time points were matched anonymously, participants were asked to record in both surveys a unique nickname or serial number that only they could recognize. Among the 391 newcomers, 349 responded to the first survey (89% response rate) and 263 responders completed the second survey (75% response rate). Excluding 26 data points (23 cases of unmatched personal nicknames, 3 cases of unfinished responses), 237 responses were adopted as the final dataset.

The study demographics are as follows. Among participants, 57.5% were men and 42.5% were women. The majority (90.5%) of respondents were in their twenties, while the remainder (9.5%) were in their thirties. The education level of participants included bachelor's (91.1%) and master's (8.9%) degrees, and respondents represented the following industries: IT (67%), services (27%), and manufacturing (6%). Finally, job families included office work (74%), R&D (17%), and sales (8%).

2.2. Measures

Relational leadership was measured using 25 items from the Relational Leadership Questionnaire (RLQ) developed by ref. [55]. The RLQ consists of 5 dimensions—empowering, ethical, caring, vision, and inclusive—while each dimension comprises 5 items. Example items are 'builds professional capabilities of others and promotes self-leadership' (empowering), 'encourages a shared process of leadership through the creation of opportunity and responsibility for others' (ethical), 'promotes individual development and responds to the needs of others' (caring), 'provides inspiring and strategic goals' (vision), and 'creates opportunity for professional and personal growth for others' (inclusive). Participants were asked to assess how often their supervisors demonstrated these behaviors in interactions with subordinates, using a 5-point Likert scale ranging from 'not at all' to 'to a very great extent'. A reliability test of the scale indicated an acceptable range (Cronbach's alpha = 0.83).

Sustainability **2022**, 14, 3230 7 of 15

The perception of employee promises was measured using 19 items based on the work of ref. [75]. The promise perception was measured in 5 content areas: In- and extra-role behavior, flexibility, ethical behavior, loyalty, and employability. Content areas represent where the promises are made, and the sum of the values from each area has been used to measure an individual's overall promise perception, psychological contract, and its fulfillment [76-78]. Therefore, this study considered the sum of the sub-dimensional values as representative of the overall perception of employee promises. Example items include 'deliver qualitative work' (in-role behavior), 'share information with your colleagues' (extrarole behavior), 'volunteer to do tasks that are strictly not part of your job or necessary' (flexibility), 'follow the policies and norms of the organization' (ethical behavior), 'remain with the organization for at least some years' (loyalty), and 'take personal initiative to attend additional training courses' (employability). Individuals were required to assess how obligated they felt to display these behaviors within the organization using a 5-point Likert scale ranging from 'not promised at all' to 'promised to a very great extent'. Additionally, the perception of employer promises was measured to compare the effects of employee promises. Employer promises were measured using the 19-item scale of ref. [75], which covers the following 5 dimensions: Career development, job content, social atmosphere, financial rewards, and work-life balance. The reliability indices of these measures were acceptable (Cronbach's alpha of employee promise: 0.82, Cronbach's alpha of employer promise: 0.86).

For IWBs, Janssen's 9-item scale, which includes 3 dimensions, was adopted [31]. Example items include 'creating new ideas for difficult issues' (idea generation), 'mobilizing support for innovative ideas' (idea promotion), and 'transforming innovative ideas into useful application' (idea realization). Although this construct has sub-dimensions, the sum value is analyzed because sub-dimensions of IWB have been empirically proven to be indistinct and a single construct [36]. Individuals were asked how often they exhibited these behaviors in their work. Original sentences in the introduction were rephrased appropriately for the self-report response format ('please rate yourself on the extent to which I:'). A 5-point Likert scale ranging from 'not at all' to 'to a very great extent' was used. The scale's reliability was within an acceptable range (Cronbach's alpha = 0.78).

2.3. Analysis

The hypotheses were tested using structural equation modeling. Nine models were evaluated to test the relationship between relational leadership and innovative work behavior mediated by employee promises. For a more accurate estimation of the mediating effect of employee promises, the employer promise variable was included in the models. Model 1 was the direct path from supervisors' relational leadership at T1 to individuals' IWBs at T2—the first condition for the mediation effect suggested by ref. [79]. Model 2 was the path from relational leadership at T1 to individuals' perceptions of employee promise at T2—the second condition for mediation. Other models of the mediation effect of employee promises included the full-mediation model of employee promise (Model 3), the partial-mediation model of employee promises (Model 5). For comparison, the mediation effect of employer promises was tested: The path from relational leadership at T1 to employer promise at T2 (Model 6), the full-mediation model of employer promise (Model 7), the partial-mediation model of employer promise (Model 8), and the direct effect model of employer promise (Model 9).

