

# Servant leadership, innovative work behavior and innovative organizational culture: the mediating role of perceived organizational support

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## Abstract

**Purpose** – The purpose of this study is to examine the effects of servant leadership (SL) and innovative organizational culture (IOC) on employees' innovative work behavior (IWB). In addition, this paper attempts to examine the mediating role of perceived organizational support (POS) in these relationships.

**Design/methodology/approach** – Data were collected from 280 employees working in technopark companies located in Turkey, which require intensive IWB. Structural equation modeling and bootstrapping procedure were used to test the hypothesized relationships.

**Findings** – The findings suggest that SL, and IOC are significantly and positively related to employees' IWB. The results also show that SL and IOC stimulate employees' IWB through POS.

**Research limitations/implications** – Because this study was carried out by employing a cross-sectional research design with data obtained from the same source, the inferences about the causality among the variables cannot be inferred.

**Practical implications** – The empirical findings suggest that organizations should make efforts to promote SL and improve IOC in order to harvest IWB from their employees. Moreover, organizations and managers need to recognize the importance of the POS by employees, and therefore form an adequate working environment, create and utilize policies and procedures accordingly.

**Originality/value** – This study suggests ways for organizations to enhance their innovativeness through IOC and SL applications in pursue of harvesting employees' IWB using POS by employees as mediator. This study is also original, in that no previous studies have investigated the mediating role of POS in the relationship between IOC, SL and IWB.

**Keywords** Servant leadership, Innovative behaviour, Organizational culture, Organizational support, Work behaviour

**Paper type** Research paper

## Introduction

Innovative behaviors are critical to a company's success, improved performance, and survivability (Anderson *et al.*, 2014; Canet-Giner *et al.*, 2020). In times of limited resources and



intense competition, innovative work behavior (IWB), which can be defined as the generation and implementation of new and useful ideas (Scott and Bruce, 1994), is a significant source for organizations (Shin *et al.*, 2017). In developing countries such as Turkey, this could not be more true. Thus, enhancing employee IWB requires an understanding of and depiction of the required structure.

Numerous studies have demonstrated that both organization culture and leadership style have an impact on employees' innovation behavior (Feng *et al.*, 2016; Wang *et al.*, 2019). In technology-driven, knowledge-sharing, and innovation-focused business environments, other leadership styles need to be considered, such as servant leadership (SL). A good example of such an environment is technology development zones (TDZs). TDZs are places focused on technological development, and include terms like technopark and technocenter (Gürlek, 2020). So, TDZs are integrated research and development ecosystems, and they encompass industries and research institutions conducting research, development, and innovation activities at the same time (Park and Shin, 2017). Turkish TDZs that permit direct research and development activities and produce innovative products are vital for a developing country like Turkey. Turkey's innovation capability depends on the TDZs. Turkey had 97 TDZs in December 2022, according to data from the Republic of Turkey Ministry of Industry and Technology (2022). These technology development areas require leadership style, innovative organizational culture (IOC), and creativity to achieve positive outcomes (Gürlek, 2020; Hughes *et al.*, 2018).

SL prioritizes serving others, establishes a relationship with followers to grasp their skills, necessities, potential and desires (Liden *et al.*, 2008) as SL's follower-oriented characteristic offers secure and sturdy communication links across the organization (Van Dierendonck, 2011). SL has become increasingly popular among researchers because it stimulates creativity through its distinctive characteristics (Liden *et al.*, 2014). While numerous studies were conducted about SL's effect on employees' IWB (Cai *et al.*, 2018; Iqbal *et al.*, 2020; Newman *et al.*, 2018; Zhu and Zhang, 2020), further studies regarding the nature of SL and its influence on the IWB are needed (Eva *et al.*, 2019; Newman *et al.*, 2018).

Another element that entices scholars to investigate the sources of innovation in organizations is the organizational culture (Senbeto *et al.*, 2022). The employees' perspectives on innovation are influenced by the importance that their employer places on fostering an innovative culture as an organizational value (Lam *et al.*, 2021). The beliefs that individuals have on the behavior that is required of them by the organization, also known as organizational culture, are what determine the individuals' actions with regard to innovation (Khan *et al.*, 2020). As a result, when the organizational culture focuses on innovation, the organizations become competitive and perform better (Acar and Acar, 2012; Wu *et al.*, 2019). Despite research with its broad description studying organizational culture, future studies with subcategories or attributions like IOC need to be conducted (Scaliza *et al.*, 2022).

Eisenberger *et al.* (1986) described perceived organizational support (POS) as the belief employees have about the degree of appreciation and care the organization shows for their contributions, in line with organizational support theory. Social exchange theory (SET) and norms of reciprocity determine how POS affects employee behavior (Eisenberger *et al.*, 1986; Rhoades and Eisenberger, 2002).

