



## Learning organizations and innovative work behaviors: A moderated mediation model from the perspective of social schema theory

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**Abstract.** *Purpose.* The present study aimed to examine the intervening impact of creative self-efficacy amid learning organizations — innovative work behaviors relationships. Also, this study investigates the moderating role of self-leadership amid learning organizations — innovative work behaviors and amid creative self-efficacy — innovative work behaviors relationships. *Study design.* Three hundred sixty-one employees and one hundred twenty-six immediate supervisors (officers) voluntarily participate in the data collection survey from the manufacturing sector (pharmaceutical and automobile). Using different statistical software (i.e., AMOS v.22, Smart-PLS v.3, SPSS v.25, and PROCESS-macro), the hypothesized relationships (i.e., direct, indirect, moderation, and moderated mediation) were tested. *Findings.* The present study's findings reveal that creative self-efficacy partially mediates the learning organizations — innovative work behaviors relationships. Also, results indicate that self-leadership moderates the learning organizations — innovative work behaviors and creative self-efficacy — innovative work behaviors relationships. *Implications for practice.* The present study enlightens the importance of learning organizations for enhancing innovative work behaviors in the workforce. Rapid worldwide unprecedented changes increase the competition level and require a change in the working structure. Creative self-efficacy of the employees helps the management overcome this uncertain situation through innovative behaviors. Additionally, self-leadership plays a vital role with the support of learning organizational culture and creative self-efficacy for enhancing innovative work behaviors. *Value of the results.* The present study will be helpful for management by explaining how to overcome the situation of uncertain change in the business world; also, this study responds to the unanswered questions which occur in the current era, such as how organizations increase the innovative behaviors of their workforce for survival and competitive advantage. Moreover, this study adds knowledge to work psychology and organizational behavior by explaining the intervening role of creative self-efficacy and moderating role of self-leadership.

**Keywords:** learning organizations, creative self-efficacy, self-leadership, innovative work behaviors, social schema theory, social cognitive theory.

## Introduction

In the last decade, globalization and technological advancement have created a highly competitive market (Chughtai et al., 2022). In contrast, the unpredictability of the global pandemic forces firms to restructure their working systems by incorporating innovation into their product or services (Cao et al., 2022; Montani, Staglianò, 2022). To overcome these challenging and uncertain situations, organizations, especially from the manufacturing sector, require innovations in their products or services to satisfy their customers and maintain their share in the highly competitive globalized market (Muchiri et al., 2020). In order to succeed, manufacturing companies need creative employees that can think outside the box and adapt to changing conditions (McCann, Sparks, 2019). Manufacturing sector by implementing innovative ideas through processes and procedures to shape the raw material into different value-added products for the satisfaction of the customers (Patma et al., 2020). Organizational success and sustainability are grounded on employees' creative and innovative behaviors, especially in uncertain and rapid change (Kim, 2022; Yu et al., 2018). In the highly competitive worldwide economy, it has been recognized that qualified and professional staff are a major capital for firms for competitive advantage and sustainability (Patma et al., 2020).

Innovations in products or services are essential not only for higher productivity and profitability of the organizations but also for business and economic growth (Liu et al., 2020; McCann, Sparks, 2019; Pian et al., 2019). Innovations in organizations are grounded on the employees' innovative work behaviors (IWBs), which can start with the generation and implementation of new and novel ideas by utilizing the intangible assets of knowledge and creativity (Pian et al., 2019; Xu et al., 2022). Physical and mental contributions made by individuals toward the resolution of complex problems are collectively referred to as IWBs, and examples of these can be shown individually and collectively through the active exploration of opportunities (Messmann et al., 2022). Organizations give importance to humans as intangible assets, and if these assets are invested correctly, they become beneficial for the generation and implementation of innovative ideas (Mariz-Pérez et al., 2012).

The organization's culture must welcome and promote the human resources needed to run effective IWBs. For that purpose, the platform of learning organizations (LO) enables organizations to provide a systematic environment of innovation through learning and by implementing change strategies (Ramírez, 2021). According to P. M. Senge, learning organization is "an organization that is continually expanding its capacity to create its future. For such an organization, it is not enough merely to survive". He further explains that the phenomenon of LO is grounded on "personal mastery, mental models, shared vision, team learning, and systematic thinking" (Bratianu et al., 2020, p. 160; Senge, 1990, p. 14). Moreover, D. A. Garvin defined LO as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insight" (Garvin, 1993, p. 80). In contrast, K. E. Watkins and V. J. Marsick (1993) defined LO as "one that learns continuously and transforms itself" (Watkins, Marsick, 1993, p. 8). Moreover, LO, by providing the flow of valuable and practical learning at the workplace through flexible team and group-oriented management structure (Hassani et al., 2022), helps organizations with the creation and utilization of knowledge, leads to higher growth and development in the highly changing environment (Hassani et al., 2022). In contrast, LO by showing their commitment to learning, ready for the changes in organizational systems, with the acquisition of new knowledge and utilization of existing knowledge (Šebestová, Rylková, 2011), which leads to innovations through IWBs.

The manufacturing industry relies heavily on innovations, whether those innovations involve creating new items or modifying current ones. The generation of new, novel and innovative ideas are sturdily grounded on the employees' creative self-efficacy (CSE) (Ng et al., 2022). Individuals

confident in generating and implementing novel ideas feel motivated and engage in IWBs (Farmer, Tierney, 2017; Ng et al., 2022). The innovation process is full of risks and obstacles due to the number of experiments for modifying and re-shaping existing products (Anderson et al., 2014). Therefore, it is too difficult to experiment with things or convince others about the value of novel ideas, so these creative or novel ideas are converted into valuable products or services (Anderson et al., 2014). At that stage, individuals having the confidence to accept challenging situations, initiate novel ideas and navigate others for the innovation process (Ng et al., 2022) through IWBs. CSE gives cognitive and intrinsic motivation to the individuals, strengthening their beliefs about their creative abilities and skills about creativity and innovativeness (Brockhus et al., 2014) that resultantly enables them to demonstrate IWBs.

This globalized era necessitates rethinking the typical office and its management techniques. In organizational sciences research, the construct of self-leadership (SL) took place in the philosophies of leadership (Manz, Sim 1980). SL is an individual's cognitive and behavioral process that works as a substitute for traditional leaders, which generally focus on the motivation of subordinates, whereas SL involves self-motivation of the individuals instead of dependence on external factors (Harari et al., 2021). Through SL, individuals apply self-influence strategies to their feeling, thoughts, and behaviors (Houghton et al., 2003; Stewart et al., 2019). By using SL strategies, individuals try to improve their performance and workplace attitudes by managing hostile job demands (Neck, Houghton, 2006; Neck et al., 2019; Stewart et al., 2011, 2019). Moreover, SL work as a central mechanism of self-strategies (e.g., self-control, self-regulation, self-reflection, self-direction, self-motivation, self-management, and self-punishment) through which individuals take personal initiatives for the accomplishment of complex tasks (Harari et al., 2021; Houghton et al., 2003; Stewart et al., 2011, 2019).

