

## Article

# The Role of Transformational Leadership in Developing Innovative Work Behaviors: The Mediating Role of Employees' Psychological Capital

Saeid Karimi <sup>1,\*</sup>, Farzaneh Ahmadi Malek <sup>1</sup>, Ahmad Yaghoubi Farani <sup>1</sup> and Genovaitė Liobikiene <sup>2,\*</sup>

<sup>1</sup> Department of Agricultural Extension and Education, Bu-Ali Sina University, Hamedan 6517833131, Iran

<sup>2</sup> Department of Applied Economics, Finance and Accounting, Vytautas Magnus University Agriculture Academy, 53361 Akademija, Lithuania

\* Correspondence: skarimi@basu.ac.ir (S.K.); genovaitė.liobikiene@vdu.lt (G.L.)

**Abstract:** Despite growing research on the significance of transformational leadership as a key contextual factor that determines innovative behavior, recent studies have not investigated the psychological mechanisms that link transformational leadership to employees' innovative behavior thoroughly. Thus, the main purpose of this study was to examine the mediating role the four dimensions of psychological capital—self-efficacy, hope, resilience, and optimism—play in the relationship between transformational leadership and employees' innovative work behavior. Data from 178 Iranian agriculture experts were collected and analyzed using structural equation modeling. The results indicated that transformational leadership was related to employees' innovative work behavior directly and positively. Furthermore, the results showed that hope and self-efficacy partially mediated the relationship. This study fills a gap in the literature by clarifying the way the dimensions of psychological capital influence transformational leadership's positive relationship to employees' innovative work behavior in the public sector of developing countries. The results imply that to be innovatively effective, organizations need to manage both employees' contextual (transformational leadership) and psychological (psychological capital) resources to enhance their innovative work behavior. The theoretical and practical implications were further discussed.

**Keywords:** transformational leadership; psychological capital; innovative work behavior; agriculture expert; Iran



**Citation:** Karimi, S.; Ahmadi Malek, F.; Yaghoubi Farani, A.; Liobikiene, G.

The Role of Transformational Leadership in Developing Innovative Work Behaviors: The Mediating Role of Employees' Psychological Capital. *Sustainability* **2023**, *15*, 1267.

<https://doi.org/10.3390/su15021267>

Academic Editors:

M. Muzamil Naqshbandi and Makhmoor Bashir

Received: 1 December 2022

Revised: 3 January 2023

Accepted: 5 January 2023

Published: 9 January 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Organizational growth and development in the current competitive environment depend upon the ability to produce brilliant ideas and select and implement the most promising ones. Hence, innovation is essential for organizational survival and success [1]. According to Shalley et al. [2], organizational innovation is the process by which employees generate, promote, and implement creative ideas. To improve innovation, organizations should stimulate employees to engage in innovative work behaviors. Innovative work behavior refers to "... the generation, promotion, realization and implementation of novel and useful ideas that can improve a product, service, and work processes" [3]. Although many studies have focused on the antecedents of employees' innovative work behaviors, the relation between individual and contextual antecedents in facilitating such behaviors remains unclear [4,5]. An in-depth understanding of the integrated effects of these factors will help improve future innovative interventions in the organizational context. Taking the significance of innovation into account, particularly in the organizational context, few studies have examined innovative work behaviors in public sector organizations [6]. Given that public employees are seen as the backbone of public service delivery, understanding the stimulation of innovative behaviors at the individual level has implications for policy and literature [7].

Innovative work behaviors are not regarded as crucial in job specifications, as they are not included in the organizational reward system for being viewed as discretionary extra-role behaviors which go beyond employee performance expectations [8]. Accordingly, a handful of scientific research studies in this field have confirmed that leadership, particularly transformational leadership, is highly influential in employees' innovative work behaviors [8,9]. Over the past few decades, research has shown that leadership is one of the main antecedents of employee innovative work behaviors [10,11] because leaders shape the work environment, resource allocation, and the nature of job tasks, and they affect employees' behaviors through leveraging their existing assets (such as incentives) or developing new assets (such as learning) [10,12]. Transformational leadership is considered to be one of the most influential leadership styles that makes profound impacts on organizational outcomes such as innovation performance and employees' satisfaction [13]. However, it is essential to enhance our understanding of the processes and mechanisms through which transformational leaders foster employees' innovative work behaviors [14].

Researchers suggest that transformational leaders have the potential to improve their followers' innovation via various mediating mechanisms and variables. Psychological capital is among these mediating variables that have been emphasized in the literature [15]. Many scholars argue that employees' positive psychological states help them to become more innovative and creative in the workplace [16–18]. Moreover, Luthans [19] accentuates the exploration and explanation of the potential antecedents and mediating roles of psychological capital in organizational behavior constructs. The theoretical justification for the choice of this mechanism is as follows. A transformational leader as a powerful contextual resource is expected to build a broad follower-based psychological resource in the pursuance of setting goals and accomplishing them, overcoming obstacles, and believing in a brighter future, as represented by psychological capital [20], which in turn motivates followers to become more creative and innovative to fulfill their duties.

Psychological capital refers to a positive psychological state of personal development in employees, including four psychological sources of hope, self-efficacy, resilience, and optimism, which are the main motivations for employees to create and implement new and useful ideas in the operational methods of the organization [17,18]. Therefore, enriching the psychological capital resources of individuals may be the primary solution and appropriate choice to improve employee innovation, particularly in developing countries where most companies and organizations lack capital resources to invest in creativity and innovation [4,21]. However, the mechanism by which psychological capital mediates the relationship between leadership and innovation is still unclear [4,19]. More particularly, the mediating role of psychological capital dimensions in the relationship between transformational leadership and employees' innovative work behaviors has not been widely studied [21]. Gaining a deeper insight into the subject, Luthans [19] laid great stress on investigating psychological capital antecedents and its mediating role in organizational behavior constructs. As a result, this study was conducted to explore the effects of transformational leadership on employees' innovative work behaviors based on the mediating role of psychological capital dimensions in public agricultural organizations in a developing country, namely Iran.

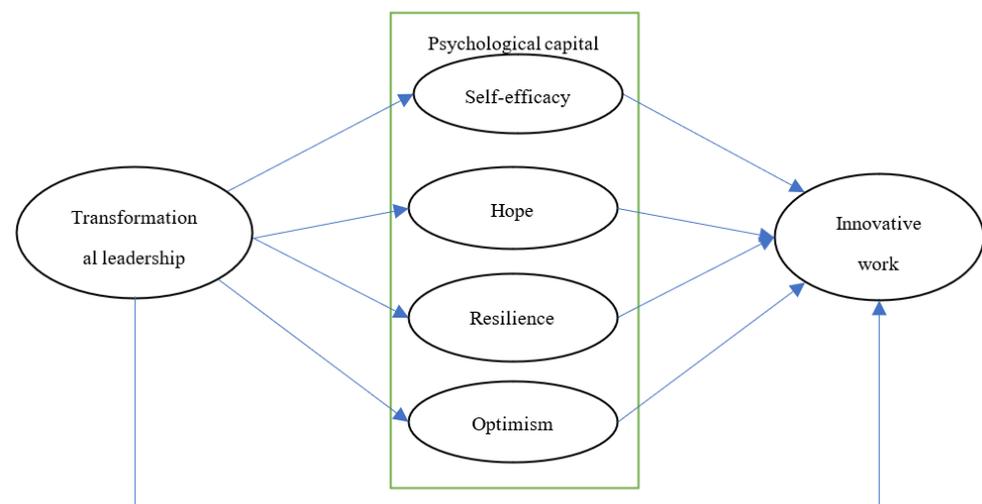
In a recent review, Hughes et al. [22] called for researchers to investigate mediating mechanisms for a systematic and richer comprehension of how leadership influences employees' innovative behaviors. Therefore, there is a need for theoretical precision regarding our knowledge of the processes and mechanisms through which transformational leadership can affect employees' innovative behaviors [10], especially in public sector organizations [7].

Despite the increasing interest in public sector innovation [23–25], it is less clear now as to how leaders can foster individual-level innovations [26]. Public organizations operate in a bureaucratic environment characterized by budget-based controls and poor reward systems that do not encourage innovation. The nature of innovation within these environments mostly takes a top-down approach, neglecting the roles of public employees

and their immediate supervisors. Moreover, most studies in the public sector have mainly been conducted in developed countries [7].

New studies on how innovative work behaviors can be encouraged in developing countries are scant, especially empirical evidence concerning bottom-up innovations within public sector organizations. Since Iran is a relatively high-power distance culture, the hierarchy and inequality there between managers and employees are expected, as is the case with most collectivistic societies [27]. Other defining features of the Iranian public sector organizations include ascription-based promotions, unplanned decision making, and a lack of performance-orientation in compensation and appraisals [28]. In addition, most previous studies have examined ethical leadership and authentic leadership, not transformational leadership [29–31]. Therefore, transformational leadership has not been fully explored as an outcome of psychological capital. Therefore, this study seeks to fill this research gap. This is because this study sets the role of transformational leadership in developing employees' creativity and innovative behavior by using the mediating role of psychological capital.

As depicted in Figure 1, this study aims at investigating the relationship between an important contextual factor (i.e., transformational leadership) and a significant individual factor (i.e., psychological capital) and employees' innovative work behaviors in the public sector of a developing country, namely Iran. It also examines the mediating role of the dimensions of psychological capital in the association between transformational leadership and employees' innovative work behaviors. Therefore, the present study contributes to the literature and management practices in several ways. First, the main contribution of this study is to examine the leadership–innovation relationship within the Iranian government sector as a developing country. Second, this study heeds Dawkins et al.'s [32] call to use separate dimensions of psychological capital rather than the usual practice of combining them into one overall scale. Third, the current study introduces the four dimensions of psychological capital as a mediating mechanism in the relationship between transformational leadership and employees' innovative work behaviors. The research results will guide managers who want to spend their managerial and financial resources to promote innovation among their employees.



