Current Psychology (2024) 43:8186–8199
https://doi.org/10.1007/s12144-023-04990-7

The impact of emotional intelligence, servant leadership, and psychological safety on employee's innovative behavior with the moderating effect of task interdependence in Lahore, Pakistan

Sidra Munawar[1] · **Hummaira Qudsia Yousaf**[1] · **Muneeb Ahmed**[1] · **Sumaira Rehman**[1]

Accepted: 12 July 2023 / Published online: 26 July 2023

Abstract
Our research aims to assess the influence of emotional intelligence, servant leadership, and psychological safety on employees' innovative behavior, with the help of task interdependence's moderation effect. A convenience sampling method was employed to gather pertinent information from Lahore, Pakistan's I.T companies, and 230 questionnaires were considered for the results. Outcomes depict that emotional intelligence positively influences servant leadership. Results also demonstrate that servant leadership influences psychological safety, which further positively affects employees' innovative behavior. Additionally, task interdependence modifies the linkage between psychological safety and imaginative behavior in a favorable and meaningful way. The new study adds to the corpus of information by examining the potential for task dependency to spur employees to take unique actions.

Keywords Emotional Intelligence · Servant Leadership · Psychological Safety · Innovative Behavior · And Task Interdependence

Introduction

Information technology is crucial for generating wealth, jobs, and economic growth (Broughel & Thierer, 2019). Additionally, this sector has been named one of the most significant sectors in the world (Oztemel & Gursev, 2020). Pakistan's IT industry has experienced some of the world's fastest growth and is currently increasing. Pakistan was the fourth-best country in the world in 2019 for freelance development, and several Pakistani software houses work with major international corporations (Wafa et al., 2022).

✉ Sidra Munawar
Sidramir14@gmail.com

Hummaira Qudsia Yousaf
humaira.yousaf@superior.edu.pk

Muneeb Ahmed
muneeb@superior.edu.pk

Sumaira Rehman
sumaira.rehman@superior.edu.pk

[1] The Superior University, 17-Km Raiwind Road, Lahore, Pakistan

In 2021, the value of the Pakistani IT sector increased by an astounding 100%, reaching USD 3.5 billion, and USD 7 billion is expected in the next two to four years s(Wafa et al., 2022). Most IT projects in Pakistan are outsourced from other nations, and many foreign corporations have established their offshore enterprises here due to the country's affordable labor (Ali et al., 2022). States around the globe are attempting to create policies that will maximize the potential of their IT sectors. Despite its enormous success and promise, Pakistan's I.T. sector still needs to be younger than the global software industry.

Employee innovation is crucial to the sustainability of an IT company due to the environment's high levels of competition and dynamic nature. This has inspired managerial scholars to cultivate insightful theories in this area. Employee innovation is "an initiative from employees about introducing new processes, new products, new markets, or combinations of such into the firm," (Åmo & Kolvereid, 2005; Ulusal & Yüregir, 2022). Workers' innovative behavior is essential for improving services, excellent execution (Bani-Melhem et al., 2018), and ensuring organizational success, survival, and competitiveness

(Guo et al., 2022). Employees who generate, market, and execute novel ideas that are helpful to their work group's or organization's performance and those that are novel for their job function are performing innovative job tasks (Guo et al., 2022). IT firms need to be aware of the individual and contextual factors that affect employees' capacity for innovation and their underlying mechanisms (Fischer et al., 2019). Also, companies facilitate an innovative culture for employees so they can suggest and try new ideas by exhibiting innovative behavior.

One of the most challenging and vital competitive advantages is valuing people at work as firms adopt a diverse workforce. As a result, leaders have placed greater emphasis on human resources being treated with respect and compassion (Pratiwi & Nawangsari, 2021). Additionally, leaders must comprehend, manage, use, and control their own and their employees' emotions to understand their needs. As a result, it has long been believed that good leaders are those who can control their own and their followers' emotions (Mohyi, 2020; Ullah et al., 2022). Many leaders can emphasize compassion, service, and developing relationships with others (Miao et al., 2021). Companies today believe that whenever it concerns leadership, ethical considerations ought to be considered into account (Eva et al., 2021). The requirement for leaders to have servant leadership or a caring viewpoint for their subordinates is thus highlighted by this circumstance. This type of leadership is unique because it facilitates the mindset of employees to feel psychologically safe at the workplace. This is merely since innovation is primarily an interpersonal endeavour that necessitates coming up with various ideas and successfully putting the most inspiring ones into practice (Lv et al., 2021). People's ability to speak up, provide novel ideas, take interpersonal risks, and learn from failures, can lead to innovation (Liu & Keller, 2021). Furthermore, task dependency also creates interpersonal behaviors that improve team collaboration and communication for innovation (Rosen et al., 2018) .

Earlier, researchers conducted extensive research on the effects of technology adoption (Kamal et al., 2020). Additionally, numerous researchers concentrated on resources in the hope of gaining new resources for innovation in the future to avoid potential resource losses (Sun & Qiu, 2022). A team cannot work effectively and efficiently on their tasks in an innovative manner without confidence and task interdependency (Lázaro et al., 2019). Our research required ascertaining the existence of and degree of task dependency within a team that can affect psychological safety and inventive behavior due to its importance. Hence, our research aims to assess the influence of emotional intelligence, servant leadership, and psychological safety on innovative conduct through the moderating effect of task interdependence.

Literature review

Underpinning theory

The social learning theory is the most appropriate and leading theory underpinning the entire research model. Social learning is vital learning information by monitoring how other people behave (Bandura & Walters, 1977; De Felice et al., 2023; Lorenzo et al., 2012). Social psychology, which involves learning from the experiences and actions of others, is a crucial aspect of the social interacting environment of an IT organization. Contrary to the focus of behavioral psychology, which emphasizes how environment and reinforcement impact the behavior of people that might pick up new habits simply by observing others. According to the social learning theory, leaders are looked up to by their subordinates as role models for behaviors that will lead to professional and personal success**.**

Leadership represents a leader's capacity to comprehend how their thoughts, feelings, and deeds affect those around them in the organization. Leaders that prioritize their subordinates' needs by empowering them and even getting involved in community service are the best examples to follow (Abbas et al., 2021). Servants learn characteristics like loyalty and collaboration through seeing and interacting with positive role models (Firmansyah & Saepuloh, 2022). Moreover, leaders inspire their subordinates to believe that taking interpersonal risks, speaking up for ideas, sharing thoughts, and acting independently on essential issues will result in innovative activities (Edmondson & Lei, 2014a; Mahmoud et al., 2022). Furthermore, it has been shown that followers who view their boss as an inspiration eventually copy their actions to become more effective and innovative at work (Zhu & Zhang, 2020).

Hypothesis development

Emotional intelligence and servant leadership

The capability to manage one's personal and other's emotions, distinguish among good and bad emotional impacts, and to use emotional intelligence to influence one's thoughts and behaviour is known as Emotional Intelligence (Moroń & Biolik-Moroń, 2021). Instead of focusing on authority, legality, and personal care, servant leadership emphasises the bigger picture and is focused on kindness, compassion, and the idea of assisting workers early (Pratiwi & Nawangsari, 2021). When servant leaders can manage their emotions, they may demonstrate empathy

and ethics (Lee, 2019). Since emotional intelligence is all about recognizing one's needs and those of others, (Miao et al., 2021) think it is closely related to leadership philosophies like ethical and servant leadership. Many pieces of research have examined in the previous written work at the association among two variables (Anwar & Abdullah, 2021). Servant leaders may struggle to satisfy their emotional and mental expectations if they are not in good mental and emotional health (Kumari et al., 2022). Concerning a study, leaders who score highly on emotional intelligence are substantially more efficient in their work environments than persons with lower emotional intelligence scores (Gao et al., 2023). Similarly, servant leaders, in conjunction with high-level E.I., are highly efficient in comprehending their emotions and feelings, which makes them able to interact with others in a manner that satisfies others' expectations. Additionally, highly emotionally intelligent servant leaders are excellent communicators who can positively convey their thoughts and feelings to their deputies to achieve organizational goals (Winton, 2022).