### **Significance and problem of research**

Customers' demands for higher quality products and services in the current globalized post-pandemic context negatively impact developing nations, whose workforces are often oblivious to the newest technology advances and lack inventive thinking. On the other side, the overall organizational environment, working conditions, and management of the developing countries' organizations are less committed to innovations (Saleem et al., 2015). Because of these challenges, business leaders in emerging economies must implement cutting-edge methods and policies to foster creative problem-solving among their employees. The exceptional circumstances have prompted scholars, experts, politicians, and academics to address the challenges organizations encounter across all sectors (public, private, manufacturing, and service). Therefore, the present study overcomes the empirical gap as suggested by G. Zhao with colleagues; where they proposed that there is a need to find the factors which influence M. B. the IWBs (Zhao et al. 2022); so, the present study use LO as an organizational factor and CSE as a personal factor which may influence IWBs. Furthermore, this study also answers to the calls of scholars, whom they suggested that there is a need to explore the intervening mechanism (e.g., self-efficacy) with learning culture on IWBs (Hassani et al. 2022; Islam et al. 2021). Therefore, the authors of this study proposed that CSE may mediate the relationship between LO and IWBs. Following the suggestions of another researchers (Xu et al., 2022; Rupčić, 2022), they suggested a need to consider moderating variables concerning the internal forces of individuals on IWBs. Therefore, the authors of this study proposed SL as a moderator between LO — IWBs and CSE — IWBs relationships. Finally, this study also answers to the recent meta-analytic study suggestions of M. B. Harari with colleagues, where they propose that SL behaviors of individuals may be supportive for positive outcomes with the use of self-efficacy (Harari et al., 2021). So, following

these suggestions, the authors of this study also use SL as a moderator and CSE mediator with the prediction of sophisticated IWBs.

## **Theoretical background and hypotheses development**

The theoretical lens of social schema theory (SST) (DiMaggio, 1997; Moscovici, 1982) and social cognitive theory (SCT) (Bandura, 1986) provide the theoretical foundation for the proposed conceptual model of this study. SST is based on the word 'schemata,' defined as a storage place in human brains. This piece of information in the form of schemata enables humans to respond to present and future attitudes and behaviors by recalling their memory (Paulik, 2012; Strauss, Quinn, 1997). P. DiMaggio further explains the phenomenon of "social schemata", a memory place in human brains where humans store their different social memories/experiences (negative or positive) (DiMaggio, 1997). Humans' social schemas are malleable constructs that can be reshaped by exposure to new information and experiences and by cultivating new interests, habits, and values. Based on these notions, researchers of this study argue that organizational innovations require changes in working patterns and modification in systems. It has been observed that 70% of the innovation and change planning in any organization fails due to the non-supportive behaviors of the employees (Ford, Ford, 2010; Thundiyil et al., 2015). Scholars have been working on this phenomenon from the decade that how to low this failure rate (Hay et al., 2021). The authors of this study contend that LO's emphasis on knowledge sharing, feedback, and empowerment makes people more open to the introduction of novel ideas and policies, which in turn boosts innovation.

On the other side, SCT enlightens that the organizational environment also positively influences the cognitive level of the individuals, which resultantly enables them to increase their self-confidence and motivation level for accepting challenges that occur due to systematical changes in the organizational working procedures. In LO, communication by the management and proper flow of information about new policies enable individuals to make decisions about the complex solution to workplace problems promptly. SCT further explains that humans' cognitive abilities can also be boosted with the support of motivation and the supportive environment of the organizations. It is argued that individuals' cognitive process of information and knowledge enables them to think creatively and innovatively to enhance their self-confidence (Stajkovic, Luthans, 1998). In contrast, positive self-judgment of individuals about their abilities and skills also encourages them to regulate self-strategies (through self-control, self-motivation, self-management, self-reward, and self-punishment), which enables them to face the challenging workplace conditions through SL (Bandura, 1986; Shrauger, Schohn, 1995). Based on this nation, the researchers of this study argue that the environment of an organization in the form of LO with CSE and a higher level of SL boosts the motivational behaviors of individuals necessary for innovations.

### **Learning organizations and innovative work behaviors**

Learning organizations (LO) is a path through which organizations continuously develop organizational and individual capabilities for a better future (Senge, 1990). In other words, these types of organizations promote learning systematically and constantly by enhancing the capabilities of their workforce to achieve the planned organizational objectives through new idea generation (Senge, 1990). Based on this notion, we theorize that learning in these organizations results in changes in organizational competence for higher performance, individual/organizational knowledge, and attitudes and behaviors (Song et al., 2018). Moreover, LO provides strategies, structures, and processes that encourage learning by utilizing the mechanism of knowledge sharing/transferring, empowerment, and feedback (Acevedo, Diaz-Molina, 2022). In contrast, systematic learning in organizations requires a regular and systematic change in the organizational policies, procedures,



and practices, which offer career opportunities for employees and innovations through reshaping/modifying organizational products or services (Hatane, 2015; Szabla et al., 2017). Moreover, through strategic changes, LO plans and implements new policies and practices, which further enables the organizations for the smooth functioning of organizational business and encourages individuals to generate novel ideas (Khunsoonthornkit, Panjakajornsak, 2018). It has been observed that the employees' IWBs play a vital role in attaining organizational goals and competitive advantage (Hidayat, Patras, 2022; McCann, Sparks, 2019). On the other hand, these ground-breaking concepts and ideas emerge thanks to the cooperation of inventive human minds and cutting-edge technology tools, both of which are accessible through the LO system. Furthermore, LO enhances the adaptability level of employees, increasing their skills, expertise, and job satisfaction which encourages them to demonstrate IWBs (Soh, Ali, 2021). It has also been observed that LO, by utilizing the strategies of a learning culture, supporting brilliance, open communication, encouragement of knowledge sharing and experience to do reforms in their organizational policies, procedures, and practices, which encourage employees to engage themselves for higher performance and IWBs (Hidayat, Patras, 2022; Skunčikienė et al., 2009). Using the latest technologies, LO encourages the employees for the generation, execution, and implementation of novel ideas with learning (Li et al., 2022; Mustika et al., 2020). Additionally, through learning and shared vision, LO encourages employees to take risks at the workplace as they can be pioneers of innovation and creativity (Bui, Baruch, 2010). Based on the above literature discussion, the researchers of this study hypothesized that:

*Hypothesis 1: LO is positively associated with IWBs.*

### **Mediating role of creative self-efficacy**

Self-efficacy is derived from social cognitive theory (SCT), which theorizes a triadic reciprocated model which explains that environment, cognition, and behavior influence each other in a self-motivated fashion (Gist, Mitchell, 1992). R. Wood and A. Bandura further explain self-efficacy as "beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood, Bandura, 1989, p. 408). Based on these theorizations, individuals with high self-efficacy levels engage themselves to accept and complete challenging and risky work assignments (Bandura et al., 1997). In line with this, P. Tierney and S. M. Farmer theorize the concept of creative self-efficacy (CSE) as "the belief one has the ability to produce creative outcomes" (Tierney, Farmer, 2002, p. 1138). Numerous researchers suggested that learning is essential for self-efficacy, innovation, and creativity (Bandura, 1986; Bandura et al., 1997; Hirst et al., 2009; Mavondo et al., 2005). Moreover, some researchers argued that the culture of LO supports learning at the workplace, which leads to CSE, commitment, job satisfaction, and performance (Maurer et al., 2002; Pati, Kumar, 2010; Rhoades, Eisenberger, 2002; Song et al., 2018). A workforce with a creative and innovative mindset and organizational learning culture helps organizations fulfill their customer requirements using novel ideas and reshaping products or services (Alikaj et al., 2021; Karimi et al., 2021).

Based on this notion, we argue that LO, by employing the strategies of knowledge sharing, empowerment, feedback, and cooperation, provides an intrinsic motivation that enhances the self-confidence level of employees for acceptance of challenging tasks which may result in innovative and creative behaviors. In contrast, higher CSE encourages individuals for the generation of innovative and creative ideas and improves work-related efficiency (Du et al., 2020; Farmer, Tierney, 2017; Zhou, Long, 2011), while low-level CSE leads to fear from the acceptance of challenging workplace circumstance which results into lower innovation and creativity (Hahn, Lee, 2017). Moreover, it has been found that there is a close relationship between CSE and IWBs (Javed et al., 2021a; Javed et al., 2021b; Kumar et al., 2021; Park et al., 2021; Slåtten, 2014) and CSE enables the individuals to meet the workplace demands

by utilizing their cognitive and motivational resources (Michael et al., 2011). In line with the abovesaid literature discussion, this study's researchers suggest a positive relationship between LO, CSE, and IWBs. Consequently, the researchers of this study proposed this hypothesis:

*Hypothesis 2: CSE mediates the positive association of LO and IWBs.*

### **Self-leadership as moderator**

Self-leadership (SL) is related to "a comprehensive self-influence perspective that concerns leading oneself towards the performance of naturally motivating tasks as well as managing oneself to do work that must be done, but is not naturally motivating" (Manz, 1986, p. 589). Moreover, Ø. L. Martinsen argued that the phenomenon of SL is more than the self-strategies; he stated that there are new facets of SL, i.e., "coordination of efforts, cooperation with others, novelty-seeking thought, and a willingness to acquire the necessary knowledge to master task requirements" (Amundsen, Martinsen, 2015; Martinsen; 2009). In other words, SL concerns the individuals' behaviors about what and why by searching for the answers to how to act (Stewart et al., 2011). This cognitive process helps individuals to line up workplace activities with their values, interests, and goals (Manz, 1986, 2012; Stewart et al., 2019). Higher individual and organizational performance can be achieved when employees feel self-motivated (Neck et al., 2019; Stewart et al., 2019). Organizations can also attain competitive advantage through innovation by employing the culture of learning at the workplace and by promoting SL strategies (Manz, 2012). In contrast, individuals can learn at the workplace with the organization's support in the form of LO; by employing the cognitive and behavioral strategies of SL, which encourage them to utilize this learning which may result in positive outcomes, i.e., IWBs (Neck et al., 2019). SL strategies (i.e., self-management, self-motivation, self-analysis, self-control, self-reward, and self-punishment) also encourage individuals to reshape their behaviors for the achievement of organizational and individuals goals (Gomes et al., 2015; Neck et al., 2019; Stewart et al., 2019). Numerous researchers confirm that a higher level of SL produces several employee outcomes, including innovation, higher job performance, job satisfaction, creativity, and work engagement (Amundsen, Martinsen, 2015; Asbari et al., 2021; Gomes et al., 2015; Marques-Quinteiro et al., 2019; Dorssen-Boog van et al., 2021). Based on this notion, the researchers of this study theorize that LO culture (i.e., learning, coordination, empowerment, and sharing of knowledge) with the support of SL may encourage individuals to demonstrate IWBs. Whereas CSE of the employees, with the support of SL strategies, can also enable individuals to accept challenging and risky tasks and to solve the complex problems at the workplace, leading to IWBs. Consequently, the researchers of this study proposed this hypothesis:

*Hypothesis 3a: SL moderates the positive association of LO and IWBs; in such a sense that a higher level of SL strengthens this positive association.*

*Hypothesis 3b: SL moderates the relationship between CSE and IWBs; in such a sense that a higher level of SL strengthens this positive association.*

### **Moderated mediation model**

The conceptualized model of this study hypothesized that a higher level of SL strategies (i.e., self-control, self-motivation, self-reward, self-punishment, self-management, and self-direction) with a higher perception of self-confidence for the acceptance of challenges enables the individuals to demonstrate higher IWBs with the learning working environment, i.e., LO. For that purpose, the researchers of this study employed the moderated mediation model as recommended by A. F. Hayes, through which the researchers of this study examine the indirect effect of SL between the relationship of LO and IWBs via CSE (Hayes, 2018).

*Hypothesis 4: SL indirectly influences the relationship between LO and IWBs via CSE in such a sense that a higher level of SL will strengthen this association.*