**Figure 1.** Conceptual model.

## 2. Theoretical Framework and Hypotheses Development

### 2.1. Relationship between Transformational Leadership, Innovative Behavior and Psychological Capital

Transformational leadership is considered as the most effective factor to promote innovation (innovative behavior) within organizations. Moreover, a transforming leader helps subordinates to have a unique opportunity to evolve through competence and

cooperation in enhancing innovative behaviors [33]. Arguably, innovative behavior is likely to thrive with the support and assistance of an effective transformational leader; as the saying goes, “a leader is the one who knows the way, goes the way and shows the way” [21]. In terms of the effect of transformational leadership on innovative behavior, it is clearly stated that innovative behavior is influenced by the characteristics of a person, transforming leader. Leadership is often recognized as the most significant determinant of innovative behavior within the organization because it is a recipe for innovative supportive culture [4]. Gumusluoglu and Ilsev [34] discussed that transformational leadership directly nurtures and stimulates the innovative capacity of employees because they are well-paid. Based on Social Exchange Theory, when supervisors/managers (leaders) and employees develop positive relationships in the workforce to create a shared understanding, that provides an ideal work environment for both parties (employees and employers) [35]. Generally, in ultimate and excellent work conditions, employees assume themselves to be supported and encouraged, hence, they are likely to be more engaging and willingly ready to pay back to their firm through continuous improvement by putting more effort into the process of affective commitment and innovative behavior. A flawless situation is formed only when people in the workplace follow rules and the regulations of exchange [16].

Considering the association between transformational leadership and innovation capacity (behavior), it can probably be said that the leader’s cultivation and encouragement of the subordinates will increase their creativity and innovation above and beyond the work contract due to the confidence, support and objection instilled in their minds (psychological capital), which accelerates the willpower for further improvement and productivity [36]. According to Luthans et al. [18], psychological capital is viewed as a “person’s positive psychological state of development” and is described as a set of personal resources that include resilience, self-efficacy, optimism and hope. Individuals with high psychological capital tend to have higher motivation and better working performance [37]. Scholars have argued that psychological capital can be shaped through training, education, intentional practice and leadership interventions [38].

## 2.2. Transformational Leadership and Innovative Work Behavior

Transformational leadership is a leadership style in which the leader, by changing the values, interests, beliefs, and attitudes of the followers, motivates them to perform beyond expectations and beyond personal interests [39]. According to Bass [40], a transformational leader is a person who persuades followers to do something beyond what is usually expected. In fact, transformational leaders create a flexible organizational environment by motivating their followers and stimulating their innovative ideas throughout the organization, which challenges employees’ feelings and leads them to seek creative and innovative perspectives on the job. Transformational leadership is a multidimensional concept. According to Avolio et al. [41], this concept has four dimensions of idealized influence or charisma (acting as a role model and gaining the trust and respect of followers); inspirational motivation (creating hope and increasing commitment in followers and creating an attractive and inspiring perspective); intellectual stimulation (encouraging followers to challenge the status quo and persuasion to new methods); and individualized consideration (attention to followers’ needs and listening to their concerns).

Scholars assert that transformational leadership is the main driver of employee innovation due to its creation of a positive and participatory atmosphere conducive to change [5,42]. Transformational leaders can also generate innovation by modifying employees’ values, beliefs, and motivations to innovate [4]. In addition, Bass [43] stated that one of the most important transformational leader characteristics is to develop emotional relationships with their followers. These relationships, as expressed by Hunt et al. [44], are expected to lead to higher levels of creativity and innovation. Transformational leaders also set high expectations that galvanize employees to challenge the status quo, take risks and, especially, pursue creative work [45]. This type of leadership involves behaviors that motivate employees to think differently and take a challenging new approach [46].

According to Amankwaa et al. [47], transformational leaders develop a strong sense of self-confidence and optimism among their followers in such a way that they might be inclined to put discretionary effort into their job to accomplish their goals.

According to Social Cognitive Theory (SCT), human behavior can be induced by the interaction of internal and external influencers [48]. From the perspective of an employee, internal factors entail an individual's innovative qualities and capability to engage in innovation, while the latter refers to the environment and leadership influence [49]. Considering the SCT, this study focuses on transformational leadership as an environmental determinant regarding employees' innovative behavior in the public sector of a developing country.

Another theory that could explain the effect of transformational leadership on employees' innovative behavior is the Job Demands–Resources (JD-R) model [50]. Based on this theory, job resources (such as transformational leadership) motivate employees and lead to positive work outcomes (such as innovative behavior) [51]. Supervision, work diversity, prospects, coaching, social support, voice, avenue for learning, and growth, which could be recognized as a system that can be structured by transformational leaders, are components of job resources [52,53]. In addition, according to the Conservation of Resources Theory, when a person has job resources, they tend to accumulate personal resources (e.g., psychological capital dimensions) which are positively related to working psychology and performance. In this regard, psychological capital can be integrated as a mediator between job resources (e.g., transformational leadership) and positive work outcomes (e.g., innovative behavior) in the JD-R model.

Past empirical studies show the positive relationship between transformational leadership and innovation [47,54–56]; Løvaas et al. [55]. A meta-analysis by Watts et al. [42] showed that there is a positive relationship between transformational leadership and individual and group innovation. The meta-analysis study by Lee et al. [10] also indicated that there is a positive correlation between transformational leadership and creativity and innovation. Despite the foregoing discussions, few studies have examined the effect of transformational leadership on employees' innovative work behaviors in developing countries, especially in the public sector [8]. To supply conclusive and specific empirical evidence to the extant body of literature, the present study examined the relationship between transformational leadership and employees' innovative work behaviors among agriculture experts in Iran by proposing the following hypothesis:

**Hypothesis 1 (H1).** *Transformational leadership is positively related to employees' innovative work behaviors.*

### 2.3. The Mediating Role of Psychological Capital Dimensions

Psychological capital refers to a positive psychological state of individual growth and development using motivational and cognitive resources to achieve a high performance level [18]. Positive psychological capital can be seen as a set of justified psychological beliefs that can improve personal capacity for effective action and behavioral consequences [57,58] and contributes to higher levels of effectiveness and success for the organization. Psychological capital consists of four dimensions [18,59]: self-efficacy (having the necessary self-confidence and striving to succeed in challenging tasks); optimism (creating positive evidence of success now and in the future); hope (insisting on achieving goals and changing paths to achieve goals when necessary to achieve success); and resilience (when faced with problems and hardships, enduring and returning to the first place for success). Together, these personal resources contribute to desirable attitudes, motivation, and goal accomplishment.

Psychological capital is state-like and, therefore, relatively changeable and extensible. Yuen et al. [37] explained that psychological capital is malleable, meaning that it can be enhanced through appropriate interventions. It is also relatively stable, suggesting that strengthening psychological capital can produce long-term positive outcomes. Previous theories and research on the four components of psychological capital also show that such personal abilities can be changed and developed [18]. There is not much evidence in

the research literature about the antecedents to psychological capital [60]. Leadership is generally considered as one of the antecedents to psychological capital [61]. Transformational leadership is an examined form of leadership. According to Social Cognitive Theory, transformational leadership can improve employees' psychological capital through the influence of cognitive processes [41], because transformational leadership can influence employees' beliefs, values, and goals. According to Wang et al. [31] and Schuckert et al. [16], transformational leadership had a positive significant correlation to psychological capital. Meanwhile, psychological capital can potentially provide a necessary repository of psychological resources that help effectively innovate work-related ideas. Scholars state that employees' psychological resources are one of the most significant internal motivations that make them capable of being more creative and innovative in the workplace [15,18]. Prior studies highlighted the important role of psychological capital in building and improving employees' innovative behaviors [62–64].

The above discussions support the mediating role of psychological capital in the association between transformational leadership and employee innovative work behaviors. Scholars believe that individual factors such as psychological capital may have a closer and more direct effect on employees' behaviors and performance than underlying factors such as leadership and innovation environment [64–68], which indicated that the effect of leadership on employees' behaviors is often not direct, but it may occur due to the internal cognition and psychology of employees. Although some recent studies have examined the mediating role of psychological capital in the relationship between leadership and key organizational outcomes such as innovation [4,21], little is known about how the sub-constructs of psychological capital mediate the effects of transformational leadership on employees' innovative work behaviors.

### 2.3.1. Mediating Role of Self-Efficacy

The literature shows that transformational leadership behaviors serve to enhance the dimensions of psychological capital [16]. In this regard, scholars argue that transformational leaders encourage employees to build self-confidence through mentoring, coaching, counseling, and delegating challenging tasks to employees [18,20,69]. Furthermore, a transformational leader's role modeling could help followers develop confidence in their skills and have the assurance of being provided support in case of failure by their supervisors [70]. Sengphet et al. [71] reported that transformational leadership is positively and directly to employees' self-efficacy. Concerning the relationship between self-efficacy and innovative work behaviors, scholars declare that self-efficient individuals are more likely to approach difficult and complex tasks and put a significant amount of their resources into accomplishing their goals as well as overcoming challenges and obstacles. Such powerful motivation and mindsets inspire employees to propose new and valuable initiatives and ideas for improving innovation [4,72]. Michael et al.'s study [73] reaches a similar conclusion and states that self-efficacious employees show high levels of innovative work behaviors because they can achieve their goals even when faced with obstacles.

Based on the SCT, it can be argued that transformational leaders promote the innovative behavior of employees by improving their self-efficacy. There is a growing body of evidence that contextual factors such as leadership enhance self-efficacy, as employees rely on information from others at work to develop confidence about their capacity to succeed in challenging tasks in the workplace [74]. Self-efficacy has also been proposed as a mediator of the association between leadership and employees' innovative behavior in the literature review of leadership and innovation [22]. For instance, consistent with the social persuasion and role modeling pathways specified by the SCT, increasing research has discussed that transformational leaders enhance employees' self-efficacy through the provision of support, encouragement and role modeling [75–77].