Besides, we believe SL contributes to POS by enabling an appropriate working environment for employees (Gaudet and Tremblay, 2017) and empowering and helping followers to succeed (Liden *et al.*, 2015). Additionally, IOC is designed to create a favorable environment for creativity, liberate employees to take risks, reward employees for presenting IWB, and therefore increase employees' POS.

Contributions of the present study are numerous. Furthermore, although much has been done on the relationship between SL and IWB (Cai *et al.*, 2018; Karatepe *et al.*, 2020; Wang *et al.*, 2019; Zhu and Zhang, 2020), testing the mediating role of POS extends our

understanding of how SL and IOC can contribute to employee innovation. By examining the mediating role of POS, this study provides different insights into how SL and IOC influence employee's IWB.

A second significance of this study is that it extends the existing literature by studying SL, IOC, POS and IWB in Turkish organizations located in TDZs. Third, we are interested in understanding how SL motivates subordinates to innovate positively, as opposed to the dominant patterns of traditional leadership in Turkey (Hofstede, 1983). It is also vital to highlight that this study demonstrates how employees in TDZs have the potential to advance IWB and how an IOC can reinforce IWB. We suggest that SL and IOC both affect IWB via POS as a mediator. Therefore, the main purpose of this study is to examine how SL and IWB affect the IWB of employees in TDZs in Turkey and the mediating role of POS in these relations.

### Literature review

The purpose of leadership theories is to seek to understand and sort out the intricacy of the nature of leadership and the effects it has (Northouse, 2012). The ever-changing socioeconomic environment has revealed the need for a sustainable leadership theory (Jaiswal and Dhar, 2017). Scholars working on leadership have drawn attention to the implicit link between ethics and leadership, and they have embraced SL as an emerging new type of leadership that is linked to ethics, virtues and morality (Parris and Peachey, 2013). SL, a concept first developed by Greenleaf (1977), focuses on putting the needs of the followers before the personal interests of the leader in order to achieve higher levels of performance and success. Servant leaders seek to encourage and cultivate development in their followers by offering feedback, expressing gratitude, creating ideal challenges and holding followers responsible for their performance (Van Dierendonck, 2011). They accordingly prioritize the development and well-being of their subordinates (Roberts, 2021). In contrast to the traditional model of leadership, SL involves the sharing of authority, the prioritization of the requirements of others above one's own and the encouragement of others to develop to their full potential while also maximizing their performance (Kaltainen and Hakanen, 2022). Self-interest takes a back seat to the advancement of others as a common goal under SL (Parris and Peachey, 2013). According to Van Dierendonck and Patterson (2015), the need to serve, which is the primary focus of SL, originates from "compassionate love", which is the foundation of SL and is considered to be the cornerstone of the relationship between a servant leader and follower. Compassionate love is congruent with SL in the sense that servant leaders are required to have such a profound love for the people they serve that they are eager to get an understanding of the unique skills and capabilities possessed by every single one of their followers (Van Dierendonck and Patterson, 2015). By supporting the success and growth of all stakeholders while emphasizing the well-being and development of followers (Jaiswal and Dhar, 2017), compassionate love distinguishes SL from other leadership theories (Van Dierendonck *et al.*, 2014).

Organizational culture is a collection of shared norms, values and beliefs that assist people in comprehending organizational functions and directing the behavior required for organization-related tasks (Jones *et al.*, 2005). Further, IOC is the extent to which the business's norms and values foster innovation (Stock and Zacharias, 2011). To put it another way, it is a reference to the strongly held beliefs and values that are associated with innovation (Park *et al.*, 2015). IOC encourages new ideas, risk taking and innovation (Menon *et al.*, 1999). The existence of a culture that will develop employees' enthusiasm for and dedication to innovation may make them believe that the organization is dynamic and keeping up with environmental changes, and this can lead to positive organizational and individual outcomes (Wei *et al.*, 2013). For instance, Wei *et al.* (2013) found that employees'

perceptions of an innovative culture have a positive effect on their job satisfaction, organizational dynamism and the performance of the firm. Given that employee innovation is critical to an organization, it is vital to cultivate IOC that can encourage employees to show IWB and develop new and creative ideas. These arguments show that it is necessary to build up the innovative culture of the organization so that employees exhibit IWB (Skerlavaj *et al.*, 2010; Tian *et al.*, 2018).