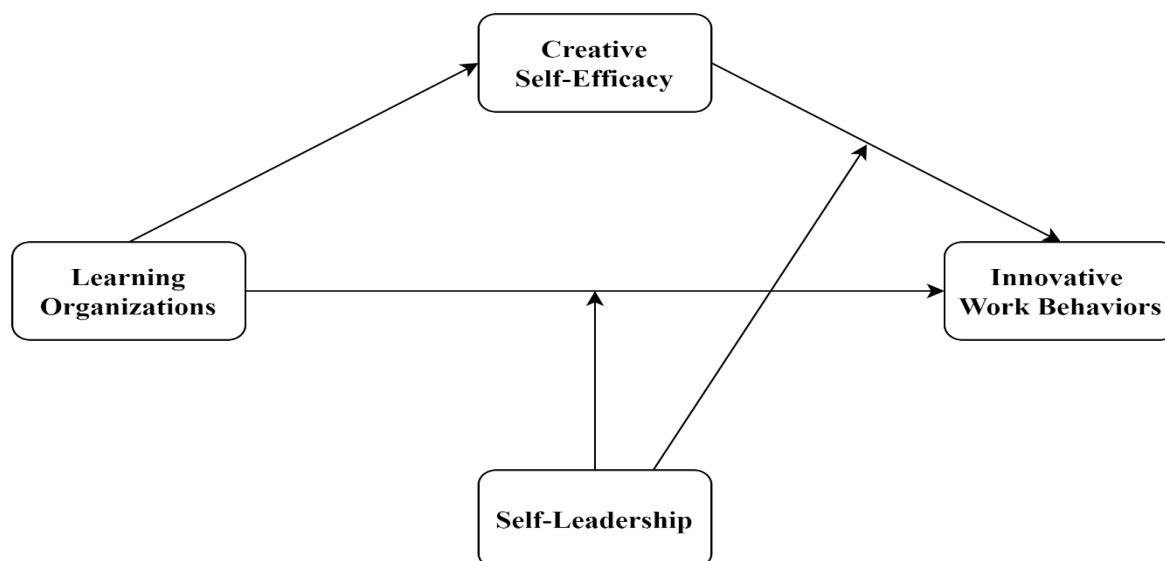


Figure 1. Conceptual model

## Methods (participants and procedure)

The population of this study was manufacturing sector organizations from the major cities of Pakistan (Islamabad and Karachi); pharmaceutical and automobile organizations were selected as samples of this study for the data collection. Employees (subordinates and immediate supervisors/officers) working permanently in these organizations were randomly selected. Employees were approached through their respective HR or Administration departments, and data was collected from operations and services departments (i.e., production, research and development, sales, marketing, and quality control) of these two organizational sectors. The selection of these departments from both types of organizations (pharmaceutical and automobile) was based on the notion that the IWBs of employees working in these departments influence the organization's productivity and profitability. The sampling frame of this study was on both genders (male and female), and by ethnicity, all were Pakistani locals working in these organizations. Twenty-three pharmaceutical and five automobile organizations were randomly selected for the data collection process from both cities (Islamabad and Karachi), and it was assured by the researchers distributed questionnaires randomly to the employees (subordinates and their immediate supervisors/officers); therefore, the average 20–25 questionnaires were distributed to subordinates and 5–10 questionnaires were distributed to immediate supervisors/officers of each organization.

Through the self-reporting data collection technique, the data for LO, CSE, and SL was rated by the subordinates, and for IWBs, the data was rated by the immediate supervisors/officers of the subordinates. To minimize the common method bias of the participants regarding their self-reporting opinions, a temporal separation method was implemented (Podsakoff et al., 2003). They further explained that temporal separation enables the individuals who participate in the survey process to give their genuine opinion as they cannot recall the answers they shared in the earlier questions (Podsakoff et al., 2003). Therefore, a one-month temporal separation was used between the first and second data collection phases. Seven hundred questionnaires were distributed in the first phase of data collection for LO and SL from the subordinates; 550 questionnaires were returned. In the second phase, questionnaires were distributed to those 550 subordinates for data collection about CSE; finally, 361 questionnaires were returned from the subordinates. Parallel to this, 200

questionnaires were distributed to immediate officers/supervisors to collect data about IWBs (of their subordinates), and 126 questionnaires were returned. Finally, 361 (51.57%) questionnaires of subordinates and 126 (63%) questionnaires of the immediate officers/supervisors, so the aggregate response rate was 57.29%.

### Demographics details

Table 1 shows the demographic details of subordinates who voluntarily participate in the present study.

Table 1. Demographics of subordinates

	Category	Frequency	Percent
Gender	Male	225	62.3%
	Female	136	37.7%
Age	18–35 years	275	76.18%
	36–55 years	85	23.55%
	More than 56 years	1	.28%
Education	Graduation and below	129	35.73%
	Masters / BS and above	232	64.27%
Experience	1–10 years	261	72.30%
	11–20 years	92	25.48%
	More than 20 years	8	2.22%

Table 2 shows the demographic details of immediate supervisors of those subordinates who participate in the first and second phases of the data collection survey.

Table 2. Demographics of immediate officers / supervisors

	Category	Frequency	Percent
Gender	Male	87	69.05%
	Female	39	30.95%
Age	18–35 years	33	26.19%
	36–55 years	74	58.73%
	More than 56 years	19	15.08%
Education	Graduation and below	37	29.37%
	Masters / BS and above	89	70.63%
Experience	1–10 years	31	24.60%
	11–20 years	79	62.70%
	More than 20 years	16	12.70%

### Measurement scales

All measurement scales of this study were adopted from earlier well-known published studies. Scales for all variables of this study were measured on a 5-point Likert scale which ranged from '1-Strongly Disagree' to '5 — Strongly Agree'. Moreover, the medium of the questionnaire distributed to the participants was English. as English is the second official language in Pakistan which is an understandable and appropriate medium of communication for instructions and correspondence in the corporate and public sectors (Ahmed et al., 2017; Naseer et al., 2018; Naseer et al., 2020). Moreover, in Pakistan, English is also taught as a language, and in academia (i.e., school, college, and university) medium of education is also English (Mansoor, 2004; Naseer et al., 2018; Naseer et al., 2020). Additionally, the majority of the participants of the study hold a university education and could understand the survey questions in English (Naseer et al., 2018; Naseer et al., 2020); therefore, there was no need for translation of questionnaires, and was no issue with the distribution of questionnaires in the English language.



### ***Learning organizations***

To collect the perception opinions of participants (subordinates) about the learning organizations, a 13-item scale was used, which was developed by V. J. Marsick and K. M. Watkins (2003). The sample items of this scale were “In my organization, people openly discuss mistakes in order to learn from them” and “In my organization, people view problems in their work as an opportunity to learn”, Cronbach’s  $\alpha = .91$ .

### ***Creative self-efficacy***

To collect the opinions of participants (subordinates) about creative self-efficacy, a 3-items scale by P. Tierney and S. M. Farmer (2002) was adopted. The sample items of this scale were “I have confidence in my ability to solve problems creatively” and “I have a knack for further developing the ideas of others”, Cronbach’s  $\alpha = .74$ .

### ***Self-leadership***

To collect the opinions of the participants (subordinates) about self-leadership, a 9-item scale was used, which was developed by J. D. Houghton et al. (2012). The scale has three dimensions, i.e., behavior awareness and volition, task motivation, and constructive cognition, but in this study, the researchers used the self-leadership scale as an aggregate scale instead of dimensions. The sample items of this scale dimension-wise were “I work toward specific goals I have set for myself”; “When I have successfully completed a task, I often reward myself with something I like” and “I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with”, Cronbach’s  $\alpha = .88$ .

### ***Innovative work behaviors***

To collect the opinions of the participants (immediate offices/supervisors) about the innovative work behaviors of their subordinates, a 6-item scale was used, which was developed by S. G. Scott and R. A. Bruce (1994). One item was removed during the confirmatory factor analysis (CFA) which contains the loading value less than .700 (Hair et al., 2019). The sample items of this scale were “He/she generates creative ideas” and “He/she searches out new technologies, processes, techniques, or product ideas”, Cronbach’s  $\alpha = .86$ .