The above arguments demonstrate the mediator of self-efficacy by indicating that transformational leadership positively affects self-efficacy [71], which in turn significantly fosters employees' innovative work behaviors [73]. Thus, the following hypothesis is proposed:

**Hypothesis 2 (H2).** *Self-efficacy mediates the relationship between transformational leadership and employees' innovative work behaviors.*

### 2.3.2. Mediating Role of Hope

Regarding the relationship between transformational leadership and hope, Le and Lei [78] state that transformational leaders can increase employees' disclosure-based trust and reliance-based trust. As a result, they can enhance employees' hope by developing both their waypower and willpower to achieve established goals [79]. Resorting to Snyder's hope theory [80], "Hope is instilled through prolonged interactions with consistently hopeful and responsive actors" (p. 809), including leaders. Transformational leaders talk optimistically about the future and what needs to be accomplished, articulate a compelling vision for the future and express confidence that goals will be achieved [81], which will encourage a hopeful outlook for their followers [82]. Meanwhile, hopeful individuals tend to take more risks and use alternative strategies to move toward their goals [83]. They generate ideas to develop more innovative solutions and find fresh perspectives to meet both challenges and opportunities [84]. Moreover, because hopeful employees enjoy pursuing goals, they are more intrinsically motivated and, as a consequence, tend to look for creative methods to implement their "agency energy" [30]. Rego et al. [69] argued that hope feeds creativity and hopeful employees have the drive to be creative and innovative.

Considering that transformational leadership relates to employees' hope, and that employees' hope relates to their innovative behaviors, the reasoning suggests that transformational leaders feed employees' innovative behaviors because employees experience hope, thus being more innovative. Thus, the following hypothesis is formulated:

**Hypothesis 3 (H3).** *Hope mediates the relationship between transformational leadership and employees' innovative work behaviors.*

### 2.3.3. Mediating Role of Resilience

With respect to the relationship between transformational leadership and resilience, Bass [85] asserted that transformational leaders view information differently than others. With this perspective, they can stimulate employees to see obstacles as challenging opportunities for progress and build their ability to bounce back from adversity, thus enhancing their resilience. In addition, they can help employees develop a broad range of thought patterns for brainstorming solutions to problems. This enables employees to make progress toward their goals and to strongly believe in fulfilling those goals [20,69]. Harland et al. [86] concluded that transformational leadership significantly affects followers' resilience because it increases the ability to cope with and recover from adversity by creating a climate that supports self-confidence and psychological safety [69]. Resilient individuals are able to withstand and adapt to changing conditions and are more likely to pursue new knowledge and experiences [18,87]. They also cultivate positive emotions in themselves and those around them that help to build a supportive climate, promoting innovative work behaviors [72,88]. Resilience enables individuals to recover from adversity, get back on track and persevere in the face of change while coming up with innovative solutions [18]. Similarly, Rego et al. [69] suggested that resilient employees tend to persevere, seeking out and developing new work processes and creative solutions when faced with challenges and failures.

The above discussions indicate that while transformational leadership may improve employees' resilience [86], this will consequently promote their innovative work behaviors [17]. Therefore, the following hypothesis is proposed:

**Hypothesis 4 (H4).** *Resilience mediates the relationship between transformational leadership and employees' innovative work behaviors.*

#### 2.3.4. Mediating Role of Optimism

Based on the literature, transformational leaders influence employees' optimism by utilizing strong emotions to persuade them to engage in positive thinking in terms of creating both a positive vision and new ideas [89]. In addition, Gooty et al. [20] stated that transformational leaders can enthuse employees about a dream or a higher sense of purpose, which helps develop feelings of optimism. According to McColl-Kennedy and Anderson [82], transformational leadership generates a high degree of optimism from the employee through their significant support and consideration. Recently, Lei et al. [21] indicated that transformational leadership is significantly related to optimism. Moreover, optimistic individuals tend to be more positive facing challenging circumstances. They have favorable presumptions that help to overcome difficulties. They always create effective solutions to resolve challenges and maximize opportunities [90]. Therefore, optimism motivates employees to take advantage of innovative work behaviors in the workplace [4,63,69]. Scholars argue that optimistic employees are more likely to be creative and use innovative approaches to solve problems [72].

Based on the studies that have shown the relationships of transformational leadership with optimism, and optimism with innovative work behaviors, the following hypothesis is proposed:

**Hypothesis 5 (H5).** *Optimism mediates the relationship between transformational leadership and employees' innovative work behaviors.*

### 3. Research Method

#### 3.1. Sample and Procedure

In this study, a questionnaire-based survey was used to collect data from agricultural experts in four government organizations and agricultural centers in Hamadan province located in western Iran. Despite the remarkable progress of Iran's agriculture in the last four decades and achieving a satisfactory level of self-sufficiency in domestic food production, this country has faced various issues including ecological sustainability, food security and agricultural productivity [91]. Therefore, agricultural organizations are constantly under pressure to increase efficiency and develop innovations in order to respond to new market opportunities, problems, and the diverse needs and expectations of farmers and villagers. Agricultural experts play critical roles as key drivers of innovation in their industry organizations. They should practice innovative work behaviors to cope with challenges and new demands and improve the current state. However, these experts need an open and facilitating environment to express and develop their novel ideas into new products and services. Thus, it is crucial to explore the relationship between entrepreneurial leadership and the innovative work behaviors of employees in agricultural organizations.

The current study employed a convenience sampling method to collect data during the period from January to April 2020. The research sample consisted of experts in the field of R&D, agricultural engineering and extension whose jobs deal with substantial creativity and innovation. Given that the scales used in the questionnaire were originally in English, the back translation [92] procedure was used to translate them into Persian. In order to emphasize the importance of the study, the purpose of the research and the content of the questionnaire was explained to the management of the organizations and research centers. After their agreement, the data collection process began, which took about a month. The participation was voluntary and completely anonymous. In a cover letter that was attached to each questionnaire, the purpose of the research and how to complete the questionnaire were explained, assuring the complete confidentiality of the answers. The number of 220 questionnaires were distributed among the experts, and 200 answered questionnaires were received. With the removal of incomplete questionnaires, finally, 178 questionnaires were used as the basis for statistical analysis. Of these, 123 (69%) were male, and 55 (31%) were female. The mean age of the respondents was 43 years. In terms of education level, about 4% had an associate degree, 34% had a bachelor's degree, 43% had a master's degree,

and 19% had a doctorate. Their work experience varied between 1 and 34 years, and the average work experience was 18 years.

### 3.2. Measures

All four constructs were measured based on a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). To measure innovative work behaviors, a six-item scale developed by Scott and Bruce [93] was used. Sample items include: "I investigate and secure funds needed to implement new ideas." The Cronbach's alpha for this scale was 0.82.

To measure employees' perception about their leader's transformational leadership style, a short version of the multifactor leadership questionnaire (MLQ: [41]) was used. To assess each behavioral component, i.e., idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, four items were used. Due to the high inter-correlation among these lower-order components ( $r = 0.72$  to  $0.84$ ) and following previous studies [94–96], all the four subscales were combined into a single higher-order scale. Sample items are "My supervisor talks optimistically about the future" and "My supervisor suggests new ways of doing work." In this study, since multiple subordinates rated the same supervisor within their departments, we tested inter-rater reliability by calculating intra-class correlation coefficients (i.e., ICC1 and ICC2), which provide a measure of response convergence. The ICC1 and ICC2 for the transformational leadership construct were 0.63 and 0.95, exceeding Bliese's [97] 0.1 and 0.70 cut-offs. These findings indicate a minor individual variability, and single respondent bias was not a problem. The Cronbach's alpha for this scale was 0.95.

Psychological capital was measured using the 12-item short-form the Psychological Capital Questionnaire (PCQ) [18,98]. It had four subscales: self-efficacy (3 items, e.g., "I am confident presenting information to a group of colleagues"), hope (4 items, e.g., "Right now I see myself as being pretty successful at work"), resilience (3 items, e.g., "I usually take stressful things at work in stride"), and optimism (2 items, e.g., "I always look on the bright side of things regarding my job"). Cronbach's alpha values for self-efficacy, hope, resilience, and optimism were 0.79, 0.80, 0.66 and 0.75, respectively.

### 3.3. Data Analysis

Partial least squares structural equation modeling (PLS-SEM) was used to analyze the data and test the research model. SmartPLS 3 software (Version 3.3.2) was used in data analysis [99]. In this study, PLS-SEM was used for several reasons. First, this method is suitable for small sample sizes and achieves higher levels of statistical power when compared to the covariance-based SEM (CB-SEM) [100]. Second, the preliminary analysis revealed that the data did not meet the normality criteria. Third, this method seeks to maximize the explained variance in the dependent latent constructs (in this case, innovative work behaviors) to improve predictiveness and theory development. Fourth, this method was used due to the exploratory nature of the research, as the study aim was to investigate the connection between transformational leadership, psychological capital dimensions, and innovative work behaviors. Finally, the model used in this study is a complex one with six constructs and more than 34 items. It also contains eight series of direct relationships and four mediation effects, so PLS-SEM is preferable. It should be noted that recently, scholars are increasingly using SmartPLS for the analysis of creativity and innovation studies [8,101,102]. To further analyze the results of PLS-SEM, an importance-performance map analysis (IPMA) was performed. The IPMA helps obtain deeper insight into the major constructs that affect employees' innovative work. The results of IPMA permit the identification of determinants with a relatively high importance and relatively low performance. Thus, management can easily identify the major areas of improvement [103].