Multiple criteria were examined to evaluate the fitness of the models: Chi-square, the chi-square goodness-of-fit, comparative fit (CFI), the Tucker–Lewis index (TLI), and the root-mean-square error of approximation (RMSEA) [80–82]. This study adopted boot-strapping estimators because they are effective at examining the mediation effect without distributional assumptions [83]. During the hypothesis test, the levels of employee promise perception at T1 and innovative work behavior at T1 were controlled to estimate the change more accurately from T1 to T2. Additionally, age, gender, branch, and job family were control variables, as they could be relevant to the consequent variable.

Sustainability **2022**, 14, 3230 8 of 15

3. Results

3.1. Structural Validity

To evaluate the structural validity of the main constructs, the fit indices for the measurement model were compared with those of alternative models. The measurement model presented the best fit (CFI = 0.906, TLI = 0.876, RMSEA = 0.057). Alternative models showed a comparatively poor fit, confirming the validity of the measurement model (alternative model 1 (supervisors' relational leadership and perceived employer promises of individuals were correlated at 1): CFI = 0.832, TLI = 0.778, RMSEA = 0.076, alternative model 2 (relational leadership and perceived employee promises were correlated at 1): CFI = 0.806, TLI = 0.744, RMSEA = 0.082, alternative model 3 (relational leadership and innovative work behavior were correlated at 1): CFI = 0.857, TLI = 0.811, RMSEA = 0.070) (Table 1).

	Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	T1 Relational leadership												
2	T2 Employee promise	0.166 **											
3	T1 Employee promise	0.290 ***	0.511 ***										
4	T2 Employer promise	0.032	0.384 ***	0.188 **									
5	T1 Employer promise	0.010	0.238 ***	0.381 ***	0.494 ***								
6	T2 IWB	0.214 ***	0.291 ***	0.195 **	0.162 *	0.110							
7	T1 IWB	0.218 ***	0.141 *	0.261 ***	0.071	0.096	0.529 ***						
8	Gender	-0.048	-0.288 ***	-0.162*	-0.057	0.072	-0.076	-0.120					
9	Age	-0.020	-0.024	-0.104	-0.077	-0.194 **	0.049	0.082	-0.278 ***				
10	Experience	0.011	-0.013	-0.019	0.010	-0.021	0.037	-0.056	0.227 **	-0.196**			
11	Branch	0.000	-0.013	-0.039	-0.006	-0.057	0.021	-0.044	-0.033	0.078	0.104		

0.043

0.068

Table 1. Correlations of the variables.

0.024

3.2. Hypothesis Test

0.096

Job family

0.022

The main hypothesis of this study is the mediating effect of employee promises on the relationship between relational leadership and innovative work behavior. Table 2 illustrates the results of structural equation modeling. Seven models (Models 3–9) were compared, excluding Models 1 and 2, which were the basic conditions for the mediation effect suggested by ref. [79]. As the result, Model 4 (partial-mediation model of employee promises) showed the best fit. Most of the fit indices of this model presented a generally acceptable range, even though the TLI was slightly insufficient for the best fit suggestions (CFI > 0.90, TLI > 0.90, RMSEA < 0.70) [84,85]. The full-mediation model of employee promises failed to show a better fit than the partial-mediation model. The models of the effect of employer promises also failed to demonstrate a better fit than Model 4. Hence, Model 4 was selected, and the perception of employee promises partially mediated the relationship between relational leadership and innovative work behavior.

0.068

-0.107

-0.066

-0.046

-0.114

Table 3 illustrates the standardized coefficients of the models. The supervisor's relational leadership at T1 was positively related to an individual's innovative work behaviors at T2 (b = 2.949, p < 0.001), thereby supporting the first condition for mediation. Relational leadership at T1 was also positively related to the perception of employee promises at T2 (b = 1.060, p < 0.001), supporting the second condition for the mediating effect. Third, when the perception of employee promises at T2 was accounted for in the relationship between relational leadership and IWBs, the perception of employee promises showed a significant impact on innovative work behavior at T2 (b = 0.311, p = 0.012). However, the effect of relational leadership was still significant (b = 1.848, p = 0.015). Thus, employee promises were considered to have a partial mediating effect (Figure 1).

^{*} p < 0.05, ** p < 0.01, *** p < 0.001.

Sustainability **2022**, 14, 3230 9 of 15

Table 2. Results of structural equation modeling: Fit statistics for the hypothesized and alternative models.