POS is theoretically defined as the “employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their wellbeing” (Eisenberger *et al.*, 1986, p. 501). POS theory emphasizes the significance of considering employees as valuable organizational assets (Eisenberger *et al.*, 1986). Employees who perceive high levels of POS are more likely to feel a responsibility to care for the organization’s growth and aid in its goal-achieving (Wen *et al.*, 2019). Moreover, they have a sense of obligation to repay the favor to the business by going above and beyond what is required of them in their job (Rhoades *et al.*, 2001). Accordingly, POS can enable employees to develop novel ideas and positively predict IWB (Nazir *et al.*, 2019). At this point, leadership style can affect innovative behavior through its influence on the POS of employees (Qi *et al.*, 2019). Employees are more likely to perceive greater organizational support and become more innovative if their leader took on the role of a servant leader and provide a setting in which it was secure and encouraging for employees to share their thoughts and suggestions. In addition, in an organizational culture that encourages innovation, employees feel that their ideas and creative efforts are valued and that the organization cares about them, which may lead to more IWB (Nazir *et al.*, 2019).

#### *Hypothesis development*

*SL and IWB.* Today’s business environment is highly competitive, dynamic and technology-driven, making innovation crucial for organizations (Tsuji *et al.*, 2018). To develop a creative and innovative environment, organizations and leaders should create conditions and spaces that encourage employees’ participation (Newman *et al.*, 2018). This is when SL becomes prominent, since it stimulates the employees’ creative thinking (Liden *et al.*, 2014).

SL has characteristics that are associated with several outcomes (Iqbal *et al.*, 2020) that lead to empowered followers, effective theoretical skills, growth and success, ethical behavior and emotional healing. By catching followers in relational, ethical, spiritual ways, SL allows followers to reach their fullest potential (Eva *et al.*, 2019).

In the role of a servant leader (Liden *et al.*, 2008), he/she always puts their followers and relationships before the task and outcome. Performing at their best for the organization, the followers are trusted, flourishing, and care for their own well-being. Thus, the organization will reach its goals over the long term (Stone *et al.*, 2004) with employees reflecting a deep moral commitment to their leader (Harvey, 2001). In addition, a servant leader inspires followers to serve others by changing their behavior. SL’s focus on employees and their welfare leads to innovative behavior (Wang *et al.*, 2019).

From this perspective, relationship between SL and IWB is consistent with SET (Blau, 1964). Such social exchange occurs in the form of reciprocity (Gouldner, 1960). Employees feel obliged to reciprocate in positive and useful ways as a result of the SL’s constructive and valuable behaviors (Eisenberger *et al.*, 1986). Additionally, this supports the research finding that the employee’s work behavior exceeds their expected performance when supervisors and subordinates exchange information based on mutual trust, loyalty and esteem (Settoon *et al.*, 1996). Serving as a servant leader activates the sense of obligation to reciprocate with IWB (Jaiswal and Dhar, 2017) through empowering the followers with autonomy and decision-making authority (Van Dierendonck, 2011). In this case, the obligation is generated after building trust in leader (Schaubroeck *et al.*, 2011) and improving relational identification (Yoshida *et al.*, 2014).

IWB, which is derived from employees' engagement in innovation activities (Hughes *et al.*, 2018), is a critical resource for organizations to have competitive advantage (Shin *et al.*, 2017), which makes leadership styles an important aspect of innovation. On the other hand, few studies have examined the effects of non-traditional leadership styles, especially human oriented leadership styles (Newman *et al.*, 2018).

Yoshida *et al.* (2014) reported that SL positively affected employees' IWB by providing a safe and supportive environment for employees to present their ideas. By focusing on the needs of the followers and forming a social exchange, Panaccio *et al.* (2015) claim that SL influences employees' IWB. Krog and Govender (2015) found that employee perceived empowerment mediated the correlations between the SL and innovative behavior. In the case of Pakistani commercial banks, Rasheed *et al.* (2016) found that work engagement mediates the relationship between SL and IWB. Jaiswal and Dhar (2017) concludes that IWB improves when SL is constantly demonstrated by employees, demonstrating their creative abilities and gaining the followers' trust and confidence. According to Opoku *et al.* (2019), SL encourages employees' innovative behavior by enhancing followers' sense of insider status. Wang *et al.* (2019) discovered that serving others has a positive impact on innovative behavior when mediated by thriving at work, while team reflexivity has a moderating effect on serving others and thriving at work. By using SET, particularly in knowledge-intensive work contexts, SL is found to enhance employees' IWB (Iqbal *et al.*, 2020). By serving as a resource for employees and establishing trust in followers, Khan *et al.* (2021) suggest that SL may positively influence innovative behavior at two stages, including creativity and implementation. Zeng and Xu (2020) found that SL has a positive effect on followers' self-concept, and that SL increases innovative behavior. Furthermore, Zhu and Zhang (2020) report that SL influences innovative behavior by setting up a knowledge sharing process, with the moderating effects of aspects of employee identity and learning goal orientation.