### ***Goodness fit of model***

Table 3 of this study values of goodness fit of the model, which were attained through CFA (confirmatory factor analysis) and SEM (structural equational modeling) using AMOS (v.22). For that purpose, researchers analyze the data using 2-factor, 3-factor, and full factor model. Full model values meet the threshold limits and show the best fit of this study’s model (Hair et al., 2010; Hu, Bentler, 1999).

The first portion of Table 4 shows the values of blindfolding (Q2), which are greater than zero (Hair et al., 2010). Furthermore, the discriminant validity values at the diagonal are greater than those shown in columns and rows, criteria of fit discriminant validity by C. Fornell and D. F. Larcker (1981). Finally, the values of the heterotrait — monotrait ratio of correlations (HTMT) are also less than .90, which shows the presence of discriminant validity (Henseler et al., 2015).

## **Results**

### **Descriptive statistics and correlations**

Details of descriptive statistics, correlations, reliability, and validity are shown in Table 5, where all study variables significantly and positively correlated with  $p < .01$ . Furthermore, Cronbach

alpha and composite reliability (CR) statistics of variables are above .70. Values of average variance extracted (AVE) of all study variables are above than the .500 (Hair et al., 2010; Hair et al., 2019).

Table 5. Descriptive statistics and correlations

Variables	Mean	SD	CR	AVE	1	2	3	4
1 LO	3.66	.7531	.945	.570	(.91)	.252**	.685**	.301**
2 CSE	3.75	.7236	.781	.544		(.74)	.196**	.460**
3 SL	3.79	.7222	.928	.590			(.88)	.183**
4 IWBs	3.68	.8499	.875	.586				(.86)

Note: LO — learning organizations, CSE — creative self-efficacy, SL — self-leadership, IWBs — innovative work behaviors, \*\* —  $p < .01$ , \* —  $p < .05$

### Model testing

Table 6 shows the analysis values of direct, indirect, interaction, and moderated mediation, which researchers calculated through PROCESS-macro with bootstrapping sample of 10000 (Hayes, 2018). The First portion of Table 6 indicates the values of direct effects where LO positively and significantly influences the IWBs ( $b = .223$ ,  $SE = .068$ ,  $t = 3.255$ ,  $p < .001$ ,  $LL/UL-CIs = .088/.357$ ); thus, these results verify the first hypothesis of this study ( $H1$ ). The second portion of the Table 6 reveals that CSE partially but significantly and positively mediates the association between LO and IWBs, where ( $b = .117$ ,  $SE = .026$ ,  $LL/UL-CIs = .073/.177$ ) no zero was found between the  $LL/UL-CI$  values. Furthermore, the researchers examine the intervening effects of CSE using Sobel’s normal theory test (Sobel, 1982). The results of this test are also in line with the results of PROCESS-macro ( $b = .117$ ,  $SE = .032$ ,  $z$ -value = 3.668,  $p < .001$ ); thus, these findings prove the second hypothesis of this study ( $H2$ ).

Table 6. Direct and indirect effects

Relationships	Coeff	SE	t-value	p-value	LL/UL-CI
<i>Direct effects</i>					
LOs → IWBs	.223	.068	3.255	.001	.088/.357
<i>Mediation effects</i>					
LO → CSE → OIs	.117	.026			.073/.177
Normal theory test	.117	.032	3.668 (z-value)	.000	
<i>Moderation effects</i>					
LO → IWBs	.385	.093	4.127	.000	.202/.569
SL → IWBs	.284	.098	2.910	.004	.092/.476
LO x SL → IWBs	.140	.064	2.178	.030	.014/.267
CSE → IWBs	.499	.068	7.367	.000	.366/.632
SL → IWBs	.166	.062	2.661	.008	.043/.289
CSE x SL → IWBs	.302	.092	3.266	.001	.120/.483
<i>Conditional indirect effects</i>					
Below than mean (-.722)	.048	.028			.003/.117
Above than mean (.722)	.100	.040			.040/.194
<i>Moderated mediation index</i>					
LO → CSE x SL → IWBs	.036	.019			.007/.081

Note: LO; learning organizations, CSE; creative self-efficacy, SL; self-leadership, IWBs; innovative work behaviors, UL/LL-CI; upper and lower-level class intervals

The third portion of Table 6 indicates the interaction values where the interaction of LO and SL (LO x SL) significantly and positively impacts the IWBs ( $b = .140$ ,  $SE = .064$ ,  $t = 2.178$ ,  $p < .001$ ,  $LL/UL-CIs = .014/.267$ ). In contrast, the interaction of CSE and SL (CSE x SL) also significantly and positively impacted the IWBs ( $b = .302$ ,  $SE = .092$ ,  $t = 3.266$ ,  $p < .001$ ,  $LL/UL-CIs = .120/.483$ ); thus, these findings prove the third hypothesis of this study ( $H3a$  and  $H3b$ ). The fourth portion of Table 6

shows the values of conditional indirect effects and moderated mediation index, where results show that SL indirectly influences the relationship between LO and IWBs via CSE, at below than mean ( $b = .048, SE = 0.028, LL/UL-CIs = .003/.117$ ), and above than mean ( $b = .100, SE = .040, LL/UL-CIs = .040/.194$ ). Furthermore, the moderated mediation index values also prove the indirect effect of SL between LO — IWBs relationships via CSE ( $b = .036, SE = .019, LL/UL-CIs = .007/.081$ ); thus, these findings support the fourth hypothesis of this study ( $H4$ ).

For further explanation of the moderation effects of SL between the relationship of LO and IWBs, and between CSE and IWBs, the researchers draw the moderation graph as shown in Figure 2 and Figure 3, which explains that when individuals were at higher-level perception about LO with higher-level of SL, it leads to higher level IWBs and when individuals were at the higher-level of CSE and with higher-level SL, it also leads to a higher level of IWBs.

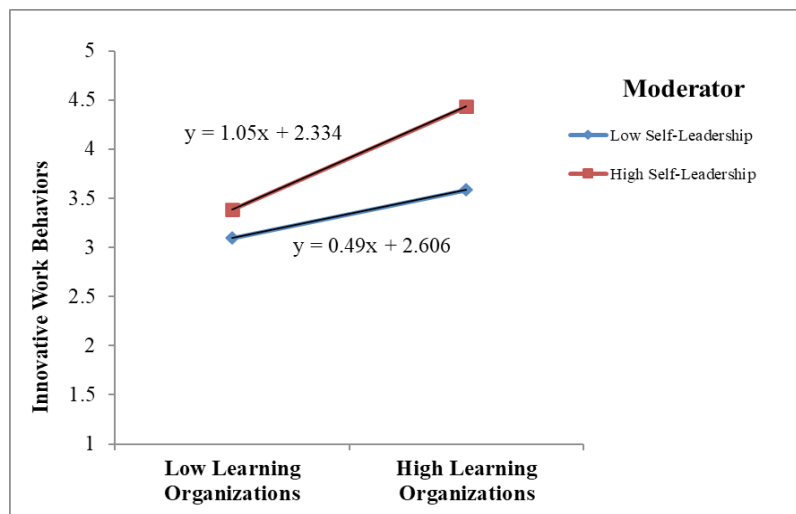


Figure 2: Moderation slope (LO x SL)