	MODEL	χ²	df	CFI	TLI	RMSEA
M1	Relational leadership T1—Innovative behavior T2 Model	147.057	94	0.890	0.842	0.059
M2	Relational leadership T1—Employee Promise T2 Model	142.978	95	0.906	0.861	0.056
M3	Employee Promise's Full Mediation Model	144.671	94	0.900	0.855	0.056
M4	Employee Promise's Partial Mediation Model	144.219	93	0.901	0.857	0.056
M5	Employee Promise's Direct Effects Model	145.278	94	0.896	0.850	0.057
M6	Relational leadership T1—Employer Promise T2 Model	148.705	95	0.886	0.836	0.060
M7	Employer Promise's Full Mediation Model	149.975	94	0.883	0.831	0.061
M8	Employer Promise's Partial Mediation Model	146.861	93	0.892	0.843	0.059
M9	Employer Promise's Direct Effects Model	148.203	94	0.887	0.837	0.060

Statistics reported from structural equation modeling. df = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root-mean-square error of approximation.

Table 3. Standardized coefficients of the models.

	Variables									
Model	Relational Leadership T1—Employer Promise T2	Relational Leadership T1—Employee Promise T2	Relational Leadership T1—Innovative Behavior T2	Employer Promise T2—Innovative Behavior T2	Employee Promise T2—Innovative Behavior T2	Employer Promise T1—Employer Promise T2	Employee Promise T1—Employee Promise T2	Innovative Behavior T1—Innovative Behavior T2		
M1			2.949 ***			1.534 ***	1.765 ***	1.035 ***		
M2		1.060 ***					3.402 ***	1.409 ***		
M3		7.983			0.045		0.104	1.415 ***		
M4		2.160 **	1.848 **		0.311 **		2.542 ***	1.344 ***		
M5		3.703 ***	5.839 ***				1.683 ***	1.164 ***		
M6	1.310 **					1.279 ***		1.570 ***		
M7	2.949 *			0.308 *		0.533		1.515 ***		
M8	0.655 ***		1.229 ***	0.254		1.600 ***		1.399 ***		
M9	0.621 ***		1.841 ***			1.100 ***		1.331 ***		

^{*} p < 0.05, ** p < 0.01, *** p < 0.001.

Additionally, Sobel's test was applied to confirm the mediation effect of the perception of employee promises [86,87]. The result indicated a significant indirect effect of relational leadership on innovative work behavior mediated by the perception of employee promises (Sobel test statistic = 2.58 > 1.96). Hence, Hypothesis 1 was supported, and Hypothesis 2 was partially supported.

Sustainability **2022**, 14, 3230 10 of 15

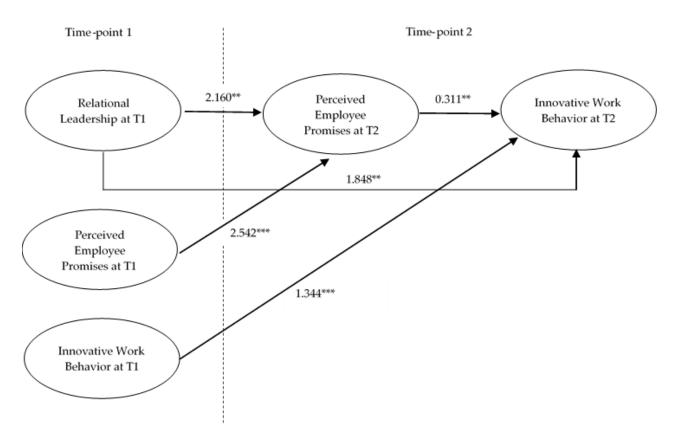


Figure 1. Final structural model and standardized path coefficients. Only the latent variables are shown in the model. Control variables: Gender, Age, Branch, Job Family. ** p < 0.01, *** p < 0.001.

4. Discussion

The results suggested that the supervisor's relational leadership positively affects subordinates' perceived performance of innovative work behavior. More importantly, this relationship is partially mediated by an individual's psychological contract such that relational leadership strengthens the perception of employee promises and consequently increases individuals' perceived performance of innovative work behaviors.

These results have several theoretical implications. First, this study empirically proves that relational leadership can be a significant antecedent of IWBs from a process-centered perspective. Although previous literature suggests that forms of leadership such as transformational and ethical leadership are related to IWBs, a lack of understanding about the mechanism of these relationships remains [18,21,23,58]. IWB is a process-centered concept in nature that is not considered an independent behavior but instead involves continuous interaction between an individual and environmental factors including events, situations, and social influences [37,88,89]. Hence, the antecedent of IWB should also be conceptualized from a process perspective. Relational leadership is a representative model that focuses on the process perspective. The model considers leadership 'a process of organizing' rather than 'being organized,' and postulates it as the core element of leadership [54]. Given both concepts focus on the continuous change itself, IWB is theoretically better matched with the concept of relational leadership than with other leadership styles. This study investigates a process perspective that has been virtually overlooked by previous literature and contributes by providing empirical support for understanding its relevance.