An enormous number of previous investigations support the outcomes of our study, i.e., emotional intelligence affects servant leadership in many aspects. Likewise, high-level emotional intelligence makes it easier to comprehend others' feelings and emotions, therefore, servant leaders with high-level emotional intelligence are often extremely good at recognizing the needs of those they lead (Miao et al., 2021).

Hence, we suggest that:

H1: Emotional Intelligence is positively associated with servant leadership.

Servant leadership and psychological safety

Psychological safety is a person's awareness of the effects of taking risks, owning up to mistakes, and considering the welfare of others (Erkutlu & Chafra, 2019). It depicts an environment where people are at ease, admitting errors, exchanging ideas, speaking up, and challenging the status quo (Capodaglio, 2022). In a world that is quickly changing, servant leadership behavior is considered an antecedent of psychological safety which ensures that individuals “feel comfortable at work to grow, learn, contribute, and perform well" (Mahmoud et al., 2022).

The notion that employees won't be embarrassed, disregarded, or penalized due to their opinions on problems makes sense regarding psychological safety; they will be given a sense of assurance instead. This belief and admiration among supervisors and supervisees cause this confidence. Therefore, the servant leader's actions and behavior at work may impact the subordinates' perception of psychological safety or belief. This assertion is consistent with the fundamental principle of social learning theory, which holds that servant leaders increase followers' trust by empowering them for growth and success through their ethical behavior (Bantha & Sahni, 2021; Brohi et al., 2018). Employees can take the initiative to actively copy and pick up on various extra-role behaviors, including taking care of others (Han et al., 2019). The sense of assurance that individuals won't be punished or rejected for voicing their thoughts and making judgments is increased by supervisory qualities including emotional healing, prioritizing subordinates, and fostering growth. Most earlier literature used transformational, ethical, and transactional leadership styles to increase employees' perceptions of psychological safety (Edmondson & Bransby, 2023; Edmondson & Lei, 2014b). However, even though servant leadership can more accurately predict employees' behavioral results than other leadership philosophies, (Ying et al., 2020), scholars need to pay more attention to it. Therefore, a key factor in boosting followers' psychological safety is how servant leaders treat them (Brohi et al., 2021), it is anticipated from the literature that supervisors who exhibit traits of servant leadership will be seen as indicators that will boost followers' confidence.

Hence, it is assumed that:

H2: Servant leadership is positively associated with psychological safety.

Psychological safety and innovative behavior

Innovation is a tool to boost a company's power and ability to compete (de Oliveira Sousa et al., 2022), and the behavior of employees to generate valuable ideas or procedures that could assist the company’s development and succession is referred to as innovative behavior of employees (Umalihayati et al., 2022) for smooth workflow and enhancement of efficiency. In this modern era of technology, employees of companies continually work to creäte new products and services (Wang et al., 2022), to foster innovation (Stieler & Henike, 2022). An increasing body of literature has proven that taking risks while learning, trying, sharing failures, and chasing unpredictable results are all essential components of the entire innovation process, from idea to application (Ancillai et al., 2023). In other words, risk-taking and social connection are characteristics of innovative work, and both necessitate that employees perceive their surroundings to be psychologically safe (Javed et al., 2019).

The psychological safety of workers is a crucial cognitive mechanism (Ou et al., 2018). People are more inclined to "employ or express themselves physically, cognitively, and emotionally" when they feel psychologically safe (Kim, 2020; Mukerjee & Metiu, 2022). It improves workers' productivity, and they cannot show positive performance and innovative behavior without feeling safe in an organization (Okeke, 2019). Moreover, employees are more satisfied with

and more productive in their jobs when they feel psychologically safe. In prior studies, organizational identity and psychological safety were linked to worker creativeness (Kim et al., 2021) and servant creativeness as a result of the moderating impact of information exchange (Ji & Yoon, 2021). Still our recent research emphasizes that employees who feel psychologically safe at work are more innovative and creative, and they consider different approaches to completing assigned tasks. Due to their higher levels of satisfaction and risk-taking behavior, they develop and implement new thoughts and ideas. Additionally, it was found that innovative activity is favorably correlated with psychological safety (Cao & Zhang, 2020). In light of the previous arguments, the claim that follows can be made:

H3: Psychological safety is positively associated with innovative behavior.

Task interdependence as a moderator

Task interdependence refers to how much team members must communicate with and rely on one another to do tasks successfully. To coordinate and perform job activities, employees subject to high task interdependence must often interact and speak with one another (Raineri & Valenzuela-Ibarra, 2022). For instance, it was found that members are typically not motivated to assist one another when a team is designed with individual goals for each team member rather than a shared goal for the entire group (Strode et al., 2022). As a result, members are unwilling to engage in cooperative behaviors that reflect their goal structures. It is doubtful that team-like behaviors can evolve without these structures (coordination, objective, and authority) in place to help members in orchestrating their work (Courtright et al., 2015). To put it another way, task interdependence forces staff to interact and share thoughts, knowledge, and expertise, which leads to the development of innovative workable solutions. As a result, workers would not conceal job-related knowledge when task dependency is strong, even though they are unwilling to invest the time and effort necessary to spread their expertise to others.

High task dependency encourages people to develop a group of shared interests (Nauman et al., 2022), therefore keeping information hidden from coworkers can be harm their innovative behavior and success. Employees are more likely to choose knowledge concealing as a resource protection technique when they feel threatened by their resources, which increases tension and pressure (Khassawneh et al., 2023). Although team members may feel insecure, they often remain ready to facilitate one another by sharing strategies in a situation of high task dependency, which reduces the risk of hiding knowledge for innovation. In other words, when employees help others sort out a problem by sharing adequate knowledge, it enhances their work performance for innovation. High task dependency in this aspect can promote employees' resource acquisition process. Therefore, people who feel psychologically comfortable in a group setting with high task interdependence are likelier to attempt to share practical innovation ideas inside an organization.

Moreover, task interdependence permits the employees to use each other's skills without adding to their cognitive load. Previous studies relate task interdependence with organizational citizenship behavior (Goo et al., 2022). Still, our research emphasizes that individuals with a high level of psychological safety in a team when there is a lot of task interdependence are likely to invest more effort in sharing efficient company innovation strategies. Thus, considering the above debate, it is suggested that.

H4: Task Interdependency moderates the association between psychological safety and innovative behavior.

Methodology

Participants and data collection

"A sample is a subset of the population" according to (Creswell & Creswell, 2017; Das et al., 2023). Participants were those employees performing the role of a leader (supervisor) and at the same time, working as employees under the supervision of team lead in I.T companies in Lahore, Pakistan as a population of the survey. IT companies were chosen because they were a reliable cause of competitive gain for Pakistan. Such companies are drawing vast amounts of private investment, significantly contributing to Pakistan's GDP. "GDP is the sum of the total market value of all finished goods and services produced inside a nation's borders within a certain period" (Süygün, 2021). Though, we only chose those companies where doing extra work is commonplace. Supervisors may act interdependently toward their staff to reach the established goals due to the added workload. The appropriate data was gathered using the convenience sampling method. No consensus was reached regarding the ideal sample size for structural equation modeling studies, with people serving as the unit of analysis (Hoyle, 1999; Nguyen et al., 2019). Therefore, 230 is thought to be a sufficient sample size for results.

This research used preliminary information obtained directly from the participants. Just because of the causal nature of the study, survey questionnaires were utilized for the purpose of gathering information after the approval from the ethics committee for being carried out with human participants. All participants were initially told about how the survey data will be used for this study, and complete confidentiality of their answers was guaranteed to get open responses.