With regard to SET and the above theoretical background, we formulate the following hypothesis,

*H1.* SL is positively related to employees' IWB.

*IOC and IWB.* Organizational culture entails a set of shared beliefs, values, practices and manners influencing the behaviors of an organization's members (Ouchi and Wilkins, 1985). Organizational culture, an important factor for organizational success (Martins and Terblanche, 2003), affects employees' behavior towards innovation by ensuring that innovation is an organizational value, and the necessary structure is established to facilitate innovation (Hartmann, 2006).

Since the innovation depends on the employees' IWB, and organizational culture affects the members' behaviors (Sharifirad and Ataei, 2012), the researchers found it valuable to study the relationship between organizational culture and innovation (Büschgens *et al.*, 2013; Harel *et al.*, 2021; Naranjo-Valencia *et al.*, 2011). Because employees' assumptions on how to demonstrate behavior impacts the extent of organizational creativity and innovation (Martins and Terblanche, 2003), the innovation culture helps companies in novel product development by changing organizations to facilitate innovation and entrepreneurial behaviors (Lau and Ngo, 2004).

Tesluk *et al.* (1997) proposed that organizations with a clear vision for innovation, a space for failure and risk taking, reward systems that acknowledge individual contributions and proper organizational structure, nourish innovation. Naranjo-Valencia *et al.* (2016) contends that while organizations with highly formal and centralistic decision-making processes hinder innovation, organizational cultures associated with risk-taking, creativity and freedom foster it. Wallach (1983) suggests that innovative cultures provide employees with creative workplaces, offer challenges, enable and stimulate employees to take risks and be creative.

This literature review led to the following hypothesis.

*H2.* IOC is positively related to employees' IWB.

*Mediating role of POS.* Eisenberger *et al.* (1986) suggest that POS help employees accomplish their tasks by boosting individuals' effort-outcome expectations. Parallel to SET, POS occurs when an employee performs their job duties in an effort to achieve the organization's goals (Rhoades *et al.*, 2001). The degree of POS enhances employees' ties to organizations and induces individuals to exercise extra-role behavior with a reward expectation (Eisenberger *et al.*, 1986). The opposite is true when organizations underestimate individuals' well-being and efforts, with their performance and commitment (Eisenberger *et al.*, 1997). Through arousing the need for reciprocation in the employees' inner world, POS drives them to increase their commitment to the organization, work harder than planned, and reduce negative behavior towards the organization (Chung, 2017; Rhoades and Eisenberger, 2002).

As Eisenberger *et al.* (1986) report, the employees view the actions of their agents as the act of their organization. Because employees tend to personify the organization, their treatment of the employees forms a perception about how biased the organization is (Rhoades *et al.*, 2001). Leaders are also seen as serving the organizations and not only themselves (Gaudet and Tremblay, 2017). Leaders' actions and attitudes towards employees will significantly impact employees' POS. Employees' level of identification with their leaders determines their relationship strength (Rhoades and Eisenberger, 2002). POS by employees can further satisfy their socioemotional needs, strengthen their connections and status with the organization (Rhoades and Eisenberger, 2002).

By providing the necessary resources, leaders ensure an appropriate working environment (Gaudet and Tremblay, 2017). The servant leaders help followers grow, prioritize subordinates, behave ethically, support individuals emotionally (Liden *et al.*, 2015), care for members' wellbeing (Liden *et al.*, 2008), allow followers to do their best through relational, ethical, spiritual connection (Eva *et al.*, 2019). Thus, it can be suggested that the unique aspects of SL encourage the perception of strong organization support among employees.

The following hypothesis is developed with this theoretical context.

*H3.* POS mediates the relationship between SL and employee's IWB.

The IOC aims to support employees seeking an environment fostering creativity, liberate employees to take risks, reward innovation, and to inspire them to show true personalities that reflect creativity (Nazir *et al.*, 2019). Thus, employees feel that organizations appreciate their opinions and creative efforts. A creative and innovative employee would feel that the organization strongly cares about his/her opinion (Martins and Terblanche, 2003). Additionally, an organization permitting risk-taking behavior might forgive honest mistakes on the road to innovation. Eisenberger *et al.* (1997) present several items to measure the positive POS by employees, such as caring about employees' opinions, caring about employees' goals, and being forgiving of their honest mistakes.

We formulate the following hypothesis based on our approach and the theoretical framework.

*H4.* POS mediates the relationship between IOC and employee's IWB.

Figure 1 depicts the proposed theoretical model of this study.