### 3.4. Common Method Bias

Because the data were collected using a single source, Podsakoff et al.'s [104] recommendations were followed to reduce common method bias (CMB) issues. For ex ante considerations, the participants were informed that their responses were anonymous, that there was no right or wrong answer, and that they should answer the questions as honestly as possible. In addition, the endogenous constructs were placed before the exogenous constructs in the questionnaires, which helped reduce the effect of consistency artifacts. With respect to ex post considerations, the issue of common method bias was addressed by testing the full collinearity following Kock's [105] suggestions. This method is one of the most powerful statistical analyses for reporting the responses bias for Likert scale-type questions in PLS-SEM [105]. Inner variance inflation factors (VIFs) for all latent variables in this study ranged from 1.00 to 2.94, which were below the recommended threshold of 3.33. Thus, single-source bias was not a serious problem in this study.

## 4. Results

The means, standard deviations, and correlations for all the variables included in this study are shown in Table 1. The results indicated that the research variables including innovative work behaviors, transformational leadership, and the four sub-constructs of psychological capital (i.e., self-efficacy, hope, resilience, and optimism) were significantly correlated with each other.

**Table 1.** Correlations, means, and standard deviations of all variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Gender	0.31	0.46	-								
2. Age	43.33	8.25	−0.31 **	-							
3. Tenure	17.98	7.31	−0.30 **	0.78 **	-						
4. Education	2.78	0.79	−0.14	0.01	−0.09	-					
5. Transformational leadership	3.66	0.91	−0.01	0.03	−0.12	−0.02					
6. Self-efficacy	3.90	0.70	0.02	0.14	0.02	0.08	0.37 **				
7. Hope	3.56	0.75	0.05	0.08	0.01	0.01	0.45 **	0.76 **			
8. Resilience	3.37	0.83	0.07	−0.09	−0.18 *	0.09	0.16 *	0.50 **	0.50 **		
9. Optimism	3.85	0.85	−0.06	0.11	0.08	0.08	0.28 **	0.57 **	0.58 **	0.52 **	
10. Innovative behavior	3.60	0.80	−0.15	0.07	−0.04	0.04	0.40 **	0.60 **	0.63 **	0.44 **	0.52 **

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ . Gender was coded: 0—male, 1—female. Education was measured by a number from 1 to 5 (1—Associate degree to 4—Doctor's degree).

### 4.1. Measurement Model Evaluation

This study performed the reliability and validity tests to evaluate the measurement model. To confirm the construct reliability, Cronbach's alpha and composite reliability should be higher than 0.7. As seen in Table 2, Cronbach's alpha coefficients and the composite reliability of all constructs of the research model (except resilience) are higher than 0.7. To confirm the convergent validity, the average variance extracted (AVE) for each construct must be greater than the threshold value of 0.5 [106]. In the current study, the AVE values range between 0.50 and 0.80, and all values are above the acceptable level of 0.5. The HTMT approach was used to evaluate the divergent validity [107]. According to Table 2, all HTMT values are below the acceptable value of 0.90. This indicates the divergent validity of the research scales.

**Table 2.** Assessment results of the measurement and structural models.

Variable	Measurement Model								Structural Model	
	$\alpha$	CR	AVE	HTMT					Q <sup>2</sup>	R <sup>2</sup>
				1	2	3	4	5		
1. Transformational leadership	0.95	0.96	0.67	-					-	-
2. Self-efficacy	0.79	0.86	0.61	0.43	-				0.08	0.14
3. Hope	0.80	0.87	0.63	0.50	0.89	-			0.12	0.20
4. Resilience	0.66	0.73	0.50	0.17	0.58	0.65	-		0.01	0.03
5. Optimism	0.75	0.89	0.80	0.32	0.74	0.75	0.63	-	0.06	0.08
6. Innovative work behavior	0.88	0.91	0.63	0.42	0.68	0.73	0.47	0.63	0.28	0.47

Note:  $\alpha$ : Cronbach's alpha; CR: composite reliability; AVE: average variance extracted; R<sup>2</sup>: coefficient of determination; Q<sup>2</sup>: predictive relevance.

#### 4.2. Structural Model Evaluation

Having confirmed the reliability and validity of the measurement model, the structure model was evaluated. First, the overall model fit was assessed by using the standardized root mean square residual (SRMR) [107]. The SRMR value was 0.06, which is lower than the threshold value of 0.08, confirming the overall model fit of the PLS path model. Next, the significance of the path coefficients in the research model was assessed using a bootstrapping approach with a resample of 5000 [100]. As shown in Table 3, transformational leadership was significantly related to employees' innovative work behaviors ( $\beta = 0.15$ ,  $p < 0.05$ ). Therefore, H1 was supported. According to Götz et al. [108], the effect size ( $f^2$ ) indicates whether exogenous variables have a significant effect on the endogenous variable. Cohen [109] states that the values 0.02, 0.15, and 0.35 indicate the size of the small, medium, and large effects, respectively. As shown in Table 3, transformational leadership had a small effect on innovative work behaviors ( $f^2 = 0.03$ ). Based on Table 3, the results demonstrated that transformational leadership was significantly related to self-efficacy ( $\beta = 0.37$ ,  $p < 0.01$ ), hope ( $\beta = 0.45$ ,  $p < 0.01$ ), resilience ( $\beta = 0.16$ ,  $p < 0.05$ ) and optimism ( $\beta = 0.28$ ,  $p < 0.01$ ). In addition, self-efficacy ( $\beta = 0.20$ ,  $p < 0.05$ ) and hope ( $\beta = 0.26$ ,  $p < 0.01$ ) were significantly related to innovative work behaviors. However, there was no significant relationship between resilience ( $\beta = 0.10$ ,  $p > 0.05$ ) and optimism ( $\beta = 0.17$ ,  $p > 0.05$ ) and innovative work behaviors. Because of these non-significant direct effects, no mediation effects of resilience and optimism could be tested. Consequently, H4 and H5 were not supported.

As a rule of thumb for R<sup>2</sup>, the three values of 0.19, 0.33, and 0.67 represent the weak, medium, and strong levels of predictive accuracy [110]. As shown in Table 2, the R<sup>2</sup> value of employees' innovative work behavior was 47%, which indicated the average level of predictive power [106]. In addition, the results of Stone–Geisser's test proved that the fit model had a good predictive relevance because the values of Q<sup>2</sup> in all latent variables were greater than zero [111].

According to Zhao et al. [112], if the indirect effect is significant at the 5% level based on the bootstrapping results and the 95% confidence interval (CI) does not include zero, the indirect effect is significant and mediation is established. Full mediation happens when the direct effect is insignificant, while partial mediation occurs when the direct effect is significant. According to Table 3, the specific indirect effects of transformational leadership on employees' innovative work behaviors through self-efficacy (indirect effect = 0.10, 95% CI [0.04, 0.18]) and hope (indirect effect = 0.11, 95% CI [0.03, 0.22]) were significant, and the confidence interval did not include zero. In other words, self-efficacy and hope significantly mediated the relationship between transformational leadership and employees' innovative work behaviors. Therefore, H2 and H3 were supported. However, due to the

significant direct effect of transformational leadership on innovative work behavior, the mediating effects of self-efficacy and hope were partial in this study.

**Table 3.** Direct, indirect, and total effects of the research model.

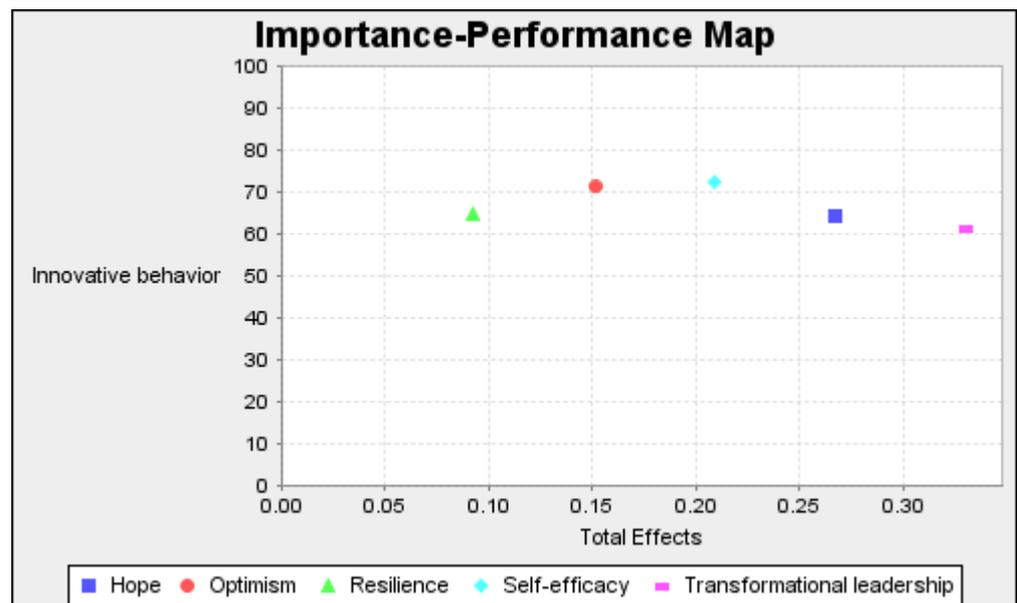
Hypotheses	Relation	$\beta$	$t$ Values	CI	$f^2$	Supported	
H1	Direct effects						
	TL	→ Innovative work behavior	0.15 *	2.27	0.01–0.25	0.03	Yes
	Self-efficacy	→ Innovative work behavior	0.20 *	2.35	0.03–0.35	0.03	Yes
	Hope	→ Innovative work behavior	0.26 **	2.75	0.07–0.43	0.05	Yes
	Resilience	→ Innovative work behavior	0.10	1.62	−0.05–0.18	0.01	No
	Optimism	→ Innovative work behavior	0.17	1.94	0.01–0.33	0.04	No
	TL	→ Self-efficacy	0.37 **	5.44	0.23–0.48	0.16	Yes
	TL	→ Hope	0.45 **	6.53	0.30–0.56	0.25	Yes
	TL	→ Resilience	0.16 *	2.03	0.02–0.31	0.03	Yes
	TL	→ Optimism	0.28 **	3.89	0.13–0.42	0.08	Yes
H2	Indirect effects						
	TL → Self-efficacy	→ Innovative work behavior	0.10 *	2.69	0.04–0.18		Yes
	H3 TL → Hope	→ Innovative work behavior	0.11 *	2.15	0.03–0.22		Yes
	H4 TL → Resilience	→ Innovative work behavior	0.01	1.09	−0.01–0.10		No
	H5 TL → Optimism	→ Innovative work behavior	0.04	1.52	−0.01–0.04		No
Total effects							
TL	→ Innovative work behavior	0.40 **	6.15	0.25–0.56			

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $\beta$ : standardized path coefficient; CI: confidence interval;  $f^2$ : effect size, VAF: variance accounted for; TL: Transformational leadership.