The language for questionnaires was English and almost 250 questionnaires were delivered to IT companies in Lahore city for prompt responses; 240 were received back, and 10 questionnaires were not filled. Therefore, they were removed, and finally, 230 questionnaires were considered for results. Employees supplied information on all the variables, including emotional intelligence, servant leadership, psychological safety, innovative behavior, and task interdependence during their working hours without any remuneration. (Table 1)

The results of Table 2 reveal that out of all participants, 69.1% (159) were male and 30.9% (72) were female. Most of the workforce ranged in age from 25 to 34 years. This survey represented that 27.4% (63) of respondents were in that age group. 18.3% (42) of them were up to the age of 24, 23.5% (54) were between the ages of 35 and 44 years, 14.8% (34) were between the ages of 45 and 55 years, and 16.1% (37) belonged to the age group of people who were above 55. According to their educational backgrounds, 73.5% (169) participants had bachelor's degrees, 7.0% (16) had master's degrees, 1.3% (3) had M.Phil. degrees, 17.8% (41) qualified for other categories, and the remaining 0.4% (1) had a degree of Ph.D. Concerning the findings related to their work experience, 45.7% (105) of participants had up to one year of experience, 52.2% (120) had two to five years of experience, 1.7% (04) had five to ten years of experience, and the remaining 0.4% (1) had ten or more years of experience in their perspective companies. Meanwhile, only 24.3% (56) of respondents held permanent jobs, and the remainder 75.7% (174) were employed on a contract basis.

Operational measures

The study model's variables as shown in Fig. 1, were evaluated using previously developed and validated items which were in-depth explored with three IT industry experts. After careful consideration and evaluation, the experts recommended a few alterations to the original questions. The changes regarding the sequence and wording of the questions were made to finalize the questionnaire as displayed in Table 1. A "five-point Likert scale (1-Strongly Disagree; 5-Strongly Agree)" was employed to assess each item.

Emotional intelligence

To evaluate emotional Intelligence, we adopted a scale developed by (Cooper & Petrides, 2010) which contained 10-item. A sample item is “Expressing my emotions with words is not a problem for me”. (Cronbach’s alpha = 0.873).

Servant leadership

To evaluate servant leadership, we employed a seven-item scale created by (Lin, 2008). The scale is more valuable and applicable in the context of Pakistan. A sample question is " My supervisor is always interested in helping people in our community." (Cronbach's alpha = 0.936).

Psychological safety

Our study used a seven-item scale based on (Edmondson, 1999) for psychological safety. The scale has been verified to have a high level of of reliability and validity which, was developed from previous research. A sample item is “Members of this team can bring up problems and tough issues.” (Cronbach's alpha = 0.938).

Innovative behavior

To assess innovative behavior, we employed an 8-item scale created by (Janssen, 2005). The scale was created in the context of Pakistan and is better suited to our sample. An example question is "I explore new working methods, techniques, or instruments." (Cronbach's alpha = 0.947).

Task interdependence

We adopted an 8-item scale for task interdependence developed by (Grabner et al., 2022; Liu, 2022; Wang, 2022; Wong & Van Gils, 2022). A sample item is “Generating the outcome or product of this team requires a great deal of communication and coordination among members.” (Cronbach's alpha = 0.831).

Control variables

We considered demographic factors as control variables that were previously developed and validated including gender, age, education, work experience, and nature of employment because they may have the potential to significantly affect personnel’s innovative behavior (Shalley & Gilson, 2004). When it comes to gender, males are coded as 1 and females as 2, while age groups, BS education, master's education, M.Phil. degree, doctorate, and above are all coded as 1, 2, 3, 4, and 5 respectively. When it comes to years of work experience, up to one year is coded as 1, 2–5 years is coded as 2, 5–10 years is coded as 3, and more than 10 years is coded as 4, and for nature of employment, permanent was coded 1 and contractual was coded as 2.

All scales have positive items except the second items of emotional intelligence (- 0.489) and task interdependence (- 0.394). Both are recorded but their values are less than the standardized value of factor loading (0.07), therefore removed from the Table 1 and 3, respectively.

Table 1 Constructs, Items, and Factor Loadings

Construct/Source/Dimensions	Items	Loading
Emotional Intelligence (Cooper & Petrides, 2010)	Expressing my emotions with words is not a problem for me	0.788
	I often find it difficult to see things from another person's viewpoint	-0.489
	I usually find it difficult to regulate my emotions	0.809
	Normally, I get it difficult to know exactly what emotion I'm feeling	0.767
	Overall, I'm comfortable with the way I look	0.718
	I often find it hard to stand up for my rights	0.859
	I often find it difficult to adjust my life according to the circumstances	0.775
	I'm normally able to "get into someone's shoes" and experience their emotions	0.845
	Generally, I'm able to adapt to new environments	0.839
	I would describe myself as a good negotiator	0.811
Servant Leadership (Lin, 2008)	My supervisor cares about my well-being	0.775
	My supervisor is always interested in helping people in our community	0.854
	My supervisor can solve work problems with new or creative ideas	0.844
	My supervisor gives me the freedom to handle difficult situations in the way that I feel is best	0.87
	My supervisor provides me with work experiences that enable me to develop new skills	0.847
	My supervisor does what she/he can to make my job easier	0.854
	My supervisor would not compromise ethical principles to achieve success	0.896
Psychological Safety (Edmondson, 1999)	If you make a mistake on this team, it is often held against you	0.856
	Members of this team can bring up problems and tough issues	0.805
	People on this team sometimes reject others for being different	0.891
	It is safe to take a risk on this team	0.812
	It is difficult to ask other members of this team for help	0.869
	No one on this team would deliberately act in a way that undermines my efforts	0.87
	Working with members of this team, my unique skills and talents are valued and utilized	0.869
Innovative Behavior (Janssen, 2005)	I explore new working methods, techniques, or instruments	0.829
	I convert innovative ideas into useful applications	0.87
	I systematically introduce innovative ideas	0.903
	I make important organizational members enthusiastic about innovative ideas	0.831
	I generate original solutions to problems	0.906
	I create new ideas for improvements	0.834
	I mobilize support for innovative ideas	0.88
	I thoroughly evaluate the application of innovative ideas	0.774
Task Interdependence (Grabner et al., 2022; Liu, 2022; Wang, 2022; Wong & Van Gils, 2022)	Generating the outcome or product of this team requires a great deal of communication and coordination among members	0.804
	Members of this team must depend heavily on one another to get the team's work done	-0.394
	Members of this team have their jobs to do, with little need for them to work together	0.826
	Others depend directly on my job	0.803
	My job cannot be done unless others do their work	0.767
	My work directly determines the progress of others	0.867
	Team members must make efforts together	0.73
	Team members work independently	0.825

Table 2 Profile of Respondents

Demographic Variables	Categories	Frequency	Percentage
Gender	Male	159	69.1
	Female	72	30.9
Age Group	18 to 24	42	18.3
	25 to 34	63	27.4
	35 to 44	54	23.5
	45 to 55	34	14.8
	55 +	37	16.1
Education	BS	169	73.5
	Master	16	7.0
	M.Phil	3	1.3
	PhD	1	.4
	Other	41	17.8
Work Experience	Up to 1 Year	105	45.7
	2—5 Years	120	52.2
	5—10 Years	4	1.7
	10 + Years	1	.4
Nature of Employment	Permanent	56	24.3
	Contractual	174	75.7

Common method bias

Data were acquired from only one industry because of the nature of the research strategy for this study i.e. IT workers, and common method bias (CMB) may accompany our findings. Previous studies suggested that when employing the structural equation modeling (SEM) in partial least squares (PLS-SEM) technique, the full collinearity test may be used to identify whether the data was damaged by the problem of common method bias (Wong, 2016). The current research used variance inflation factors (VIF) by a comprehensive collinearity test to evaluate common method bias. The test model may not have the CMB problem if the test model's scores are less than the cutoff value of 3.3, and vice versa if the test model's scores are greater than the cutoff value of 3.3. The findings demonstrated that the CMB inaccuracy did not taint the data in the existing research because all of the VIF scores for the analyzed latent variables are lower than the indicated cutoff value. Thus, we came to the conclusion that CMV was not an issue, allowing us to continue our investigation for additional empirical research.