## Methodology

### *Sample and procedures*

We collected the data from employees working in companies located in TDZs which are in Turkey. TDZs are examples of integrated research and development ecosystems. TDZs are a

kind of integrated research and development ecosystem, and they are comprised of different sectors as well as research institutions that are all engaged in research, development, and innovation at the same time (Park and Shin, 2017). It is crucial for a developing country to have TDZs, research and technology organizations and as well as the manufacturing of innovative products (Rincon Diaz and Albors Garrigos, 2017). TDZs are of utmost significance in the process of enhancing Turkey's innovative capabilities. It is necessary to have an effective leadership style, a culture that encourages innovation, and creative thinking in order to achieve success in the aforementioned fields of technological growth. Therefore, employees working at TDZs are an appropriate population to sample for the purposes of this study.

First and foremost, the companies located in this development regions throughout Turkey were determined by the researchers and we contacted the employees via e-mail communication and delivered the online questionnaires by adopting convenience sampling. The time frame that the data collection period included was from November 2021 to January 2022. The introduction of the survey was established to inform participants about the aim of the research, and it was reminded that the participation is voluntary bases. Moreover, to reduce the likelihood of socially desirable responses, the respondents were assured that their answers would be kept confidential and that the results would only be used for academic research.

We distributed questionnaires to 400 employees, and 286 of the surveys returned (with a 71.5% response rate). Six questionnaires were discarded due to missing data. Approximately 78.9 (n = 221) percent of the respondents were male and 21.1 (n = 59) percent of the respondents were female. The mean age was 34.02 years, and ages ranged from 22 to 52 years. The majority had at least a bachelor's degree (75%). Participants' mean organizational tenure in the relevant company was 1.88 years.

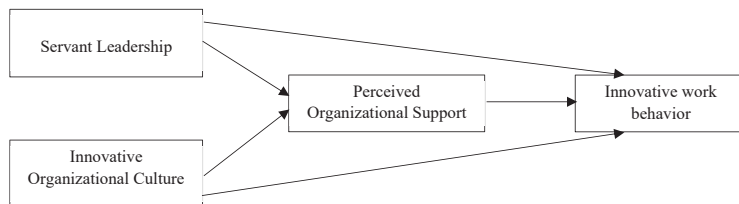
*Measures*

Although all the measures were originally developed in English, the measures were translated into Turkish adopting a translation-backward translation approach (Brislin, 1980). Except for the control variables, all items of measures were rated based on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

*Servant leadership.* SL was measured by Liden *et al.*'s (2015) seven-item scale. One sample item is "My leader puts my best interests ahead of his/her own." Cronbach's  $\alpha$  coefficient for this scale is 0.93.

*Innovative work behavior.* Each respondent's IWB perception assessed by using the six-item scale developed by Scott and Bruce (1994). One sample item includes "I generate creative ideas." Cronbach's  $\alpha$  coefficient for this scale is 0.95.

*Perceived organizational support.* Each respondent's POS assessed by using the eight-item scale developed by Eisenberger *et al.* (1997). One sample item includes "My organization strongly considers my goals and values." Cronbach's  $\alpha$  coefficient for this scale is 0.93.



**Figure 1.**  
Proposed  
theoretical model

Source(s): Figure by authors

*Innovative organizational culture.* The organization’s cultural characteristics affiliated to innovation assessed by using the eight-item scale developed by Wallach (1983). One sample item includes “My organization is result-oriented.” Cronbach’s  $\alpha$  coefficient for this scale is 0.96.

*Control Variables.* Following advice from previous studies (Cai *et al.*, 2018; Scott and Bruce, 1994; Yoshida *et al.*, 2014; Zhu and Zhang, 2020), we controlled for employees’ gender (1 = male; 2 = female), age (in years), education (1 = associate’s degree; 2 = bachelor’s degree; 3 = master’s degree), tenure (in years). As shown in Table 2, none of the control variables were related to the study variables and were therefore excluded from the analysis, since such impotent control variables can lead to biased parameter estimates (Becker, 2005). Wang *et al.* (2019) concluded that the control variables (gender, age, education, and job tenure) were not associated with IWB, which lends support to the current study.

**Results**

*Common method variance*

To test common method variance, we used Harman’s one-factor test, as proposed by Podsakoff *et al.* (2003). Therefore, unrotated exploratory factor analysis to all variables was conducted. The one-factor solution explained only 40% of the total variance, which is below the 50% cutoff, indicating that there was no dominant factor in the study. Harman’s one-factor test results showed that common method variance was not a concern.

*Measurement model*

Before testing the structural model, a series of confirmatory factor analyses (CFA) was performed to validate the discriminability of SL, IOC, POS and IWB. The four-factor (hypothesized) model provides an excellent fit to the data ( $\chi^2/df = 711.076/363 = 1.95$ ,  $p < 0.001$ , IFI = 0.97; TLI = 0.96, CFI = 0.97, RMSEA = 0.05, SRMR = 0.03). The hypothesized model was compared to alternative models as well. As depicted in Table 1, alternative models resulted in a significantly worse fit than our hypothesized model, which indicates that all variables are distinguishable in this research.