#### 4.3. Importance-Performance Map Analysis

This study extends the research model analysis by performing an importance-performance map analysis (IPMA) in SmartPLS to prioritize the antecedent factors of employees' innovative work behavior. The IPMA is comprised of the measurements of total effects (i.e., importance) and index values (i.e., performance), which allows a better conclusion to be drawn so that researchers may help managers prioritize their actions [103,106].

Figure 2 shows that of all antecedents, transformational leadership and hope are the most important constructs for employees' innovative work behaviors (total effects = 0.33 and 0.27) but also for their lowest current performance (i.e., 61.10 and 64.14). Thus, improving transformational leadership behaviors and hope would have maximum effects on employees' innovative work behavior (importance), but the responding employees expressed that they were not hopeful about their work and future and their supervisors did not possess sufficient transformational leadership skills (performance). Therefore, organizational managers should give more attention to their leadership style and engage in transformational leadership as a way to enhance their employees' innovative behaviors. In addition, to improve such behaviors, managerial activities should also focus on increasing employees' hope.



**Figure 2.** Constructs unstandardized importance-performance effects on employees' innovative work behaviors.

## 5. Discussion

The current paper aimed at investigating the relationship between an important contextual factor (i.e., transformational leadership) and important individual factors (i.e., the sub-constructs of psychological capital) and employees' innovative work behaviors in government organizations in Iran. The mediating role of the sub-constructs of psychological capital in the relationship between transformational leadership and employee innovation was also examined. These findings are valuable because previous research has been conducted mainly in developed countries and the private sector.

The results showed that there is a significant direct relationship between transformational leadership and employees' innovative work behaviors that is consistent with that of the previous studies [54,55]. This finding emphasizes the important role of transformational leaders in the implementation and application of new ideas by employees, and it means that high-quality leadership can inspire, insight, and motivate employees to perform innovative work behaviors. Transformational leaders who care about the well-being, problems, and desires of their employees improve employees' ability to take innovative work behaviors and embrace new perspectives.

The results also showed that there is a positive relationship between transformational leadership and the four sub-constructs of psychological capital, namely, self-efficacy, hope, resilience, and optimism. Although this study cannot confirm causation, the positive relationship between transformational leadership and psychological capital dimensions suggests that transformational leadership is essential for improving psychological capital resources. These findings are promising, especially when considering that scholars of positive organizational behaviors have called for investigations into how employees' psychological capital resources can be developed [18,20]. These findings are consistent with those of previous studies [13,71,82,86].

The results also showed that the four dimensions of psychological capital contribute differently to explaining and predicting employees' innovative work behaviors. Although all psychological capital dimensions were positively correlated with innovative work behaviors, only two (hope and self-efficacy) had significant and positive effects on employees' innovative work behaviors, which are consistent with that of the previous studies [4,72]. These results show that people with high self-efficacy and hope, due to their inner tendency to express creativity and innovative work behaviors, take the lead in producing

and implementing new ideas in their work environment. Positive psychological resources of employees, including self-efficacy and hope, are among the most important internal motivations that make them capable of being more innovative and creative in the workplace [17,18]. These results also support the assumption that psychological capital resources contribute to attitudes, behaviors, and positive outcomes in the workplace [100]. However, quite surprisingly, the components of resilience and optimism were not significantly related to employees' innovative work behavior. This finding should be interpreted with caution because the  $p$ -value of the relationship between optimism and innovative work behavior was 0.06, which is just shy of being significant. This result could also be due to measurement issues. As already mentioned, a short version of the Psychological Capital Questionnaire was used with two items representing optimism and three items representing resilience. This low number of items is largely responsible for the lower reliability of the resilience scale (0.66), which while still acceptable, might have reduced the predictive power of this construct. More complete questionnaires could be undertaken for future research to assess the predictive power and validity of the present study.

The results indicated that self-efficacy and hope mediate the relationship between transformational leadership and employees' innovative work behaviors. Employees led by transformational leaders have higher self-efficacy and hope, and these psychological resources encourage more creativity and innovation in the workplace. In other words, transformational leaders are more likely to foster employee innovation by helping to develop positive psychological resources. Employees with a high level of self-efficacy and hope participate in more innovative work behaviors, which improves the chances of producing creative and innovative outcomes. An employee with a high level of self-efficacy and hope will need less supervision and will be less dependent on their leaders for daily routines and tasks [113]. A possible reason for the partial mediation of self-efficacy and hope in this study is that the impact of transformational leadership on employees' innovative outcomes is multiplied when employees have high efficacy and hope.

## 6. Theoretical and Practical Implications

This study provides several theoretical and empirical contributions to this research field. First, this study contributes to the literature of leadership and individual innovation by providing empirical evidence regarding a positive relationship between transformational leadership and innovative work behaviors in the Iranian government sector. Scholars emphasize the need for examining the relationship between leadership styles and individual innovation because this relationship has not yet been explicitly studied [1,13,21]. By investigating the effects of transformational leadership on innovative work behaviors, the present paper contributes significantly to filling this theoretical gap. It also indicates that transformational leadership is one of the most effective leadership styles that significantly predicts employees' innovative work behaviors.

Second, scholars have identified that the development of employees' positive psychological resources is beneficial, as organizations need to innovate and adapt to a fast-moving and uncertain environment [16,114]. However, most previous studies have examined the impacts of psychological capital on innovation in general without investigating the effects of each specific dimension of psychological capital on innovative work behaviors [63,64,72]. This study was aimed to address this knowledge gap and respond to the call by Dawkins et al. [32] by exploring the effects of psychological capital dimensions on employees' innovative work behaviors. The findings show evidence that self-efficacy and hope significantly influence employees' innovative work behaviors.

Third, the study's findings represent a more nuanced way of theorizing the link between transformational leadership and innovative work behaviors. In particular, we found an indirect effect of transformational leadership on innovative work behavior through hope and self-efficacy. This finding supports the theory that psychological capital resources, especially self-efficacy and hope, are considered as the mechanism by which contextual variables such as transformational leadership affect employees' innovative work behaviors.

Moreover, this study lends credence to the SCT by shedding light on how transformational leaders shape employees' innovative behavior through self-efficacy. In addition, by examining the mediating role of psychological capital dimensions, this study responds to the frequent calls for an in-depth exploration of how entrepreneurial leadership can influence employees' innovative work behaviors [10,22]. We suggest that researchers explore other mediating mechanisms for better explaining and understanding this relationship.

Fourth, this study is also important in that it examines the relationships between transformational leadership, psychological capital, and innovative work behaviors in a government agency in a developing country. Most government agencies in developing countries do not have sufficient resources to invest in improving organizational creativity and innovation. Thus, they should look for lower-cost factors that can promote innovation and creativity in organizations. Employees and their psychological capital are known as the primary force that has a great capacity in the innovation processes [13,17,19]. Therefore, changing employees' attitudes, beliefs, and motivations for creativity and innovation by improving their psychological capital resources with the help of transformational leadership seems to be one of the cheap strategies for government organizations in developing countries. Moreover, Iran is a high-power distance society, which means hierarchical order in most of the Iranian organizations is accepted and a commanding leadership style prevails [27]. However, such a leadership style is detrimental to employees' engagement in innovation activities and hence is inadequate to meet the needs of contemporary management [115]. The results of this study suggest that a people-centric leadership approach, such as transformational leadership, is more relevant in fostering the innovative behaviors of employees in countries characterized by a high-power distance and culture hierarchical structures.

Organizational leaders and managers should strengthen their awareness of the importance of psychological capital, especially hope and self-efficacy, and seek to enhance it among their employees. They can change the way they interact and communicate with their employees so that the employees feel more self-efficacious and hopeful. Hopeful and self-efficacious employees are more likely to generate and implement new and useful ideas at work. Managers and leaders can also develop and implement programs to develop a sense of hope and confidence and the ability to overcome adversity and failure in the workplace. Luthans et al. [18,116] has shown that short training courses can improve employees' psychological capital resources. Therefore, psychological capital resources are regarded as state-like and open to development. The Psychological Capital Intervention (PCI) model has proven to be effective in short-term interventions [117]. Managers and leaders of organizations can design very small interventions based on this model to nurture and improve employees' hope and self-efficacy. In the process of hiring employees, managers should pay attention to the psychological state of employees and hire employees who have high levels of hope and self-efficacy.

The results suggest that transformational leadership is an influential predictor of employees' psychological capital resources, which in turn generate more significant motivation for enhancing their innovative work behaviors. More specifically, in this study, hope and self-efficacy are introduced as key mechanisms that explain how supervisors' transformational leadership behavior promotes employees' innovative work behaviors in the Iranian government sector. From a practical standpoint, this finding highlights the role of a transformational leader to induce employees toward evolving positive psychological resources [20]. These findings suggest that managers in developing countries need to focus on transformational leadership practice to foster and develop strong and positive psychological capital resources, especially hope and self-efficacy, among employees to foster their innovative work behaviors. Using a transformational leadership style, managers must pay attention to the individual and professional needs of employees, give them independence and authority in challenging the status quo and trying new ideas, and create a sense of trust and hope in them, thus creating psychological capital to increase creativity and innovation. Transformational leadership is an important factor for enhancing employees' innovative

work behaviors not only through hope and self-efficacy but also directly. One possible recommendation could be developing transformational leadership in managers looking for ways to intensify their employees' innovative work behaviors. Research suggests that transformational leadership can be developed through training with training and mentoring taking place at all levels of the organization [118]. Barling et al. [119] developed a transformational leadership training that consisted of a one-day group session and four individual booster sessions with feedback and consultations. Abrell et al. [120] described the program of transformational leadership development based on leadership feedback, training, and coaching. Their results indicated that transformational leadership behavior could be actively improved through training.