Data analysis and results

Smart PLS 3 was used in the current study to investigate the purported hypothesis since it is accepted as a cutting-edge assessment method for entire areas. This recent empirical study aimed to forecast and explain the studied latent constructs using the current theory. PLS-SEM has emerged as a revolutionary technique (Hair et al., 2021) when a topic needs to be examined to use structural modeling, clarification, and construct estimation. It is also considered a versatile tool for model evaluation (Bøe, 2016). The second reason for using PLS-SEM is that it has less strict requirements for sample size than data normality and Amos. (Hair et al., 2021) this study used PLS-SEM to avoid sample size and data normality problems. As well as factor loadings for evaluating construct validity and internal consistency reliability, the PLS technique and bootstrapping strategy are utilized to find path coefficients and the appropriate considerable level to investigate the hypotheses (Mia et al., 2022). After the measurement model was computed, estimates were found by evaluating the structural model.

Measurement model assessment

In the measurement model, convergent validity was measured through loadings, Cronbach's alpha, average variance extract, and competitive reliability. Referring to Tables 2 & 3 and Fig. 2, factor loadings often exceeded the suggested value of 0.60, with a few exceptions. Similarly, all Cronbach's alpha and composite dependability (C.R.) scores were higher than the recommended 0.70 (Hair et al., 2017). For every construct under research, the average variance extract (AVE) values were higher than the suggested levels of 0.50. (Hair et al., 2021). The questions with the lowest factor loadings (0.50) were excluded.

To evaluate the accuracy and reliability of the data, a new criterion called the heterotrait-monotrait (HTMT) ratio was proposed in discriminant validity (see Table 4). In particular situations, the Fornell-Larker criterion is one of the best and most efficient assessment methods; however, it cannot identify the absence of discriminant validity. Consequently, all values are below the established cutoff of 0.90, demonstrating discriminant validity (Hair et al., 2017).

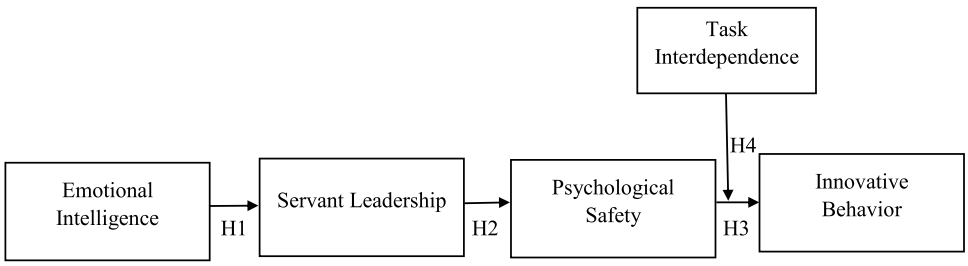

Fig. 1 Theoretical Framework Model

Table 3 Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Emotional Intelligence	EI1	0.788	0.873	0.919	0.603
	EI3	0.809			
	EI4	0.767			
	EI5	0.718			
	EI6	0.859			
	EI7	0.775			
	EI8	0.845			
	EI9	0.839			
	EI10	0.811			
Servant Leadership	SL1	0.775	0.936	0.948	0.722
	SL2	0.854			
	SL3	0.844			
	SL4	0.87			
	SL5	0.847			
	SL6	0.854			
	SL7	0.896			
Psychological Safety	PS1	0.856	0.938	0.95	0.729
	PS2	0.805			
	PS3	0.891			
	PS4	0.812			
	PS5	0.869			
	PS6	0.87			
	PS7	0.869			
Innovative Behavior	IB1	0.829	0.947	0.956	0.73
	IB2	0.87			
	IB3	0.903			
	IB4	0.831			
	IB5	0.906			
	IB6	0.834			
	IB7	0.88			
	IB8	0.774			
Task Interdependence	TI1	0.804	0.831	0.892	0.585
	TI3	0.826			
	TI4	0.803			
	TI5	0.767			
	TI6	0.867			
	TI7	0.73			
	TI8	0.825			

CR: Composite Reliability and AVE: Average Variance Extracted

Structural model assessment

After ensuring that the model is valid and reliable through the assessment of the measurement model, structural modeling was done to evaluate hypotheses from the perspective of IT companies. Path coefficients, t-values, and standard errors are generated to assess the model's and the relations' applicability to the data. In Smart PLS, bootstrapping determines whether or not the values of the path coefficients support the hypotheses. According to Table 5 and Fig. 3, Emotional Intelligence is strongly and favorably associated with servant leadership (β = 0.841, t = 14.898, LL = 0.692, UL = 0.922); thus, H1 is supportive.

The results also showed a statistically significant link between psychological safety and servant leadership (β = 0.871, t = 18.766, L.L. = 0.754, U.L. = 0.936), thus supporting H2. Moreover, it was also concluded that psychological safety is significantly linked with innovative behavior (β = 0.382, t = 2.727, LL = 0.094, UL = 0.643); thus H3 is supporting. Lastly, task Interdependence considerably and positively moderates the connection among psychological safety and innovative behavior (β = 0.375, t = 2.947, LL = 0.110, UL = 0.606), thus supporting H4.

Smart PLS was also employed for a straightforward slope analysis to assess the results of the moderating (interaction) impact and to visualize its strength and emphasis. Slope plots are usually employed to comprehend the moderating effect clearly and visualize the interaction terms (Memon et al., 2020). A high degree of task interdependence strengthened the beneficial connections between psychological safety and innovative behavior, as depicted in Fig. 4.

Discussion

The study looked at how emotional intelligence, servant leadership, and psychological safety can influence innovative conduct in the I.T sector of Lahore, Pakistan. At the same time, task interdependency moderates the association among psychological safety and innovative behavior. The social learning theory served as a frame of reference for this investigation. Emotional intelligence was found to be a strong analyst of servant leadership in the first hypothesis (H). A wealth of research indicates a considerable connection among servant leadership and emotional intelligence (Barbuto et al., 2014; Kumari et al., 2022). Similarly, it was examined that emotional intelligence and servant leadership have a beneficial link in the IT environment (Lee, 2019; Miao et al., 2021; Razvi et al., 2015). Our research supports the strong correlation among these two concepts and implies that mentors with high emotional intelligence demonstrate additional servant leadership practices.

According to the findings, servant leadership impacts psychological safety, which indicates that it may directly or indirectly influence the psychological safety of a company's employees (H2). This result confirmed the fundamental assumptions of the social learning theory, which holds that servant leadership behavior, an encouraging and follower-centred style of leadership, can inspire, heal, and love others, lead to high psychological safety results, and ultimately affects follower outcomes (Dutta & Khatri, 2017). Numerous