To evaluate convergent and discriminant validity, as well as composite reliability, a CFA for the four-factor full-measurement model was performed. The results showed that all the items loaded significantly ( $p < 0.001$ ) on their respective constructs and exceeded 0.70. As shown in Table 2, composite reliability (CR) for all variables are greater than the cutoff value

Models	$\chi^2$	(df)	$\chi^2/df$	RMSEA	IFI	TLI	CFI	SRMR	$\chi^2$ diff
Four-factor (hypothesized)	711.07	363	1.95	0.05	0.97	0.96	0.97	0.03	–
Three-factor (merged SL and IOC)	2565.69	366	7.01	0.14	0.81	0.79	0.81	0.15	1854.62***
Three-factor (merged SL and POS)	2617.77	366	7.15	0.15	0.80	0.78	0.80	0.17	1906.70***
Two-factor (merged SL, POS and IOC)	4332.79	368	11.77	0.19	0.65	0.62	0.65	0.25	3621.72***
Single-factor (merged all constructs)	5672.30	369	15.37	0.22	0.54	0.50	0.54	0.25	4961.23***

**Note(s):** n = 280, \*\*\*  $p < 0.001$ ,  $\chi^2$ diff.: difference in chi-square, SL=Servant Leadership, IOC = Innovative Organizational Culture, POS= Perceived Organizational Support; IWB = Innovative Work Behavior; All models compared to four-factor hypothesized model

**Source(s):** Table by authors

**Table 1.**  
Comparison of  
alternative  
measurement models



Variable	Mean	S.D	CR	AVE	$\alpha$	1	2	3	4	5	6	7	8	9
1.Gender	1.21	0.40	-	-	-	-	-	-	-	-	-	-	-	-
2.Age	34.02	6.93	-	-	-	-0.03	-	-	-	-	-	-	-	-
3.Education	2.09	0.49	-	-	-	-0.08	-0.10	-	-	-	-	-	-	-
4.Tenure	1.88	0.79	-	-	-	0.04	0.51**	-0.10	-	-	-	-	-	-
5.SL	3.80	1.00	0.93	0.76	0.93	-0.09	0.07	-0.09	0.06	(0.87)	-	-	-	-
6.IOC	3.16	1.09	0.95	0.77	0.96	-0.02	0.15	-0.13	0.13	0.36**	(0.87)	-	-	-
7.POS	3.06	1.18	0.94	0.74	0.93	-0.04	0.02	-0.16	0.05	0.32**	0.27**	(0.86)	-	-
8.IWB	3.19	1.60	0.96	0.89	0.95	-0.06	0.09	0.12	0.04	0.42**	0.59**	0.39**	(0.94)	-

**Note(s):** n = 280. Values in parentheses on the diagonal are the square of AVE of each scale. \* $p < 0,05$ ; \*\* $p < 0,01$ ; SL=Servant Leadership, IOC = Innovative Organizational Culture, POS= Perceived Organizational Support; IWB = Innovative Work Behavior

**Source(s):** Table by authors

**Table 2.**  
Correlation analysis

of 0.70, and the average variance extracted (AVE) for all four constructs surpass 0.50, indicating that each construct has acceptable psychometric properties (Hair et al., 2006). Further, for each of the five structures, the CR values are greater than AVE values (CR > AVE), suggesting convergent validity (Hair et al., 2006). The square roots of the AVE values for each construct was greater than the correlations between each pair of constructs, as seen in Table 2, supporting discriminant validity (Hair et al., 2006). These results indicated the satisfactory level of construct validity and internal consistency.

*Descriptive statistics and correlations*

Table 2 presents descriptive statistics and correlations for all variables. Results reported in Table 2 indicated that IWB is positively and significantly related to SL ( $r = 0.42, p < 0.01$ ), IOC ( $r = 0.59, p < 0.01$ ), and POS ( $r = 0.39, p < 0.01$ ). POS is also positively and significantly related to SL ( $r = 0.32, p < 0.01$ ), and IOC ( $r = 0.27, p < 0.01$ ). Further, SL is positively and significantly related to IOC ( $r = 0.36, p < 0.01$ ).

*Hypotheses testing*

Following the validation of the measurement model, the structural equation modeling (SEM) was conducted to test the hypothesized relationships among the study variables. SEM results provided a satisfactory match to the data ( $\chi^2/df = 711.076/363 = 1.95, p < 0.001, IFI = 0.97; TLI = 0.96, CFI = 0.97, RMSEA = 0.05, SRMR = 0.03$ ). Further, Table 3 includes the findings of the structural model that was tested.