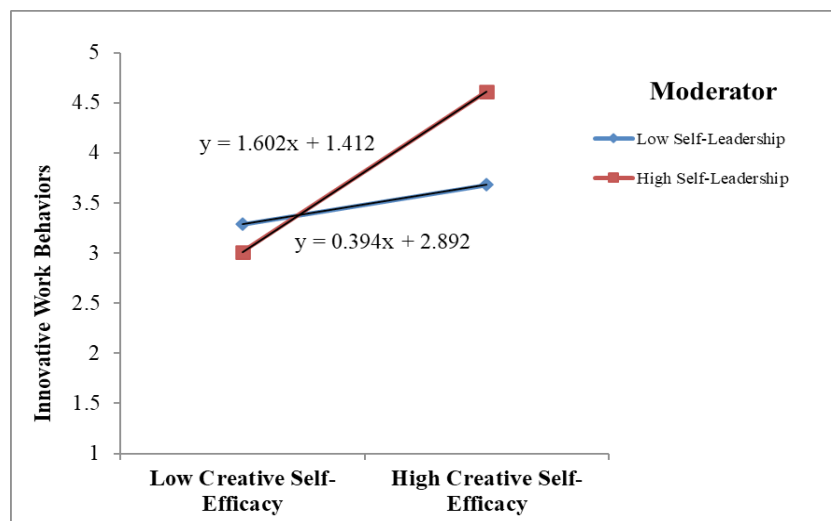


Figure 3. Moderation slope (CSE x SL)

**Robustness tests**

Using the Smart-PLS algorithm, our direct, mediating, and moderating findings are verified using a bootstrapping procedure with a sample size of 5000.

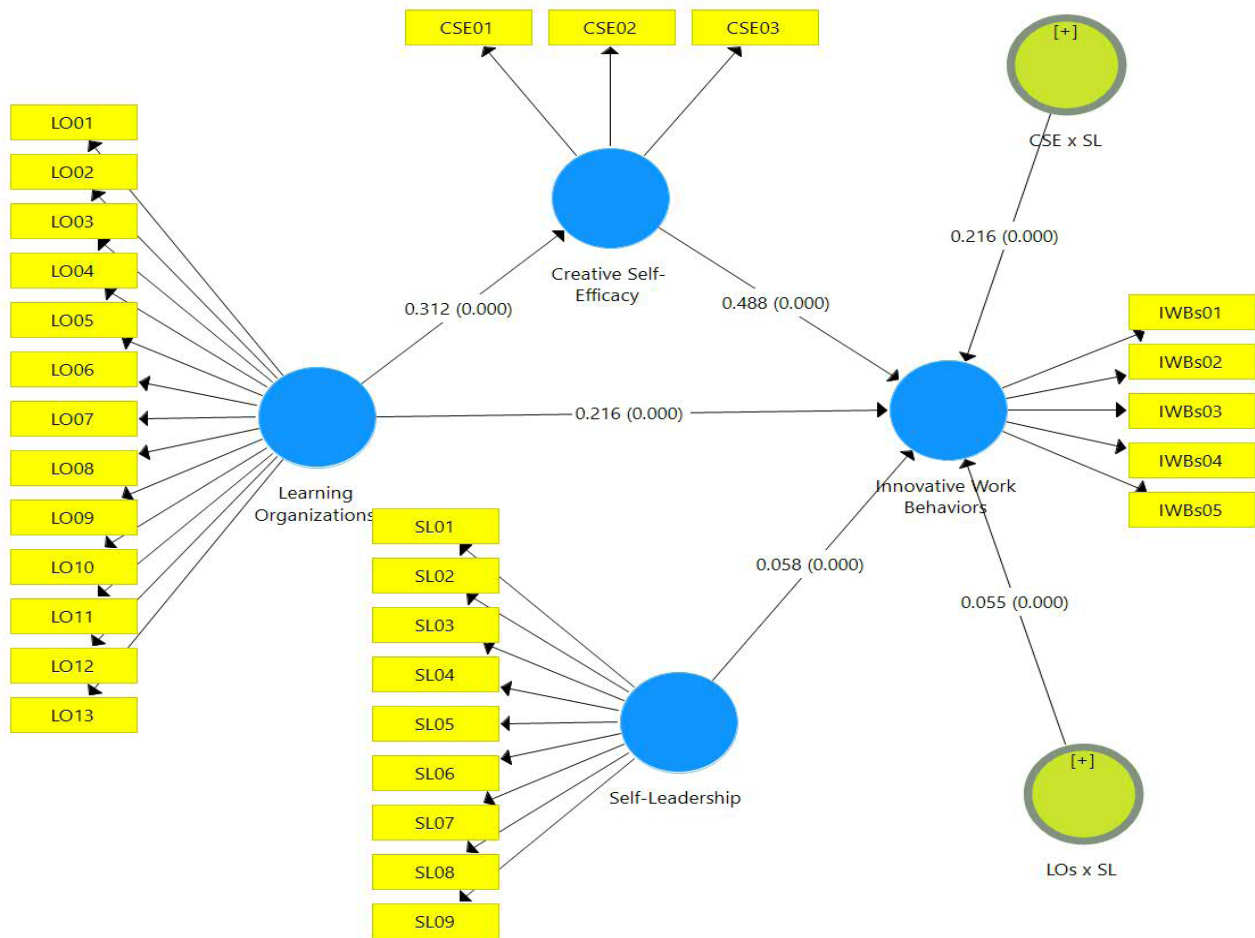


Figure 4. Moderated mediation through Smart-PLS

The results indicate that LO positively influences the IWBs ( $b = .216, p < .001$ ), LO positively linked with CSE ( $b = .312, p < .001$ ), and CSE is positively impacting the IWBs ( $b = .488, p < .001$ ). These results show a direct link between LO and IWBs and partial mediation of CSE between the LO-IWBs relationship. In contrast, SL moderates the relationship between CSE and IWBs ( $b = .216, p < .001$ ) and the relationship between LO and IWBs ( $b = .055, p < .001$ ), as shown in Figure 4.