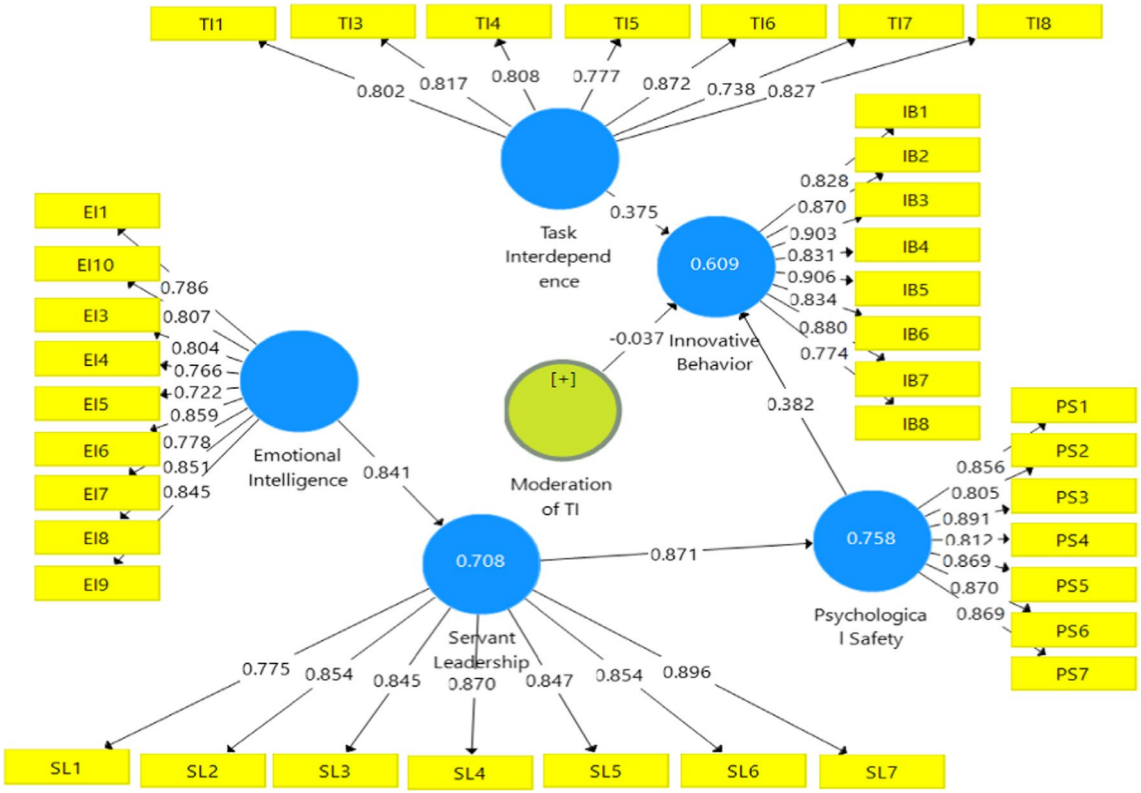

Fig.2 Smart PLS Model—Measurement Model Assessment

Table 4 Discriminant Validity (HTMT Ratio)

	EI	IB	PS	SL	TI
EI					
IB	0.797				
PS	0.756	0.779			
SL	0.78	0.78	0.78		
TI	0.764	0.797	0.797	0.716	

EI: Emotional Intelligence, IB: Innovative Behavior, PS: Psychological Safety, SL: Servant Leadership, and TI: Task Interdependence

empirical studies in organizational research have proved that various antecedents at the corporate and individual levels improve employees' psychological safety (Frazier et al., 2017; Joo et al., 2022). This study thus contributes significantly to our knowledge of the functions of servant leadership and psychological safety from the perspective of IT organizations. Notably, the social learning theory highlights a reciprocal association among leader and follower, owner and worker; for instance, followers positively respond to their leaders' supportive and positive behavior by demonstrating more confidence at the workplace and commitment to their jobs, which can enhance their innovative performance.

An earlier study demonstrates that psychological safety affects the association between harsh supervision and original or creative behavior (Liu et al., 2016; Zhu & Zhang, 2020) but a recent study's unexpected finding shows a connection between psychological safety and innovative behavior (H3) as both are essential for achieving long-term organizational objectives for creating a profitable and sustainable IT firm. At the same time, the outcome is ultimately advantageous

Table 5 Path Analysis

Hypothesis	Relationships	Beta	SD	*T*-Value	*P* Value	LL	UL	Decision
H1	EI- > SL	0.841	0.056	14.898	0	0.692	0.922	Supported
H2	SL—> PS	0.871	0.046	18.766	0	0.754	0.936	Supported
H3	PS—> IB	0.382	0.140	2.727	0	0.094	0.643	Supported
H4	TI—> IB	0.375	0.127	2.947	0.003	0.110	0.606	Supported

$p < 0.05$ and T > 1.645

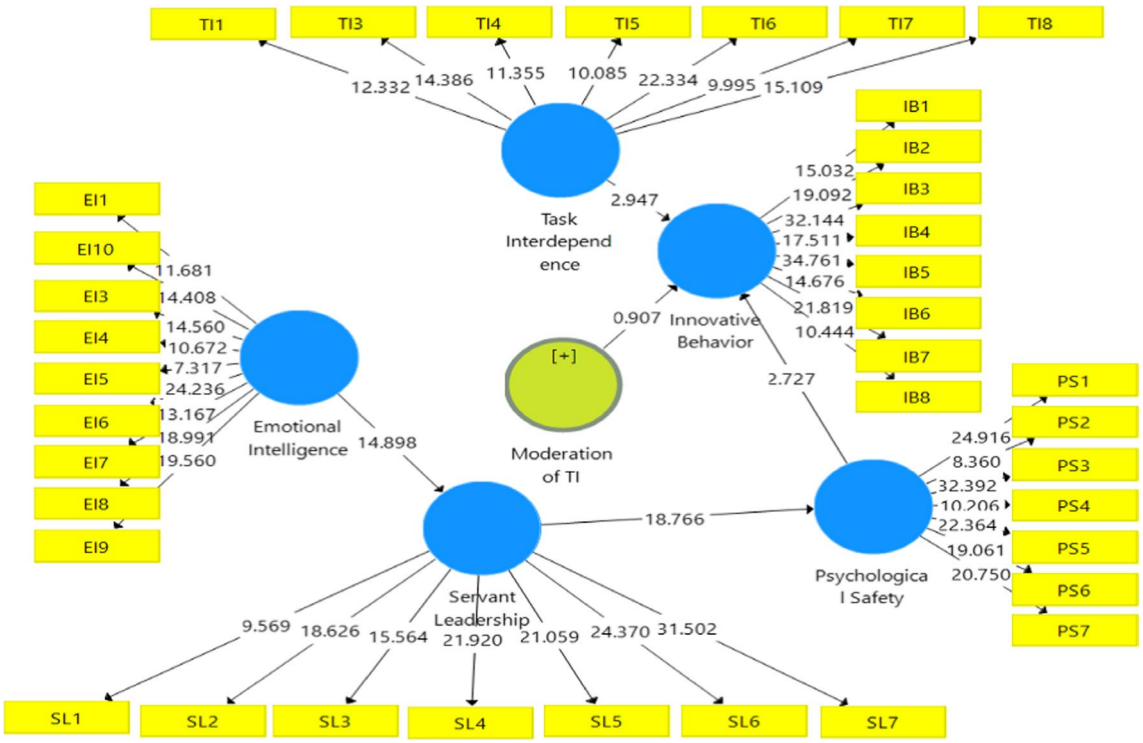

Fig.3 Smart PLS Model—Structural Model Assessment

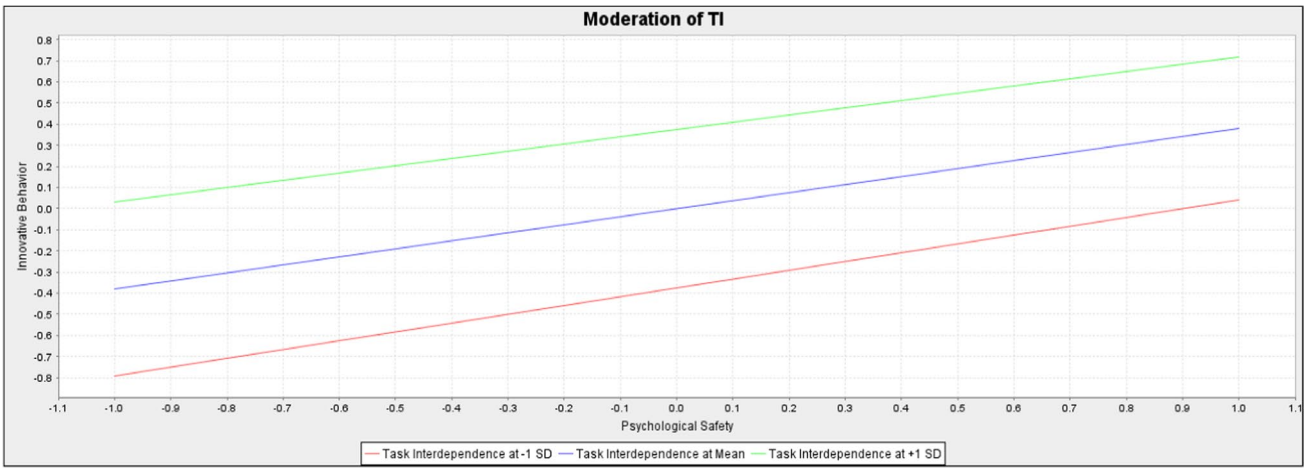

Fig.4 Simple Slope Effect for Moderation Effect

to people. Accordingly, psychological safety reduces the effects of employees' physical and mental stress, enhancing their motivation to learn new knowledge for innovation (Shen et al., 2020; Tepper, 2007). Innovative conduct is essential for both people and firms. With innovation, a business can expand, establish a competitive advantage, or reap long-term benefits. Motivation to perform tasks confidently, independently, and cooperatively generated an environment for the business's development, sustainability, and accomplishment. We draw this conclusion because task interdependency supports the hypothesis that psychological safety and employees' innovative behavior are positively correlated (H4).