## 7. Limitations and Suggestions for Future Studies

The current paper has faced some limitations that need to be considered while interpreting the results. First, this study is a cross-sectional study and therefore may not provide a causal relationship between constructs. A longitudinal or experimental study design provides a better and more in-depth understanding of relationships. Second, this study was conducted in a government agricultural organization in Hamadan province, Iran. Future studies can test and validate the findings in other government agencies and economic sectors, including industries and services. Third, cultural factors were not considered during the study due to limited resources and time; however, future studies in individualistic or collectivistic cultures could provide new findings and insights. Thus, caution should be exercised when generalizing to other contexts and cultures. Fourth, the data have been collected only through the self-report questionnaire. Therefore, future research should use other data collection sources, such as in-depth interviews and participatory observation. Fourth, the study used a single source to collect sample data. Although procedural remedies [104] were applied and the CMB test did not identify CMB as an issue, future research should gather data from different sources to improve the robustness of the results of this study. Fifth, the psychological capital of employees is the valuable capital of an organization that benefits a set of significant outcomes. Thus, future research should continually examine other antecedents of psychological capital [4]. Finally, the current paper examined merely the transformational leadership style; however, other leadership styles, such as exchange leadership, may also affect employee creativity and innovation, which need to be taken into account for future research.

## 8. Conclusions

In conclusion, despite its limitations, this study indicates that transformational leadership and psychological capital are two important determinants of employees' innovative work behaviors in the Iranian government sector. More importantly, it reveals that the effect of transformational leadership on innovative work behaviors is partially mediated by two specific dimensions of psychological capital, namely, hope and self-efficacy. This study provides practitioners and researchers with a better understanding of how to achieve higher levels of innovative work behaviors given the relationship between transformational leadership and the dimensions of psychological capital.

**Author Contributions:** Conceptualization, S.K. and A.Y.F.; methodology, S.K., A.Y.F. and F.A.M.; software, S.K. and F.A.M.; validation, S.K. and F.A.M.; formal analysis, S.K. and F.A.M.; investigation, F.A.M.; resources, S.K. and F.A.M.; data curation, S.K. and F.A.M.; writing—original draft preparation, S.K.; writing—review and editing, S.K., A.Y.F. and G.L. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** All relevant data are in the manuscript.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

- Anderson, N.; Potocnik, K.; Zhou, J. Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *J. Manag.* **2014**, *40*, 1297–1333. [[CrossRef](#)]
- Shalley, C.E.; Zhou, J.; Oldham, G.R. The effects of personal and contextual characteristics on creativity: Where should we go from here? *J. Manag.* **2004**, *30*, 933–958. [[CrossRef](#)]
- Yuan, F.; Woodman, R.W. Innovative behavior in the workplace: The role of performance and image outcome expectations. *Acad. Manag. J.* **2010**, *53*, 323–342. [[CrossRef](#)]
- Le, P.B. How transformational leadership facilitates radical and incremental innovation: The mediating role of individual psychological capital. *Asia-Pac. J. Bus. Adm.* **2020**, *12*, 205–222. [[CrossRef](#)]
- Khalili, A. Linking transformational leadership, creativity, innovation, and innovation-supportive climate. *Manag. Decis.* **2016**, *54*, 2277–2293. [[CrossRef](#)]
- Park, S.; Jo, S.J. The impact of proactivity, leader-member exchange, and climate for innovation on innovative behavior in the Korean government sector. *Leadersh. Organ. Dev. J.* **2018**, *39*, 130–149. [[CrossRef](#)]
- Baafi, F.; Ansong, A.; Dogbey, K.E.; Owusu, N.O. Leadership and innovative work behaviour within Ghanaian metropolitan assemblies: Mediating role of resource supply. *Int. J. Public Sect. Manag.* **2021**, *34*, 765–782. [[CrossRef](#)]
- Amankwaa, A.; Gyensare, M.A.; Susomrith, P. Transformational leadership with innovative behaviour: Examining multiple mediating paths with PLS-SEM. *Leadersh. Organ. Dev. J.* **2019**, *40*, 402–420. [[CrossRef](#)]
- Afsar, B.; Umrani, W.A. Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate. *Eur. J. Innov. Manag.* **2019**, *23*, 402–428. [[CrossRef](#)]
- Lee, A.; Legood, A.; Hughes, D.; Tian, A.W.; Newman, A.; Knight, C. Leadership, creativity and innovation: A meta-analytic review. *Eur. J. Work Organ. Psychol.* **2020**, *29*, 1–35. [[CrossRef](#)]
- Akinci, G.; Alpkın, L.; Yıldız, B.; Karacay, G. The Link between Ambidextrous Leadership and Innovative Work Behavior in a Military Organization: The Mediating Role of Climate for Innovation. *Sustainability* **2022**, *14*, 15315. [[CrossRef](#)]
- Fischer, T.; Dietz, J.; Antonakis, J. Leadership process models: A review and synthesis. *J. Manag.* **2017**, *43*, 1726–1753. [[CrossRef](#)]
- Le, P.B.; Lei, H. Determinants of innovation capability: The roles of transformational leadership, knowledge sharing and perceived organizational support. *J. Knowl. Manag.* **2019**, *23*, 527–547. [[CrossRef](#)]
- Avolio, B.J.; Walumbwa, F.O.; Weber, T.J. Leadership: Current theories, research, and future directions. *Annu. Rev. Psychol.* **2009**, *60*, 421–449. [[CrossRef](#)]
- Slåtten, T.; Mutonyi, B.R.; Lien, G. The impact of individual creativity, psychological capital, and leadership autonomy support on hospital employees' innovative behaviour. *BMC Health Serv. Res.* **2020**, *20*, 1096. [[CrossRef](#)]
- Schuckert, M.; Kim, T.T.; Paek, S.; Lee, G. Motivate to innovate. *Int. J. Contemp. Hosp. Manag.* **2018**, *30*, 776–796. [[CrossRef](#)]
- Sweetman, D.; Luthans, F.; Avey, J.B.; Luthans, B.C. Relationship between positive psychological capital and creative performance. *Can. J. Adm. Sci./Rev. Can. Sci. L'administration* **2011**, *28*, 4–13. [[CrossRef](#)]
- Luthans, F.; Youssef, C.M.; Avolio, B.J. *Psychological Capital: Developing the Human Competitive Edge*; Oxford University Press: Oxford, UK, 2007.
- Luthans, F. Psychological capital: Implications for HRD, retrospective analysis, and future directions. *Hum. Resour. Dev. Q.* **2012**, *23*, 1–8. [[CrossRef](#)]
- Gooty, J.; Gavin, M.; Johnson, P.D.; Frazier, M.L.; Snow, D.B. In the eyes of the beholder: Transformational leadership, positive psychological capital, and performance. *J. Leadersh. Organ. Stud.* **2009**, *15*, 353–367. [[CrossRef](#)]
- Lei, H.; Leungkhamma, L.; Le, P.B. How transformational leadership facilitates innovation capability: The mediating role of employees' psychological capital. *Leadersh. Organ. Dev. J.* **2020**, *41*, 481–499. [[CrossRef](#)]
- Hughes, D.J.; Lee, A.; Tian, A.W.; Newman, A.; Legood, A. Leadership, creativity, and innovation: A critical review and practical recommendations. *Leadersh. Q.* **2018**, *29*, 549–569. [[CrossRef](#)]
- Demircioglu, M.A.; Audretsch, D.B. Conditions for complex innovations: Evidence from public organizations. *J. Technol. Transf.* **2020**, *45*, 820–843. [[CrossRef](#)]
- Agolla, J.E.; Van Lill, J.B. Insights into Kenya's public sector innovation: The case of managers. *Int. J. Innov. Sci.* **2017**, *9*, 225–243. [[CrossRef](#)]
- Crosby, B.C.; 't Hart, P.; Torfing, J. Public value creation through collaborative innovation. *Public Manag. Rev.* **2017**, *19*, 655–669. [[CrossRef](#)]
- Suseno, Y.; Standing, C.; Gengatharen, D.; Nguyen, D. Innovative work behaviour in the public sector: The roles of task characteristics, social support, and proactivity. *Aust. J. Public Adm.* **2020**, *79*, 41–59. [[CrossRef](#)]
- Hofstede, G.H. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations*, 2nd ed.; SAGE: Thousand Oaks, CA, USA, 2001.
- Yeganeh, H.; Su, Z. An examination of human resource management practices in Iranian public sector. *Pers. Rev.* **2008**, *37*, 203–221. [[CrossRef](#)]
- Bouckenoghe, D.; Zafar, A.; Raja, U. How ethical leadership shapes employees' job performance: The mediating roles of goal congruence and psychological capital. *J. Bus. Ethics* **2015**, *129*, 251–264. [[CrossRef](#)]