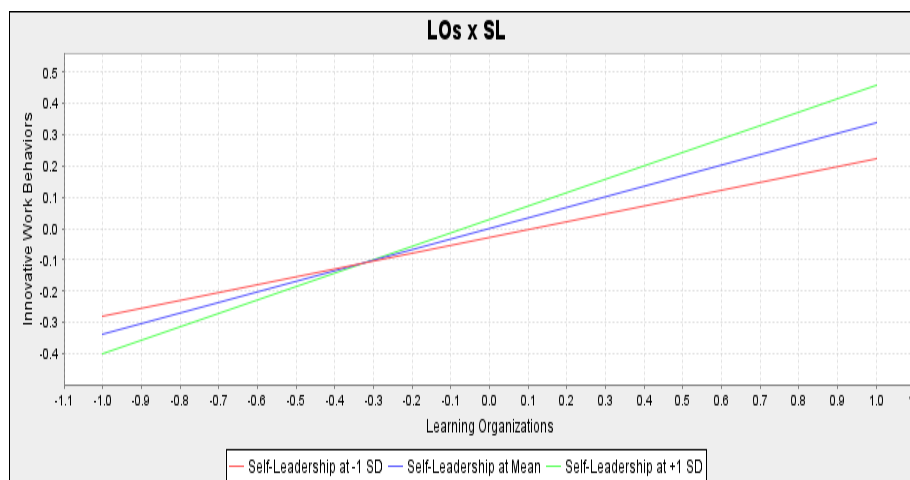


Figure 5. Interaction slope (LO x SL) through Smart-PLS



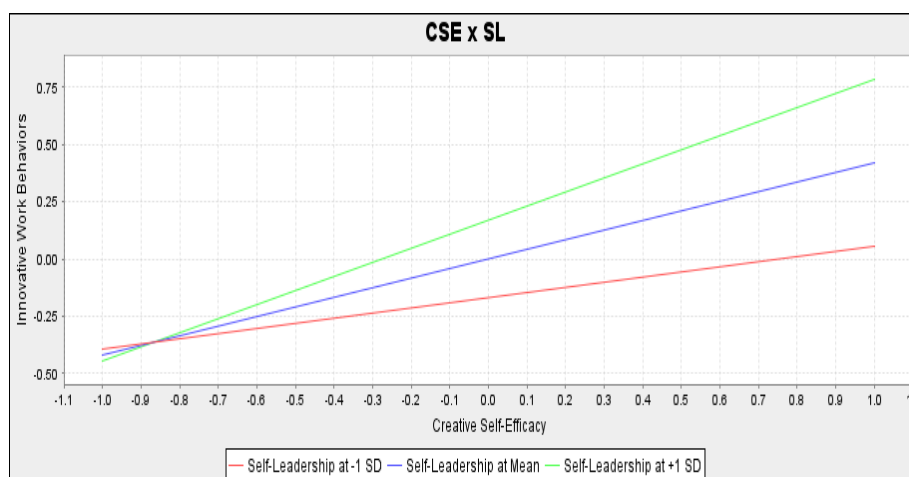


Figure 6. Interaction slope (CSE x SL) through Smart-PLS

Furthermore, the researchers also generated an interaction slope through the Smart-PLS algorithm technique, where + 1SD shows the slope line in green color shown in Figure 5, and Figure 6 explains that when the employees were at the higher level of SL with higher perceptions about LO and CSE they demonstrate the higher level IWBs at the workplace.

## Discussion

By applying the theoretical lens of social schema theory, and social cognitive theory, the present study examines the direct impact of LO on IWBs. Furthermore, this study also analyzes the mediating effect of CSE between the LO and IWBs relationship. Additionally, we examine the moderating role of SL between LO and IWBs and CSE and IWBs. The first hypothesis of this study proposed a positive association of LO with IWBs; this study's findings support this hypothesis. Additionally, these findings explain that LO, with its specific feature of continuous and systematic learning with sharing of knowledge, enhance the individuals' skills and abilities, enabling them to be creative and innovative and have novel thinking and ideas. Moreover, some previous studies also support the findings of this study (Cangialosi et al., 2020; Chughtai et al., 2022; Eskiler et al., 2016; Rupčić, 2020). In the current era of rapid change, for a sustainable competitive advantage in the market and to meet the customers' demands, every organization needs a skillful workforce with the ability to learn and innovate. The second hypothesis of this study proposed that CSE mediates the LO-IWBs relationship and the findings of this study provide support for the acceptance of this hypothesis. The results of this study explain that the organization's environment in the form of LO enhances the self-confidence of the employees to accept challenges and convert them into opportunities through creative thinking and activities. The findings of this study are also in line with the earlier studies (Alameri et al., 2019; Chughtai, Khalid, 2022; Muavia et al., 2022; Royston, Reiter-Palmon, 2019; Wang et al., 2018). Sharing knowledge and timely information flow by the organization with the employees enhance their confidence to think creatively and demonstrate IWBs. This environment also enables the employees to make decisions and solve complex problems at the workplace.

The third hypothesis of this study proposed that SL moderates the LO — IWBs and CSE — IWBs relationships; this study's findings evidenced the acceptance of this acceptance. The study's findings enlighten that individuals' different self-strategies, i.e., self-management, self-control, and self-motivation, enable them to enhance IWBs with the support of organizational environment (e.g.,

sharing of knowledge, learning, and feedback) and CSE. The findings of this study are also in line with the earlier studies (Asbari et al., 2021; Goldsby et al., 2021; Mustika et al., 2020). Moreover, these findings also enlighten that working situations in the form of LO (through sharing of knowledge, feedback, and empowerment) encourage the cognitive level of the individuals to show strong faith in their creative skills and abilities, which resultantly increases CSE.

The fourth hypothesis of this study is a moderated mediation link, through which the SL impacts the association between LO and IWBs via CSE. The results of this study prove this hypothesis and explain that role of SL is much imperative for the enhancement of CSE of the employees for higher productivity of innovative behaviors, especially in the context of LO. Earlier studies have evidence that SL (through self-strategies) encourages employees to decide how to solve complex workplace tasks (Khan et al., 2022). Also, the higher level of SL through the internal self-motivation process encourages employees to deliberately and fruitfully circumnavigate their positive thinking to improve working conditions, leading to innovations (Carmeli et al., 2006; Phelan, Young, 2003; Stashevsky et al., 2006).

### **Theoretical contributions**

This paper's findings extend the knowledge in the field of organizational behavior, work, and motivational psychology. This paper reviews the literature in the context of management, organizational behavior, and psychology with the perspective of social schema theory and social cognitive theory in many ways. First, this study contributes to the SST by explaining how LO predicted IWBs by unfolding that atmosphere of learning through sharing of knowledge and information, empowerment, and feedback, encouraging employees to think of the novel, creative and innovative ideas (Hansen et al., 2020; Senge, 1990; Senge et al., 2008). Second, this study contributes to the SCT by explaining the intervening mechanism of CSE and moderating role of SL; the surroundings of humans influence their cognitive level, and support of organization boosts their learning which leads to higher self-confidence. In contrast, individuals with a higher cognitive level of self-motivation and self-directive navigate themselves to solve complex problems with creativity and novelty (Carmeli et al., 2006; Phelan, Young, 2003; Stashevsky et al., 2006).