Theoretical implications

This study makes many significant theoretical advances to the body of literature and existing social learning theory

through the collective impact of emotional intelligence, servant leadership, psychological safety, task interdependency, and creative workplace conduct by employees. Firstly, our research outcomes demonstrate a linkage between emotional intelligence and servant leadership based on the principle of social learning. A study indicated that the servant leader trait of emotional intelligence aids in higher employee productivity (Moroń & Biolik-Moroń, 2021). A high degree of emotional intelligence was also said to help create a high level of job enthusiasm and to boost employees' dedication and creative performance. Our study supports the strong correlation among the two variables and implies that leaders with greater emotional intelligence demonstrate additional servant leadership practices.

Secondly, using social learning theory, we have established that this study proposes that servant leadership facilitates psychological safety in employees. Our results support the outcomes of prior literature by stating that servant leadership and psychological safety are positively correlated. The current study revealed servant leadership's beneficial effects on psychological safety, which further affects the innovative behavior of IT personnel. As an illustration, it was suggested that additional research needs to be done on the antecedents and consequences of psychological safety. The findings show that servant leadership was both an antecedent and an outcome of psychological safety, adding value to the literature body. Thirdly, recent research presents that psychological safety is correlated with employees' innovative behaviour. This research is unique as it scrutinized innovative behavior, critical employee performance factors, and task interdependence. Lastly, this study confirmed that team members could have helped the other members to produce more innovative solutions, strategies, and ideas for the success of IT companies. Moreover, regarding social learning theory, helpful behaviors encouraged team ingenuity by enabling workers to use cooperative difficulties, such as the diversity of ideas, as sources for innovation. The teams may have had an opportunity to generate ideas and creative solutions through spontaneous dialogue and work together to settle problems to free up space for innovation.

Practical implications

We can provide practical advice for management practices generally and in the context of the IT sector in Lahore, Pakistan, based on the findings of this research. The conclusions of our study indicate that emotionally intelligent leaders are far more successful in workplace situations than non-intelligent leaders (Littrell, 2022). In I.T. businesses, servant leaders who exhibit emotional intelligence favourably impact their followers' innovative behavior. As a result, this study identified servant leadership as a leadership style that can effectively and efficiently improve employee behavior, hence enhancing organizational innovative performance. Additionally, servant leaders encourage their staff to feel psychologically comfortable in the workplace by offering insightful suggestions for change which ultimately lessens employee's anxieties about work-related issues.

In the case when servant leaders provide sufficient support to their workforces then employees will feel more psychologically safe in speaking up, presenting ideas, sharing knowledge with colleagues, and most importantly, the employees will obtain the encouragement of disclosing mistakes and liabilities, believing that they are enabled to access additional resources like feedback, recommendations, advice, and moral support from others without feeling denigrated or condemned. This setting makes it easier to accomplish tasks at work, encourages teamwork at all levels, both individually and collectively, and boosts innovative behavior. Moreover, task interdependence is a beneficial working mode to lessen information concealment through frequent, close engagement, communication, and dependency between workers. As a result, leaders can enhance the interdependence and relevance of team activities and raise task visibility between team participants under the criteria of the networked knowledge system. Furthermore, this encourages team members to develop a sense of shared interests, strengthening their sense of safety and loyalty and ultimately enhancing motivation for innovation.

Limitations and future directions

Several restrictions exist in recent research, even though it has succeeded in achieving its goals. First, data from IT organizations in Lahore, Pakistan, were only collected using a purposive sampling technique. Therefore, future research could gather information from individuals in various locations of Pakistan who demonstrate emotional intelligence and adhere to servant leadership principles to provide insightful findings about psychological safety concerning the contribution of task interdependence for innovative behavior. Secondly, the study design was cross-sectional. Since a cross-sectional study design can only partially satisfy some of the conditions for causal inference between constructs, the current research falls short in convincing validation of the causal link between constructs. The variance inflation factor test was used in recent research to address this problem. Still, because it was a cross-sectional study, it was vulnerable to the difficult-to-eliminate common method bias issue. Data on the five variables of emotional intelligence, servant leadership, psychological safety, innovative behavior, and task interdependence were taken from employees' self-reports at a time. Future research should employ a longitudinal approach to lessen the detrimental effects of both

difficulties further, gathering information from numerous periods and sources.

Thirdly, results should be interpreted carefully because the study was done only in the high-stress IT industry, where servant leadership is likely to occur. Future research must consider other sectors too, by using the same study approach, which may yield different results after evaluation. Fourth, the sample size used in the current study was adequate. Still, there is always the possibility of using a bigger sample size in future studies to increase the generalizability of the findings. Fifthly, this research collected data from I.T employees having education of BS, Master, M.Phil, Ph.D., and other types of degrees; thus, future studies should analyze every section individually. Lastly, the current research used a questionnaire for data collection, but future research can use a qualitative approach (interviews) for the respondents' opinions.

Conclusion

Current research assumes that emotional intelligence and servant leadership pivots as an essential ancestor of psychological safety and task interdependence in the perspective of IT companies to augment innovative behavior which was previously unexplored. The study examined how emotional intelligence is closely related to servant leadership practices. The analytical findings revealed that servant leadership adequately explains the company's psychological safety environment, subsequently stimulating the employees' innovative behaviour.

The analytical findings revealed that servant leadership adequately explains the company's environment of psychological safety which subsequently stimulates the innovative behavior of the employees. Moreover, high task interdependence moderated the association among psychological safety and innovative behavior. This research contributes to the corpus of literature on the behavior of workers, by exploring new areas for scholars as well as benefits for companies in providing task interdependence from the leaders for the innovative progress of their employees.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s12144-023-04990-7.

Data Availability Data will be available on request.

References

Abbas, J., Kumari, K., & Al-Rahmi, W. M. (2021). Quality management system in higher education institutions and its impact on students' employability with the mediating effect of industry–academia collaboration. *Journal of Economic and Administrative Sciences*.

Ali, S. A., Hamilton, J. R., Tee, S. W., & Underdown, M. (2022). Sustainable competitive advantage in entrepreneurial software firms in Pakistan: Establishing a conceptual research framework.

Åmo, B. W., & Kolvereid, L. (2005). Organizational strategy, individual personality and innovation behavior. *Journal of Enterprising Culture, 13*(01), 7–19.

Ancillai, C., Sabatini, A., Gatti, M., & Perna, A. (2023). Digital technology and business model innovation: A systematic literature review and future research agenda. *Technological Forecasting and Social Change, 188*, 122307.

Anwar, G., & Abdullah, N. N. (2021). The impact of Human resource management practice on Organizational performance. *International journal of Engineering, Business and Management (IJEBM)*, *5*.

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood cliffs Prentice Hall.

Bani-Melhem, S., Zeffane, R., & Albaity, M. (2018). Determinants of employees' innovative behavior. *International Journal of Contemporary Hospitality Management*.

Bantha, T., & Sahni, S. P. (2021). The relation of servant leadership with followers' organizational citizenship behaviour (OCB): mediating role of generalized self-efficacy (GSE) and organization–based self-esteem (OBSE). *Industrial and Commercial Training*.