	Total effect	Direct effect	Indirect effect
IOC→POS	0.17*	0.17*	-
SL→POS	0.25*	0.25*	-
IOC→POS→IWB	0.53*	0.50*	0.03* (LLCI = 0.01; ULCI = 0.08)
SL→ POS→IWB	0.20*	0.15*	0.05* (LLCI = 0.02; ULCI = 0.10)
POS →IWB	0.19*	0.19*	-

**Note(s):** n = 280; \* $p < 0.01$ ; IOC=Innovative Organizational Culture, POS = Perceived Organizational Support, SL= Servant Leadership; IWB = Innovative Work Behavior; Bias-corrected bootstrapping analysis was made with a bootstrapped 2,000 sample at 95% confidence interval. LLCI = Lower levels for confidence interval; ULCI = Upper levels for confidence interval

**Source(s):** Table by authors

**Table 3.**  
Standardized direct, indirect and total effects

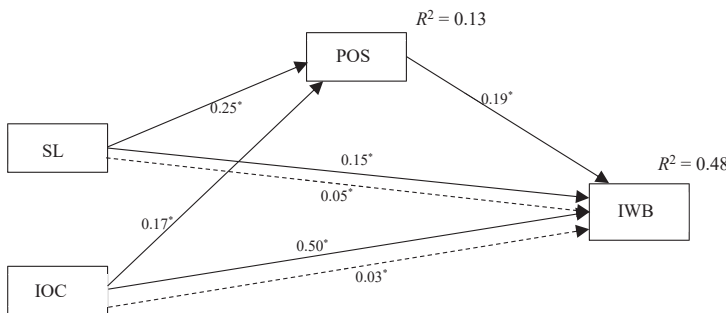
*H1* proposes that SL is positively related to employees' IWB. The results indicated that SL had a significant and positive direct impact on IWB ( $\beta = 0.15, p < 0.01$ ). Thus, *H1* was supported. *H2* predicts IOC is positively related to employee's IWB. The results pointed out that, as predicted, IOC had a significant and positive direct impact on IWB ( $\beta = 0.50, p < 0.01$ ). Therefore, *H2* was supported. The results also showed that SL had a significant positive direct impact on POS ( $\beta = 0.25, p < 0.01$ ); POS had a significant positive direct impact on IWB ( $\beta = 0.19, p < 0.01$ ). Further, the impact of IOC was found to have a significant positive direct impact on POS ( $\beta = 0.17, p < 0.01$ ).

The mediation hypotheses (*H3* and *H4*) were further tested by using the bootstrapping procedure. Particularly, to investigate the significance of the indirect effects, 2,000 bootstrap samples were used to generate 95% bias-corrected confidence intervals (CI) around the indirect effects. We adopted the bootstrapping approach because of its accuracy in establishing confidence intervals for mediation effects when the mediation effect is nonzero. If the 95% bias-corrected CI do not contain a zero, the induced effect is considered significant (Mallinckrodt *et al.*, 2006). As depicted in Table 3, results indicated that there were significant indirect effects from SL to IWB ( $\beta = 0.05, 95\%CI = [0.02, 0.10], p < 0.01$ ), and IOC to IWB ( $\beta = 0.03, 95\%CI = [0.01, 0.08], p < 0.01$ ), providing support for *H3* and *H4*. Furthermore, the total effect (direct + indirect effects) of SL on IWB, and IOC on IWB is 0.20 ( $0.15 + 0.05$ ) and 0.53 ( $0.50 + 0.03$ ), respectively (see Figure 2). The results also showed that  $R^2$  of POS was 0.13 and  $R^2$  of IWB was 0.48.

**Conclusion and implications**

This study attempts to contribute to the existing body of knowledge on SL and innovation by investigating the role that a POS acts as a mediator in the connection between SL and IWB, as well as IOC and IWB. The findings contribute to a better understanding of the ways in which a SL style and an organizational culture that encourages innovation may have a significant impact on employees' POS, which in turn contributes to maintaining and improve employee IWB.

Aside from a few studies, there are very few empirical studies conducted in the context of Turkey on the topic of the establishment of a culture in which organizations encourage innovative behavior from their employees and employ a leadership style that is based on serving others. In addition, there is a lack of evidence that investigates the mediation role played by POS in these relationships. The findings of the study show that IOC, and SL significantly and positively affects employees' IWB through POS. This important finding suggests that an innovative culture, and SL also creates positive outcomes at the individual



Source(s): Figure by authors

**Figure 2.** Direct (solid lines) and indirect effects (dashed lines)

employee level (e.g. innovative behavior) through POS. This finding constitutes an intriguing new empirical addition to the existing literature on innovation.