### **Empirical contributions**

This study also empirically contributes by giving guidelines and suggestions to policymakers, practitioners, and scholars in many ways. First, this study suggests that higher management must make systematic policies to smoothly share information and knowledge with empowerment so that employees can share their creative, innovative, and novel ideas with their seniors and peers. The management's effort boosts workers' CSE and their willingness to take chances and initiative to tackle complex problems in the workplace. Secondly, management must arrange training and seminars (to provide awareness about the CSE and SL) for the early career and lower and middle management, especially because this force is considered the backbone of any organization. Thirdly, management must focus on the organization's performance appraisal system, check the level of CSE and SL of the employees and arrange counseling mechanisms for the lower rates, which encourages the generation of higher self-confidence and self-strategies, which leads to IWBs.

### **Limitations and future directions**

This study has some limitations and directions for future researchers; first, as this study uses a time-lag approach for the collection of data; the researchers of this study suggest that future researchers use a diary study method of data collection as CSE and SL are the cognitive activities which might fluctuate. Second, in the present study, CSE is used as a mediator; the researchers of this study suggest that future researchers may use other mediating variables, i.e., KM practices (Hassani et al., 2022). In addition, in this study, SL is used as a moderator; it is suggested that future researchers use other possible moderators between the predicting, intervening, and criterion variables, i.e.,

positive leadership styles, which may trigger positive outcomes, i.e., IWBs of the employees. Lastly, the researchers of this study also suggest that future researchers may also test the LO as a predictor with other positive or negative outcomes.

## Conclusion

The present study explained the LO as a predictor of IWBs of the employees for the sustainability of the competitive advantage. Furthermore, this study enlightens the importance of LO in enriching employees' creative self-confidence, which is necessary to demonstrate IWBs. The LO atmosphere of sharing knowledge, empowerment, and feedback as a routine encourages employees to generate new, creative, and novel ideas. In contrast, a higher level of individuals' self-strategies enables them not only for higher IWBs but also for the enhancement of CSE, which further allows the organizations to attain a competitive advantage in the highly globalized market.

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### Appendix

Table 3. Model fitness

Acceptable range	1-3	> .90	> .80	> .90	> .90	> .90	< .09	< .08
Measurement indicators	CMIN/DF	GFI	AGFI	CFI	TLI	NFI	RMR	RMESA
LO-IWBs	2.48	.90	.80	.90	.91	.86	.06	.06
LO-CSE	2.71	.90	.81	.91	.90	.87	.06	.07
CSE-IWBs	2.56	.89	.79	.90	.90	.89	.03	.06
LO-SL	2.11	.90	.82	.91	.90	.86	.05	.05
CSE-SL	2.47	.89	.81	.89	.91	.89	.05	.06
SL-IWBs	2.51	.90	.90	.89	.89	.89	.05	.07
LO-CSE-IWBs	2.26	.89	.81	.90	.90	.87	.06	.06
LO-SL-IWBs	2.39	.86	.79	.90	.89	.84	.06	.06
CSE-SL-IWBs	2.19	.90	.80	.89	.89	.90	.05	.06
LO-CSE-SL	2.43	.86	.80	.89	.88	.84	.06	.06
Full model	1.88	.94	.91	.95	.94	.92	.05	.05
SEM	1.79	.92	.90	.95	.95	.90	.05	.05

**Note:** LO — learning organizations, CSE — creative self-efficacy, SL — self-leadership, IWBs — innovative work behaviors; GFI — Goodness of Fit Index, AGFI — Adjusted Goodness of Fit Index, CFI — Comparative Fit Index, TLI — Tucker — Lewis Index, NFI — Normative Fit Index, RMR — Root Mean Square Residual; RMESA — Root Mean Square Error of Approximation.

Table 4. Discriminant validity and blindfolding

Variables	Blindfolding			
	SSE	Q <sup>2</sup> (1-SSE/SSO)		
SSO				
LO	4693.000	4693.000		–
CSE	1083.000	1038.895		.041
SL	3249.000	3249.000		–
IWBs	1805.000	1527.988		.153

Variables	Fornell — Larker Criterion			
	LO	CSE	SL	IWBs
LO	.705			
CSE	.571	.746		
SL	.312	.348	.766	
IWBs	.243	.219	.640	.659

Variables	Heterotrait–monotrait ratio of correlations (HTMT)			
	LO	CSE	SL	IWBs
LO	–			
CSE	.573	–		
SL	.307	.338	–	
IWBs	.244	.212	.571	–

**Note:** LO — learning organizations, CSE — creative self-efficacy, SL — self-leadership, IWBs — innovative work behaviors.

# Обучающиеся организации и инновационное рабочее поведение: модель модерации и медиации с точки зрения теории социальных схем

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**Аннотация.** *Цель.* Настоящее исследование было направлено на изучение промежуточного воздействия творческой самоэффективности на обучающиеся организации — отношения инновационного поведения на работе. Кроме того, в этом исследовании исследуется опосредующая роль самолидерства в обучающихся организациях — инновационное рабочее поведение и в условиях творческой самоэффективности — отношения инновационного рабочего поведения. *Дизайн исследования.* Триста шестьдесят один сотрудник и сто двадцать шесть непосредственных руководителей (должностных лиц) добровольно участвовали в опросе по сбору данных в производственном секторе (фармацевтическом и автомобильном). С помощью различного статистического программного обеспечения (например, AMOS v.22, Smart-PLS v.3, SPSS v.25 и PROCESS-macro) были проверены предполагаемые отношения, то есть прямые, косвенные, модерация и медиация). *Выводы.* Результаты настоящего исследования показывают, что творческая самоэффективность частично опосредует связь между обучающейся организацией и инновационным рабочим поведением. Кроме того, результаты показывают, что самолидерство опосредует связь между обучающейся организацией и инновационным поведением на работе, а также между творческой самоэффективностью и инновационным поведением на работе. *Значение для практики.* Настоящее исследование освещает важность обучающихся организаций для повышения инновационного рабочего поведения. Быстрые беспрецедентные изменения во всем мире повышают уровень конкуренции и требуют изменения структуры работы; творческая самоэффективность сотрудников помогает руководству преодолеть эту неопределённую ситуацию за счёт новаторского поведения. Кроме того, самолидерство играет жизненно важную роль в улучшении инновационного поведения на работе при поддержке обучающей организационной культуры и творческой самоэффективности. *Ценность результатов.* Настоящее исследование будет полезно для управления, так как объясняет, как преодолеть ситуацию неопределённых изменений в деловом мире. Кроме того, это исследование отвечает на оставшиеся без ответа вопросы, которые возникают в нынешнюю эпоху, например, как организации повышают инновационное поведение своих сотрудников для выживания и достижения конкурентного преимущества. Кроме того, это исследование расширяет знания в области психологии труда и организационного поведения, объясняя медирующую роль творческой самоэффективности и модулирующую роль самолидерства.

**Ключевые слова:** обучающиеся организации; творческая самоэффективность; самолидерство; инновационное рабочее поведение; теория социальной схемы; теория социального познания.