Second, this study identified a new mediation variable for the relationship between relational leadership and IWBs that specifically focuses on the 'employment relationship'. Although previous research reveals various antecedents for IWBs, these studies are limited to the subjects of job design, rewards, leadership, and organizational climate [38–40,43,44,90]. This study introduces a new perspective on employment relationships by considering the concept of the psychological contract as a mediating variable, offers a new theoretic rationale for

Sustainability **2022**, 14, 3230 11 of 15

why relational leadership impacts IWBs, and expands our understanding of this mechanism to the interaction-based concept.

In particular, the finding that the perception of employee promises significantly impacts IWBs is meaningful because the individual's 'willingness' can be an important factor for IWBs. Employee promises represent an individual's sense of obligation towards the organization and indicate the degree to which an individual is willing to behave in a way that is beneficial to the organization. As mentioned above, IWBs can only be performed by overcoming the psychological barrier associated with taking risks or changing one's perspective [13,91,92]. Therefore, a willingness to take a risk and invest additional time and energy is necessary to perform IWBs, while a strong perception of employee promise enhances this disposition. In comparison to previous IWB research that focused exclusively on ability and environmental factors, this study proposes the novel perspective that a sense of obligation and a willingness to contribute could be important drivers of IWBs.

Lastly, organizational socialization can drive newcomers' perceptions of IWBs. The supervisor's relational leadership is directly related to the perception of employee promises over time. This implies that supervisor behavior can be interpreted as an organization's intention towards employees. Rousseau stated that the interaction between supervisors and employees is a 'building block' in the employment relationship [93]. Ref. [94] further asserted that managers can manipulate the perception of meeting expectations by providing opportunities and personal support in the workplace. The results confirm these early propositions suggesting that supervisor leadership functions to fulfill the employer's promises and leads to the perception of employee promises.

This study also has practical implications. First, organizations must understand the principal role of supervisor leadership during newcomer socialization. Supervisors can not only socialize, educate, and assist newcomers in adapting to their jobs, but managers can also formulate belief sets about the employment relationship. Supervisors can manage the quality of the newcomer's psychological contract and consequently influence their various behaviors, including IWBs. Therefore, organizations must acknowledge the role of middle managers and strengthen the leadership competencies of these managers. Designing specific training programs that focus on relational leadership is beneficial. Seminars or workshops are also valuable in increasing managers' awareness of their prominent role as psychological contract makers for newcomers.

Second, if the organization aims to promote continuous innovation to employees at all levels, the organization must profoundly understand employees' psychological contracts. In particular, individuals' perceptions of promises should be actively monitored and managed by the organization. Comprehensive surveys or interviews should be performed regularly to determine the precise level of promise perception. In addition, various organizational approaches to fulfill employer promises, such as human resource management practices, should be navigated. These measures would prevent employees' breach of the psychological contract and increase the level of employee promise perception, a factor directly linked to their perceived performance of IWBs.

Lastly, organizational socialization can drive newcomers' IWBs. Therefore, companies must consider expanding the concept of socialization to broader areas. Beyond allowing adaptation to the organization, the socialization period could provide a critical early opportunity to establish the employment relationship, the employee's attitude toward the organization, and their level of contribution to the company. Therefore, investing more time and funding in socializing newcomers in a systematized way is beneficial. For example, institutionalized socialization tactics are superior to individualized tactics because institutionalized approaches are known to encourage newcomers to form more trust-based and long-term relationships with the organization [30]. Intensively involving middle managers in this institutionalized socialization process is likewise valuable given the impact of these managers on the perceptions and behaviors of newcomers.

This study has some limitations. First, innovative work behaviors in this study were self-reported. Social desirability bias may cause a difference between self-assessment and

Sustainability **2022**, 14, 3230 12 of 15

supervisor evaluation of innovative work behaviors. Although the longitudinal change was considered in this study, utilizing only self-reports can limit accurate estimation at some time points. In future research, the gap between self-assessment and supervisor evaluation of IWB performance must be investigated in-depth. Second, although the indices of the partial-mediation model showed good fits, the TLI was slightly insufficient for the best fit suggestions. This could have limited the methodological foundation of this study. In addition, the distributions of participants by age, education, and industry were unbalanced. This can be a limitation in generalizing the results to broader generations and work sectors. Lastly, although our study identified the psychological contract as a potential mediator, the possibility remains that its mediation effect is moderated in turn by various factors. In future research, the mediation effect of the psychological contract should be more clearly identified by considering 'moderated-mediation effects' by individual factors. For example, 'conscientiousness' in the Big Five personality model could be a significant moderator that impacts the mediation process of the psychological contract. Individuals' exchange ideologies could be another significant moderator in this mediation process, as this represents an individual's sense of obligation to the other party in the employment relationship with the organization.

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