Barbuto, J. E., Jr., Gottfredson, R. K., & Searle, T. P. (2014). An examination of emotional intelligence as an antecedent of servant leadership. *Journal of Leadership & Organizational Studies, 21*(3), 315–323.

Bøe, T. (2016). The interaction effect of perceived competence and goal harmony on perceived usefulness. *Creative Education, 7*(08), 1136.

Brohi, N. A., Jantan, A. H., Sobia, A. M., & Pathan, T. G. (2018). Does servant leadership style induce positive organisational behaviors? A conceptual study of servant leadership, psychological capital, and intention to quit relationship. *Journal of International Business and Management, 1*(1), 1–11.

Brohi, N. A., Mehmood, S. A., Erri, M. A., Mushtaque, T., Shah, I. A., & Khuhro, M. A. (2021). Compassionate Leadership is Key to Success: Role of Servant Leadership Style in Predicting Employees Trust in Leadership, Psychological Safety, and Turnover Intention. *Ilkogretim Online, 20*(5), 5662–5672.

Broughel, J., & Thierer, A. D. (2019). Technological innovation and economic growth: A brief report on the evidence. *Mercatus Research Paper*.

Cao, F., & Zhang, H. (2020). Workplace friendship, psychological safety and innovative behavior in China: a moderated-mediation model. *Chinese Management Studies*.

Capodaglio, E. M. (2022). Participatory ergonomics for the reduction of musculoskeletal exposure of maintenance workers. *International Journal of Occupational Safety and Ergonomics, 28*(1), 376–386.

Cooper, A., & Petrides, K. V. (2010). A psychometric analysis of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue–SF) using item response theory. *Journal of Personality Assessment, 92*(5), 449–457.

Courtright, S. H., Thurgood, G. R., Stewart, G. L., & Pierotti, A. J. (2015). Structural interdependence in teams: An integrative framework and meta-analysis. *Journal of Applied Psychology, 100*(6), 1825.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Das, B. K., Jha, D. N., Sahu, S. K., Yadav, A. K., Raman, R. K., & Kartikeyan, M. (2023). Concept of Sampling Methodologies and Their Applications. In *Concept Building in Fisheries Data Analysis* (pp. 17–40). Springer.

De Felice, S., Hamilton, A. F. D. C., Ponari, M., & Vigliocco, G. (2023). Learning from others is good, with others is better: the role of social interaction in human acquisition of new knowledge. *Philosophical Transactions of the Royal Society B, 378*(1870), 20210357.

Dutta, S., & Khatri, P. (2017). Servant leadership and positive organizational behaviour: The road ahead to reduce employees' turnover intentions. *On the Horizon, 25*(1), 60–82.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350–383.

Edmondson, A. C., & Bransby, D. P. (2023). Psychological safety comes of age: Observed themes in an established literature. *Annual Review of Organizational Psychology and Organizational Behavior, 10*, 55–78.

Edmondson, A. C., & Lei, Z. (2014a). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 23–43.

Edmondson, A. C., & Lei, Z. (2014b). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annu. Rev. Organ. Psychol. Organ. Behav., 1*(1), 23–43.

Erkutlu, H., & Chafra, J. (2019). Leader psychopathy and organizational deviance: The mediating role of psychological safety and the moderating role of moral disengagement. *International Journal of Workplace Health Management*.

Eva, N., Sendjaya, S., Prajogo, D., & Madison, K. (2021). Does organizational structure render leadership unnecessary? Configurations of formalization and centralization as a substitute and neutralizer of servant leadership. *Journal of Business Research, 129*, 43–56.

Firmansyah, D., & Saepuloh, D. (2022). Social Learning Theory: Cognitive and Behavioral Approaches. *Jurnal Ilmiah Pendidikan Holistik (JIPH), 1*(3), 297–324.

Fischer, C., Malycha, C. P., & Schafmann, E. (2019). The influence of intrinsic motivation and synergistic extrinsic motivators on creativity and innovation. *Frontiers in Psychology, 10*, 137.

Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2017). Psychological safety: A meta-analytic review and extension. *Personnel Psychology, 70*(1), 113–165.

Gao, Z., Zhao, C., & Liu, Y. (2023). Fostering a salesperson's team identification: An investigation into the effects of leader-follower emotional intelligence congruence from a person–environment fit perspective. *Journal of Business Research, 158*, 113654.

Goo, W., Choi, Y., & Choi, W. (2022). Coworkers' organizational citizenship behaviors and employees' work attitudes: The moderating roles of perceptions of organizational politics and task interdependence. *Journal of Management & Organization, 28*(5), 1011–1035.

Grabner, I., Klein, A., & Speckbacher, G. (2022). *Managing the trade-off between autonomy and task interdependence in creative teams: The role of organizational-level cultural control* (p. 101347). Organizations and Society.

Guo, Y., Peng, Y., & Zhu, Y. (2022). How does empowering leadership motivate employee innovative behavior: A job characteristics perspective. *Current Psychology*, 1–11.

Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial management & data systems*.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In: Springer Nature.

Han, Z., Wang, Q., & Yan, X. (2019). How responsible leadership motivates employees to engage in organizational citizenship behavior for the environment: A double-mediation model. *Sustainability, 11*(3), 605.

Hoyle, R. H. (1999). *Statistical strategies for small sample research*. sage.

Janssen, O. (2005). The joint impact of perceived influence and supervisor supportiveness on employee innovative behaviour. *Journal of Occupational and Organizational Psychology, 78*(4), 573–579.

Javed, B., Naqvi, S. M. M. R., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2019). Impact of inclusive leadership on innovative work behavior: The role of psychological safety. *Journal of Management & Organization, 25*(1), 117–136.

Ji, Y., & Yoon, H. J. (2021). The effect of servant leadership on self-efficacy and innovative behaviour: Verification of the moderated mediating effect of vocational calling. *Administrative Sciences, 11*(2), 39.

Joo, B.-K. B., Yoon, S. K., & Galbraith, D. (2022). The effects of organizational trust and empowering leadership on group conflict: psychological safety as a mediator. *Organization Management Journal*(ahead-of-print).

Kamal, S. A., Shafiq, M., & Kakria, P. (2020). Investigating acceptance of telemedicine services through an extended technology acceptance model (TAM). *Technology in Society, 60*, 101212.

Khassawneh, O., Mohammad, T., & Momany, M. T. (2023). Perceived Overqualification and Job Outcomes: The Moderating Role of Manager Envy. *Sustainability, 15*(1), 84.

Kim, B.-J. (2020). Unstable jobs harm performance: The importance of psychological safety and organizational commitment in employees. *SAGE Open, 10*(2), 2158244020920617.

Kim, B.-J., Kim, M.-J., & Kim, T.-H. (2021). "The power of ethical leadership": The influence of corporate social responsibility on creativity, the mediating function of psychological safety, and the moderating role of ethical leadership. *International Journal of Environmental Research and Public Health, 18*(6), 2968.

Kumari, K., Abbas, J., Hwang, J., & Cioca, L. I. (2022). Does servant leadership promote emotional intelligence and organizational citizenship behavior among employees? *A Structural Analysis. Sustainability, 14*(9), 5231.

Lázaro, S. M., Del Barco, B. L., Polo-Del-Río, M. I., & Rasskin-Gutman, I. (2019). Predictive factors of task interdependence in the university context. *Sustainability, 12*(1), 1–11.

Lee, Y. H. (2019). Emotional intelligence, servant leadership, and development goal orientation in athletic directors. *Sport Management Review, 22*(3), 395–406.

Lin, C.-P. (2008). Clarifying the relationship between organizational citizenship behaviors, gender, and knowledge sharing in workplace organizations in Taiwan. *Journal of Business and Psychology, 22*(3), 241–250.

Littrell, B. (2022). A Biblical Model of Emotional Intelligence.

Liu, D., Jiang, K., Shalley, C. E., Keem, S., & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes, 137*, 236–263. https://doi.org/10.1016/j.obhdp.2016.08.001

Liu, H. Y. (2022). Moderating effects of task interdependence on interaction behaviours and creativity for nursing students on interdisciplinary teams. *Journal of Advanced Nursing, 78*(1), 131–141.