These results may have emerged from the positive and supportive role of the servant leader and the provision of an innovative culture by the organization. Because, SL, which is known for providing opportunities for employees to develop new skills and supporting them to reach their creative goals, and an innovative culture that allows employees to improve their creative performance by better understanding their skills, competencies and abilities, cause employees to perceive a high level of organizational support; this can pave the way for them to exhibit higher levels of IWB.

The findings of this study provide evidence in favor of previous studies which recommended that SL should contribute to boosting employees' IWB (Cai *et al.*, 2018; Iqbal *et al.*, 2020; Khan *et al.*, 2021; Opoku *et al.*, 2019; Panaccio *et al.*, 2015; Su *et al.*, 2020; Wang *et al.*, 2019; Yoshida *et al.*, 2014; Zeng and Xu, 2020; Zhu and Zhang, 2020). Further, it is presented as evidence in the present study that IOC, which is an important element for the success of organizations, has a positive effect on IWB. This finding shows that organizational culture can increase the effectiveness of the organization (Martins and Terblanche, 2003; Hartmann, 2006), and a culture that supports innovation can exhibit innovative and creative employee outputs (Wallach, 1983).

This study makes two significant theoretical contributions to the existing body of knowledge. The first theoretical contribution made by this research is that it adds to the existing body of knowledge by enhancing our comprehension of the indirect link that exists between SL and IWB through POS, as well as the indirect relationship that exists between IOC and IWB via POS. The direct effects of SL and IWB (Krog and Govender, 2015; Oliveira and Ferreira, 2012; Rasheed *et al.*, 2016), and IOC and IWB (Abdi *et al.*, 2018; Acar and Acar, 2012; Naranjo-Valencia *et al.*, 2016) have been examined in a few empirical studies, but the mediating role of POS between these constructs is yet to be investigated. Our study contributes to a more in-depth understanding of how SL and IOC influence the psychological processes of employees and how employees develop IWB. The results of the study revealed that employees' POS as an underlying mechanism channels the positive effect of SL and IOC on individual employees' IWB in the TDZs. Second, even though there is a substantial amount of discussion on IWB among employees in countries of the West and Europe, its implications and debates in the context of Turkey continue to be mainly unexplored (Koroglu and Ozmen, 2022). We believe that the best way to address the gaps that have been identified in the existing body of literature is to conduct research in these areas that may provide practical guidelines to businesses in TDZs in emerging countries like Turkey. To that end, doing research on IWB among employees in Turkey within the context of a growing country would contribute to the expansion of the existing body of knowledge.

The IWB of employees, resulting from their engagement in innovation activities (Hughes *et al.*, 2018), is a critical source of competitive advantage (Shin *et al.*, 2017). To produce and realize original ideas, as well as solve emerging problems, organizations must expose employees' IWB (Wang *et al.*, 2019). As a result of this perspective, we suggest several implications for organizations. These implications are especially beneficial for the companies in Turkey competing in industries requiring novel products and solutions, since it is a collectivist country where authoritarian leadership style is commonly experienced (Girtli and Oraz, 2004; Pasa *et al.*, 2001). By utilizing the proposals below, organizations can shape their culture and recruit servant leaders in order to reveal employees IWB.

Servant leaders can be effective for organizations even if their first goals or aim are not the organization's. Thus, organizations can hire servant leaders, or train existing leaders to become servant leaders, or reward current servant leaders to promote innovation. Human resources departments can apply unique tools to assess whether candidates have characteristics or potential that fit SL style. The organization can conduct training programs to promote SL among existing managers. Also, SL characteristics can be included in performance evaluation

processes to show the organization's value for SL. Furthermore, the IOC affects significantly IWB through POS. Hence, organizations can change their culture to foster innovation. They can design the interior and exterior accordingly, recognize risk-taking and creative employees and incentivize their employees to be innovative. Training programs and entertaining workshops can also promote employees' innovative behavior. Moreover, organizations can develop methods to assess IWB and implement honor programs for highly creative employees.

Several limitations in our study suggest useful avenues for future research. The study was a cross-sectional one in which independent (SL and IOC) and mediator variables (POS) were measured at a single point in time, along with a dependent variable (IWB). Using longitudinal studies or controlled experiments in future research could help explain the relationship between variables in the model more effectively.

Second, the results are affected by the personal judgment of the employees, since all the variables were measured by subjective perception of them. For instance, the IWB was measured by the employees replies to questionnaires. In future studies, to generate more convincing data researchers could include both subjective evaluations and objective variables such as the number of suggestions, patents, or research outputs to their research.

Third, the sample is limited to TDZ companies because they compete with companies in Western cultures and are similar in terms of organizational structure and leadership style. The results are consistent with those found in other western studies. Future studies can examine various industries, which require continuous innovation.

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