30. Rego, A.; Sousa, F.; Marques, C.; Pina e Cunha, M. Hope and positive affect mediating the authentic leadership and creativity relationship. *J. Bus. Res.* **2014**, *67*, 200–210. [[CrossRef](#)]
31. Wang, Y.; Liu, J.; Zhu, Y. How does humble leadership promote follower creativity? The roles of psychological capital and growth need strength. *Leadersh. Organ. Dev. J.* **2018**, *39*, 507–521. [[CrossRef](#)]
32. Dawkins, S.; Martin, A.; Scott, J.; Sanderson, K. Building on the positives: A psychometric review and critical analysis of the construct of Psychological Capital. *J. Occup. Organ. Psychol.* **2013**, *86*, 348–370. [[CrossRef](#)]
33. Sanders, K.; Shipton, H. The relationship between transformational leadership and innovative behaviour in a healthcare context: A team learning versus a cohesion perspective. *Eur. J. Int. Manag.* **2012**, *6*, 83–100. [[CrossRef](#)]
34. Gumusluoglu, L.; Ilsev, A. Transformational leadership, creativity, and organizational innovation. *J. Bus. Res.* **2009**, *62*, 461–473. [[CrossRef](#)]
35. Novitasari, D.; Siswanto, E.; Purwanto, A.; Fahmi, K. Authentic Leadership and Innovation: What is the Role of Psychological Capital? *Int. J. Soc. Manag. Stud.* **2020**, *1*, 27–42. [[CrossRef](#)]
36. Salim, U. On the Relationship between Transformational Leadership and Innovative Behaviour. Master's Thesis, European University of Lefke, Gemikonağı, Cyprus, 2021.
37. Li, X.; Seah, R.; Wang, X.; Yuen, K.F. Investigating the role of sociotechnical factors on seafarers' psychological capital and mental well-being. *Technol. Soc.* **2022**, *71*, 102138. [[CrossRef](#)]
38. Yuen, K.F.; Bai, X.; Wang, X. Safety behaviour at sea: Policy implications for managing seafarers through positive psychology. *Mar. Policy* **2020**, *121*, 104163. [[CrossRef](#)]
39. Arthur, C.A.; Hardy, L. Transformational leadership: A quasi-experimental study. *Leadersh. Organ. Dev. J.* **2014**, *35*, 38–53. [[CrossRef](#)]
40. Bass, B.M. *Leadership and Performance beyond Expectations*; Free Press: New York, NY, USA, 1985.
41. Avolio, B.J.; Bass, B.M.; Jung, D.I. Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *J. Occup. Organ. Psychol.* **1999**, *72*, 441–462. [[CrossRef](#)]
42. Watts, L.L.; Steele, L.M.; Den Hartog, D.N. Uncertainty avoidance moderates the relationship between transformational leadership and innovation: A meta-analysis. *J. Int. Bus. Stud.* **2020**, *51*, 138–145. [[CrossRef](#)]
43. Bass, B.M. Two decades of research and development in transformational leadership. *Eur. J. Work Organ. Psychol.* **1999**, *8*, 9–32. [[CrossRef](#)]
44. Hunt, J.G.J.; Stelluto, G.E.; Hooijberg, R. Toward new-wave organization creativity: Beyond romance and analogy in the relationship between orchestra-conductor leadership and musician creativity. *Leadersh. Q.* **2004**, *15*, 145–162. [[CrossRef](#)]
45. Gong, Y.; Huang, J.C.; Farh, J.L. Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Acad. Manag. J.* **2009**, *52*, 765–778. [[CrossRef](#)]
46. Podsakoff, P.M.; MacKenzie, S.B.; Moorman, R.H.; Fetter, R. Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadersh. Q.* **1990**, *1*, 107–142. [[CrossRef](#)]
47. Amankwaa, A.; Susomrith, P.; Seet, P.S. Innovative behavior among service workers and the importance of leadership: Evidence from an emerging economy. *J. Technol. Transf.* **2021**, *47*, 506–530. [[CrossRef](#)]
48. Bandura, A. *Social Foundations of Thought and Action: A Social Cognitive Theory*; Prentice-Hall: Hoboken, NJ, USA, 1986.
49. Hoang, G.; Luu, T.T.; Nguyen, T.T.; Du, T.; Le, L.P. Examining the effect of entrepreneurial leadership on employees' innovative behavior in SME hotels: A mediated moderation model. *Int. J. Hosp. Manag.* **2022**, *102*, 72142. [[CrossRef](#)]
50. Bakker, A.B.; Demerouti, E. Job demands–resources theory: Taking stock and looking forward. *J. Occup. Health Psychol.* **2017**, *22*, 273–285. [[CrossRef](#)] [[PubMed](#)]
51. Schaufeli, W.B.; Taris, T.W. A critical review of the job demands-resources model: Implications for improving work and health. In *Bridging Occupational, Organizational and Public Health*; Springer: Berlin/Heidelberg, Germany, 2014; pp. 43–68.
52. Schaufeli, W.B.; Bakker, A.B. The conceptualization and measurement of work engagement. In *Work Engagement: A Handbook of Essential Theory and Research*; Bakker, A.B., Leiter, M.P., Eds.; Routledge: New York, NY, USA, 2010.
53. Çop, S.; Olorunsola, V.O.; Alola, U.V. Achieving environmental sustainability through green transformational leadership policy: Can green team resilience help? *Bus. Strategy Environ.* **2021**, *30*, 671–682. [[CrossRef](#)]
54. Grošelj, M.; Černe, M.; Penger, S.; Grah, B. Authentic and transformational leadership and innovative work behaviour: The moderating role of psychological empowerment. *Eur. J. Innov. Manag.* **2020**, *24*, 677–706. [[CrossRef](#)]
55. Løvaas, B.J.; Jungert, T.; Van den Broeck, A.; Haug, H. Does managers' motivation matter? Exploring the associations between motivation, transformational leadership, and innovation in a religious organization. *Nonprofit Manag. Leadersh.* **2020**, *30*, 569–589. [[CrossRef](#)]
56. Chaubey, A.; Sahoo, C.K.; Khatri, N. Relationship of transformational leadership with employee creativity and organizational innovation: A study of mediating and moderating influences. *J. Strategy Manag.* **2019**, *12*, 61–82. [[CrossRef](#)]
57. Cenciotti, R.; Alessandri, G.; Borgogni, L. Psychological capital and career success over time: The mediating role of job crafting. *J. Leadersh. Organ. Stud.* **2017**, *24*, 372–384. [[CrossRef](#)]
58. Alessandri, G.; Consiglio, C.; Luthans, F.; Borgogni, L. Testing a dynamic model of the impact of psychological capital on work engagement and job performance. *Career Dev. Int.* **2018**, *23*, 33–47. [[CrossRef](#)]
59. Avey, J.B.; Luthans, F.; Youssef, C.M. The additive value of positive psychological capital in predicting work attitudes and behaviors. *J. Manag.* **2010**, *36*, 430–452. [[CrossRef](#)]

60. Avey, J.B. The left side of psychological capital: New evidence on the antecedents of PsyCap. *J. Leadersh. Organ. Stud.* **2014**, *21*, 141–149. [[CrossRef](#)]
61. Wu, W.Y.; Nguyen, K.-V.H. The antecedents and consequences of psychological capital: A meta-analytic approach. *Leadersh. Organ. Dev. J.* **2019**, *40*, 435–456. [[CrossRef](#)]
62. Newman, A.; Ucbasaran, D.; Zhu, F.E.I.; Hirst, G. Psychological capital: A review and synthesis. *J. Organ. Behav.* **2014**, *35*, 120–138. [[CrossRef](#)]
63. Cai, W.; Lysova, E.I.; Bossink, B.A.; Khapova, S.N.; Wang, W. Psychological capital and self-reported employee creativity: The moderating role of supervisor support and job characteristics. *Creat. Innov. Manag.* **2019**, *28*, 30–41. [[CrossRef](#)]
64. Hsu, M.L.; Chen, F.H. The cross-level mediating effect of psychological capital on the organizational innovation climate–employee innovative behavior relationship. *J. Creat. Behav.* **2017**, *51*, 128–139. [[CrossRef](#)]
65. Mathieu, J.E.; Taylor, S.R. A framework for testing meso-mediational relationships in Organizational Behavior. *J. Organ. Behav.* **2007**, *28*, 141–172. [[CrossRef](#)]
66. Shin, S.J.; Zhou, J. Transformational leadership, conservation, and creativity: Evidence from Korea. *Acad. Manag. J.* **2003**, *46*, 703–714. [[CrossRef](#)]
67. Cho, J.; Dansereau, F. Are transformational leaders fair? A multi-level study of transformational leadership, justice perceptions, and organizational citizenship behaviors. *Leadersh. Q.* **2010**, *21*, 409–421. [[CrossRef](#)]
68. Bak, H.; Jin, M.H.; McDonald III, B.D. Unpacking the Transformational Leadership-Innovative Work Behavior Relationship: The Mediating Role of Psychological Capital. *Public Perform. Manag. Rev.* **2022**, *45*, 80–105. [[CrossRef](#)]
69. Rego, A.; Sousa, F.; Marques, C.; Cunha, M.P.E. Optimism predicting employees' creativity: The mediating role of positive affect and the positivity ratio. *Eur. J. Work Organ. Psychol.* **2012**, *21*, 244–270. [[CrossRef](#)]
70. Nolzen, N. The concept of psychological capital: A comprehensive review. *Manag. Rev. Q.* **2018**, *68*, 237–277. [[CrossRef](#)]
71. Sengphet, P.; Hui, L.; Phong, L. The pathway to improve innovation capacity for Lao firms: The roles of transformational leadership and psychological resources of employees. *J. Bus. Adm. Stud.* **2019**, *5*, 224–239. [[CrossRef](#)]
72. Abbas, M.; Raja, U. Impact of psychological capital on innovative performance and job stress. *Can. J. Adm. Sci./Rev. Can. Sci. L'administration* **2015**, *32*, 128–138. [[CrossRef](#)]
73. Michael, L.H.; Hou, S.T.; Fan, H.L. Creative self-efficacy and innovative behavior in a service setting: Optimism as a moderator. *J. Creat. Behav.* **2011**, *45*, 258–272. [[CrossRef](#)]
74. Bagheri, A.; Newman, A.; Eva, N. Entrepreneurial leadership of CEOs and employees' innovative behavior in high-technology new ventures. *J. Small Bus. Manag.* **2022**, *60*, 805–827. [[CrossRef](#)]
75. Chen, Y.; Tang, G.; Jin, J.; Xie, Q.; Li, J. CEOs' transformational leadership and product innovation performance: The roles of corporate entrepreneurship and technology orientation. *J. Prod. Innov. Manag.* **2014**, *31* (Suppl. S1), 2–17. [[CrossRef](#)]
76. Herrmann, D.; Felfe, J. Effects of leadership style, creativity technique and personal initiative on employee creativity. *Br. J. Manag.* **2014**, *25*, 209–227. [[CrossRef](#)]
77. Walumbwa, F.O.; Avolio, B.J.; Zhu, W. How transformational leadership weaves its influence on individual job performance: The role of identification and efficacy beliefs. *Pers. Psychol.* **2008**, *61*, 793–825. [[CrossRef](#)]
78. Le, P.B.; Lei, H. Fostering knowledge sharing behaviours through ethical leadership practice: The mediating roles of disclosure-based trust and reliance-based trust in leadership. *Knowl. Manag. Res. Pract.* **2018**, *16*, 183–195. [[CrossRef](#)]
79. Avolio, B.J.; Gardner, W.L.; Walumbwa, F.O.; Luthans, F.; May, D.R. Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadersh. Q.* **2004**, *15*, 801–823. [[CrossRef](#)]
80. Snyder, C.R. Hypothesis: There is hope. In *Handbook of Hope: Theory, Measures, and Applications*; Academic Press: San Diego, CA, USA, 2000; pp. 3–21.
81. Avolio, B.J.; Bass, B.M. *Multifactor Leadership Questionnaire: Third Edition Manual and Sampler Set*; Mindgarden, Inc.: Menlo Park, CA, USA, 2004.
82. McColl-Kennedy, J.R.; Anderson, R.D. Impact of leadership style and emotions on subordinate performance. *Leadersh. Q.* **2002**, *13*, 545–559. [[CrossRef](#)]
83. Snyder, C.R. Hope theory: Rainbows in the mind. *Psychol. Inq.* **2002**, *13*, 249–275. [[CrossRef](#)]
84. Zhou, J.; George, J.M. When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Acad. Manag. J.* **2001**, *44*, 682–696. [[CrossRef](#)]
85. Bass, B.M. From transactional to transformational leadership: Learning to share the vision. *Organ. Dyn.* **1990**, *18*, 19–31. [[CrossRef](#)]
86. Harland, L.; Harrison, W.; Jones, J.R.; Reiter-Palmon, R. Leadership behaviors and subordinate resilience. *J. Leadersh. Organ. Stud.* **2005**, *11*, 2–14. [[CrossRef](#)]
87. Rego, A.; Marques, C.; Leal, S.; Sousa, F.; Pina e Cunha, M. Psychological capital and performance of Portuguese civil servants: Exploring neutralizers in the context of an appraisal system. *Int. J. Hum. Resour. Manag.* **2010**, *21*, 1531–1552. [[CrossRef](#)]
88. Fredrickson, B.L. The broaden-and-build theory of positive emotions. *Philos. Trans. R. Soc. London. Ser. B Biol. Sci.* **2004**, *359*, 1367–1377. [[CrossRef](#)]
89. Le, B.P.; Lei, H.; Phouvang, S.; Than, T.S.; Nguyen, T.M.A.; Gong, J. Self-efficacy and optimism mediate the relationship between transformational leadership and knowledge sharing. *Soc. Behav. Personal. Int. J.* **2018**, *46*, 1833–1846. [[CrossRef](#)]
90. Youssef, C.M.; Luthans, F. Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *J. Manag.* **2007**, *33*, 774–800. [[CrossRef](#)]