Liu, Y., & Keller, R. T. (2021). How Psychological Safety Impacts R&D Project Teams' Performance: In a psychologically safe workplace, R&D project teams perform better, more readily share knowledge and engage in organizational citizenship behavior, and are less likely to leave. *Research-Technology Management, 64*(2), 39–45.

Lorenzo, O., Kawalek, P., & Ramdani, B. (2012). Enterprise applications diffusion within organizations: A social learning perspective. *Information & Management, 49*(1), 47–57.

Lv, C., Shao, C., & Lee, C.-C. (2021). Green technology innovation and financial development: Do environmental regulation and innovation output matter? *Energy Economics, 98*, 105237.

Mahmoud, M. A., Ahmad, S. B., & Poespowidjojo, D. A. L. (2022). Validation of the psychological safety, psychological empowerment, intrapreneurial behaviour and individual performance measurements. *RAUSP Management Journal, 57*, 219–234.

Memon, M. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Journal of Applied Structural Equation Modeling.

Mia, M. M., Zayed, N. M., Islam, K. M. A., Nitsenko, V., Matusevych, T., & Mordous, I. (2022). The Strategy of Factors Influencing Learning Satisfaction Explored by First and Second-Order Structural Equation Modeling (SEM). *Inventions, 7*(3), 59.

Miao, C., Humphrey, R. H., & Qian, S. (2021). Emotional intelligence and servant leadership: A meta-analytic review. *Business Ethics, the Environment & Responsibility, 30*(2), 231–243.

Mohyi, A. (2020). The effect of emotional intelligence, organizational commitment and organizational citizenship behavior on employee performance. Journal of International Conference Proceedings (JICP),

Moroń, M., & Biolik-Moroń, M. (2021). Trait emotional intelligence and emotional experiences during the COVID-19 pandemic outbreak in Poland: A daily diary study. *Personality and Individual Differences, 168*, 110348.

Mukerjee, J., & Metiu, A. (2022). Play and psychological safety: An ethnography of innovative work. *Journal of product innovation management*.

Nauman, S., Bhatti, S. H., Imam, H., & Khan, M. S. (2022). How servant leadership drives project team performance through collaborative culture and knowledge sharing. *Project Management Journal, 53*(1), 17–32.

Nguyen, T.-M., Nham, P. T., & Hoang, V.-N. (2019). The theory of planned behavior and knowledge sharing: A systematic review and meta-analytic structural equation modelling. *VINE Journal of Information and Knowledge Management Systems, 49*(1), 76–94.

Okeke, A. (2019). Psychological Availability, Psychological Safety and Optimism as Predictors of Innovative Behavior among Workers. *International Journal of Psychological Research and Reviews, 2*, 16–16.

de Oliveira Sousa, S. R., da Silva, W. V., Kaczam, F., da Cruz, N. J. T., da Veiga, C. P., & Zanini, R. R. (2022). The relationship between socio-economic development, renewable energies and the innovative process. *International Journal of Energy Sector Management*.

Ou, Z., Chen, T., Li, F., & Tang, P. (2018). Constructive controversy and creative process engagement: The roles of positive conflict value, cognitive flexibility, and psychological safety. *Journal of Applied Social Psychology, 48*(2), 101–113.

Oztemel, E., & Gursev, S. (2020). Literature review of Industry 4.0 and related technologies. *Journal of Intelligent Manufacturing, 31*(1), 127–182.

Pratiwi, L. A., & Nawangsari, L. C. (2021). Organizational citizenship behavior while mediating self-efficacy, servant leadership and organization culture on employee performance. *European Journal of Business and Management Research, 6*(1), 225–231.

Raineri, A., & Valenzuela-Ibarra, S. (2022). The role of inter-team relational coordination in the high-performance work systems–team performance linkage. *The International Journal of Human Resource Management, 33*(18), 3662–3702.

Razvi, S., Butt, M., Maryam, M., Hashmi, S., & Mahmood, H. (2015). The Relationship Between Servant Leadership & Organizational Citizenship Behavior, The Mediating Role Of Emotional Intelligence. *Science International Lahore, 27*(3), 2405–2407.

Rosen, M. A., Diaz Granados, D., Dietz, A. S., Benishek, L. E., Thompson, D., Pronovost, P. J., & Weaver, S. J. (2018). Teamwork in health care: Key discoveries enabling safer, high-quality care. *American Psychologist, 73*(4), 433. https://doi.org/10.1037/amp0000298

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly, 15*(1), 33–53.

Shen, C., Yang, J., & Hu, S. (2020). Combined effect of abusive supervision and abusive supervision climate on employee creativity: A moderated mediation model. *Frontiers in Psychology, 11*(1175), 1–10. https://doi.org/10.3389/fpsyg.2020.01175

Stieler, M., & Henike, T. (2022). Innovation nudging—A novel approach to foster innovation engagement in an incumbent company. *Creativity and Innovation Management, 31*(1), 35–48.

Strode, D., Dingsøyr, T., & Lindsjorn, Y. (2022). A teamwork effectiveness model for agile software development. *Empirical Software Engineering, 27*(2), 56.

Sun, Y., & Qiu, Z. (2022). Positive Performance Feedback and Innovation Search: New Ideas for Sustainable Business Development. *Sustainability, 14*(4), 2086.

Süygün, M. S. (2021). The future of trade fairs after the COVID-19 pandemic. In *Impact of Global Issues on International Trade* (pp. 174–190). IGI Global.

Tepper, B. J. (2007). Abusive supervision in work organizations: Review synthesis, and research agenda. *Journal of Management, 33*(3), 261–289. https://doi.org/10.1177/0149206307300812

Ullah, M. S., Bano, S., Khan, N., & Jan, G. (2022). Servant Leadership As A Mediator Of The Relationship Between Emotional Intelligence And Job Performance. *Webology (ISSN: 1735–188X), 19*(2).

Ulusal, E., & Yüregir, O. (2022). A Decision Support System for Selecting Innovative Employee.

Umalihayati, U., Hardhienata, S., & Wulandari, D. (2022). How Does Innovative Behavior Mediating The Effect of Visionary Leadership, Learning Organization and Creativity On Lecturers' Performance? *Multicultural Education*, *8*(4).

Wafa, R., Khan, M. Q., Malik, F., Abdusalomov, A. B., Cho, Y. I., & Odarchenko, R. (2022). The Impact of Agile Methodology on Project Success, with a Moderating Role of Person's Job Fit in the IT Industry of Pakistan. *Applied Sciences, 12*(21), 10698.

Wang, Z., Li, M., Lu, J., & Cheng, X. (2022). Business Innovation based on artificial intelligence and Blockchain technology. *Information Processing & Management, 59*(1), 102759.

Wang, S. (2022). Workplace Friendship and Knowledge Hiding: A Moderated Mediation Model of Psychological Safety and Task Interdependence. *Forest Chemicals Review*, 1341–1356.

Winton, B. G. (2022). Emotional intelligence congruence: the influence of leader and follower emotional abilities on job satisfaction. *Leadership & Organization Development Journal*(ahead-of-print).

Wong, K.K.-K. (2016). Mediation analysis, categorical moderation analysis, and higher-order constructs modeling in Partial Least Squares Structural Equation Modeling (PLS-SEM): A B2B Example using SmartPLS. *Marketing Bulletin, 26*(1), 1–22.

Wong, S. I., & Van Gils, S. (2022). Initiated and received task interdependence and distributed team performance: The mediating roles of different forms of role clarity. *AI & Society, 37*(2), 781–790.

Ying, M., Faraz, N. A., Ahmed, F., & Raza, A. (2020). How does servant leadership foster employees' voluntary green behavior? A sequential mediation model. *International Journal of Environmental Research and Public Health, 17*(5), 1792.

Zhu, C., & Zhang, F. (2020). How does servant leadership fuel employee innovative behavior? A moderated mediation framework. *Asia Pacific Journal of Human Resources, 58*(3), 356–377.