91. Karamidehkordi, E. Public–private policy change and its influence on the linkage of agricultural Research, extension and farmers in Iran. *J. Agric. Educ. Ext.* **2013**, *19*, 237–255. [[CrossRef](#)]
92. Brislin, R.W. Back-translation for cross-cultural research. *J. Cross-Cult. Psychol.* **1970**, *1*, 185–216. [[CrossRef](#)]
93. Scott, S.G.; Bruce, R.A. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Acad. Manag. J.* **1994**, *37*, 580–607. [[CrossRef](#)]
94. Judge, T.A.; Piccolo, R.F. Transformational and transactional leadership: A meta-analytic test of their relative validity. *J. Appl. Psychol.* **2004**, *89*, 755. [[CrossRef](#)]
95. Jaiswal, N.K.; Dhar, R.L. Transformational leadership, innovation climate, creative self-efficacy and employee creativity: A multilevel study. *Int. J. Hosp. Manag.* **2015**, *51*, 30–41. [[CrossRef](#)]
96. Gumusluoglu, L.; Karakitapoğlu-Aygün, Z.; Hirst, G. Transformational leadership and R&D workers' multiple commitments: Do justice and span of control matter? *J. Bus. Res.* **2013**, *66*, 2269–2278.
97. Bliese, P.D. Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In *Multi-Level Theory, Research and Methods in Organizations: Foundations, Extensions, and New Directions*; Klein, K.J., Kozlowski, S.W.J., Eds.; Jossey-Bass: San Francisco, CA, USA, 2000; pp. 349–381.
98. Avey, J.B.; Avolio, B.J.; Luthans, F. Experimentally analyzing the impact of leader positivity on follower positivity and performance. *Leadersh. Q.* **2011**, *22*, 282–294. [[CrossRef](#)]
99. Ringle, C.M.; Sarstedt, M.; Mitchell, R.; Gudergan, S.P. Partial least squares structural equation modeling in HRM research. *Int. J. Hum. Resour. Manag.* **2020**, *31*, 1617–1643. [[CrossRef](#)]
100. Hair, J.F.; Risher, J.J.; Sarstedt, M.; Ringle, C.M. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* **2019**, *31*, 2–24. [[CrossRef](#)]
101. Munir, R.; Beh, L.S. Measuring and enhancing organisational creative climate, knowledge sharing, and innovative work behavior in startups development. *Bottom Line* **2019**, *32*, 269–289. [[CrossRef](#)]
102. Karimi, S.; Ahmadi Malek, F.; Yaghoubi Farani, A. The Relationship between Proactive Personality and Employees' Creativity: Mediating Role of Intrinsic Motivation and Creative Self-efficacy. *Econ. Res. Ekon. Istraživanja* **2022**, *35*, 4500–4519. [[CrossRef](#)]
103. Ringle, C.M.; Sarstedt, M. Gain more insight from your PLSSEM results: The importance-performance map analysis. *Ind. Manag. Data Syst.* **2016**, *116*, 1865–1886. [[CrossRef](#)]
104. Podsakoff, P.M.; MacKenzie, S.B.; Lee, J.Y.; Podsakoff, N.P. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *J. Appl. Psychol.* **2003**, *88*, 879. [[CrossRef](#)]
105. Kock, N. Common method bias: A full collinearity assessment method for PLS-SEM. In *Partial Least Squares Path Modeling*; Springer: Cham, Switzerland, 2017; pp. 245–257.
106. Hair, J.F., Jr.; Hult, G.T.M.; Ringle, C.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*; SAGE Publications: Thousand Oaks, CA, USA, 2017.
107. Henseler, J.; Hubona, G.S.; Ray, P.A. Using PLS path modeling in new technology research: Updated guidelines. *Ind. Manag. Data Syst.* **2016**, *116*, 2–20. [[CrossRef](#)]
108. Götz, O.; Liehr-Gobbers, K.; Krafft, M. Evaluation of structural equation models using the partial least squares (PLS) approach. In *Handbook of Partial Least Squares*; Springer: Berlin/Heidelberg, Germany, 2010; pp. 691–711.
109. Cohen, J. *Statistical Power Analysis for the Behavioral Sciences*; Academic Press: Cambridge, MA, USA, 2013.
110. Chin, W.W. The partial least squares approach to structural equation modeling. *Mod. Methods Bus. Res.* **1998**, *295*, 295–336.
111. Cohen, L.; Manion, L.; Morrison, K. *Research Methods in Education*; Routledge: London, UK, 2013.
112. Zhao, X.; Lynch, J.G., Jr.; Chen, Q. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *J. Consum. Res.* **2010**, *37*, 197–206. [[CrossRef](#)]
113. Gupta, V.; Singh, S. Psychological capital as a mediator of the relationship between leadership and creative performance behaviors: Empirical evidence from the Indian R&D sector. *Int. J. Hum. Resour. Manag.* **2014**, *25*, 1373–1394.
114. Eid, J.; Mearns, K.; Larsson, G.; Laberg, J.C.; Johnsen, B.H. Leadership, psychological capital and safety research: Conceptual issues and future research questions. *Saf. Sci.* **2012**, *50*, 55–61. [[CrossRef](#)]
115. Iqbal, A.; Nazir, T.; Ahmad, M.S. Entrepreneurial leadership and employee innovative behavior: An examination through multiple theoretical lenses. *Eur. J. Innov. Manag.* **2020**, *25*, 173–190. [[CrossRef](#)]
116. Luthans, F.; Avey, J.B.; Avolio, B.J.; Peterson, S.J. The development and resulting performance impact of positive psychological capital. *Hum. Resour. Dev. Q.* **2010**, *21*, 41–67. [[CrossRef](#)]
117. Dello Russo, S.; Stoykova, P. Psychological capital intervention (PCI): A replication and extension. *Hum. Resour. Dev. Q.* **2015**, *26*, 329–347. [[CrossRef](#)]
118. Bass, B.M.; Riggio, R.E. *Transformational Leadership*, 2nd ed.; Lawrence Erlbaum: Mahwah, NJ, USA, 2006.

119. Barling, J.; Weber, T.; Kelloway, E.K. Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *J. Appl. Psychol.* **1996**, *81*, 827. [[CrossRef](#)]
120. Abrell, C.; Rowold, J.; Weibler, J.; Moeninghoff, M. Evaluation of a long-term transformational leadership development program. *Ger. J. Hum. Resour. Manag.* **2011**, *25*, 205–224. [[CrossRef](#)]

**Disclaimer/Publisher’s Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.