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Empowering leadership and employee innovation: unraveling the roles of psychological empowerment and knowledge sharing

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Abstract

Purpose – This research aims to explore the interrelationships between empowering leadership (EL) and dimensions of innovative work behavior (idea generation, promotion and realization), psychological empowerment (PE) and knowledge sharing (KS). Furthermore, it explores the mediating role of PE and/or KS in the relationship between EL and dimensions of innovative work behavior.

Design/methodology/approach – The analytical framework was empirically validated using social exchange theory (SET). A comprehensive survey was conducted with 400 respondents in hospitals accredited by the General Authority for Healthcare Accreditation and Regulation (GAHAR) in Egypt.

Findings – The findings demonstrate the positive influence of EL on employees' PE, KS and innovative work behavior (IWB) while underscoring the beneficial influence of PE on KS and IWB. The results also reveal the mediating role of PE and KS in the association of EL with IWB. Furthermore, they indicate the ability of empowering leaders to enhance a supportive environment for interactive communication by promoting KS among team members, with respect to employees' PE.

Originality/value – This study attempts to fill a gap in the literature through the integration of the associations of EL, KS, PE, and IWB. Social exchange theory has been employed to examine how EL influences both PE and KS in order to predict IWB. Moreover, the study presents new perspectives on the mediating effects of PE and/or KS on EL and IWB within the Egyptian healthcare sector, potentially informing practical strategies in the field.

Keywords Empowering leadership, Knowledge sharing, Psychological empowerment, Idea generation, Idea promotion, Idea realization

Paper type Research paper

1. Introduction

Investing in health represents one of the most effective strategies for maximizing limited national resources. Failure to address current health problems proactively and innovatively will escalate them over time, placing an ever-increasing burden on both society and the economy.

Innovative behavior refers to the processes through which organizations generate and implement new ideas and develop efficient services. This field represents a vital area of study,

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necessitating several requirements; the most significant is the presence of empowered leaders who can support and encourage innovative work behavior (Sheffield, 2023). Given the complex nature of innovative behavior, Awan *et al.* (2023) explained that identifying the constituents of innovative behavior presents significant challenges, generating interest in contemporary leadership approaches, including empowering leadership. They noted the significance of this approach in fostering a culture of innovation through the active involvement of employees in their roles and in the decision-making process, since they represent the most essential element of the organization.

The influence of empowering leadership style, as a contemporary approach, is a significant topic that requires attention (Lee *et al.*, 2020). Researchers have investigated the effects of several leadership styles regarding innovative work behavior, including ethical, transformational, authentic, as well as servant leadership. The empowering leadership style is distinguished by its emphasis on cultivating individual independence and facilitating self-direction, rather than reliance on others, which is often observed in transformational leadership (Biemann *et al.*, 2015). Accordingly, the study conducted by Martin *et al.* (2013) examines various behaviors, such as demonstrating trust in employees, fostering their skills, eliminating bureaucratic barriers that impede efficient task completion, and promoting proactive actions. Consequently, this approach is expected to enhance employees' creative performance at work.

Martin *et al.* (2013) viewed the empowering leadership style as a behavior in which empowered leaders show respect for their subordinates, express appreciation and recognition for each employee's efforts, trust their abilities, and provide opportunities to share their ideas and participate in decision-making. Srivastava *et al.* (2006) demonstrated that leaders who adopt an empowering leadership style motivate employees to embrace risk-taking and explore new approaches. Although numerous studies provide research-based evidence supporting the positive influence of creativity on employees' innovative performance (Amundsen and Martinsen, 2015; Chang *et al.*, 2010), serving as a direct antecedent of creative work practices (Malloch, 2014), there has been limited research on how empowering leadership affects employees' innovative performance (Gkorezis, 2016). Furthermore, Afsar and Badir (2016) confirmed that psychological empowerment is required for empowered leadership to effectively function as a mediating factor.

Researchers, including Xue *et al.* (2011), also revealed that empowering leadership positively influences knowledge sharing within organizations. Srivastava *et al.* (2006) defined knowledge sharing as the exchange of ideas, information, and task-relevant suggestions among team members. Xue *et al.* (2011) indicated a positive correlation between EL and employees' willingness to exchange knowledge within the organization. Additionally, Radaelli *et al.* (2014) elaborated that KS contributes to IWB through fostering a more thorough understanding of knowledge and guiding its utilization toward innovative processes. Although EL and KS complement IWB (Wu and Lee, 2017), the complementary impact of these factors on IWB remains unexplored.

Several studies have addressed the factors influencing innovative work behavior and have indicated the importance of exploring the impact of empowering leadership on innovative work behavior, as EL reduces bureaucracy, provides autonomy for employees and encourages them to participate in decision-making (Jabid *et al.*, 2023). However, few studies have investigated the role of empowering leadership in promoting innovative work behavior in the healthcare sector. By creating innovative work performance as a three-dimensional concept, we can better understand the interaction between empowering leadership and innovative work behavior, which has not been tested in many studies such as those (Jabid *et al.*, 2023; Rao Jada *et al.*, 2019). In addition, the proposed research model is one of the models that previous studies have not tested and covers the research gap in the literature regarding measuring interactive relationships, as most studies have addressed measuring only direct relationships between research variables. One of the biggest concerns of the current research is studying the indirect effect of psychological empowerment and/or knowledge sharing on the relationship between empowering leadership and dimensions of innovative work behavior.

2. Theoretical background and hypotheses development

2.1 Social exchange theory (SET)

Social exchange theory (SET) posits a mutual relationship in which support is exchanged between parties with the expectation of gaining benefits subsequently (Cho *et al*., 2021). Moreover, it elucidates the dynamics of interactions among individuals within organizations (van Tonder *et al*., 2020). Accordingly, Zhang and Liu (2022) suggested that organizations serve as intricate systems of continuous, reciprocal exchanges. Social exchange theory includes two main components: social rewards and utilitarianism, where all involved parties mutually benefit (Luo *et al*., 2021). This process consists of two stages: the first occurs when one party initiates an action through presenting something to the other, while the second occurs when the recipient is likely to reciprocate, as the exchange relies on the reciprocal principles (Blau, 1964). Based on SET, leaders demonstrate commitment to enhancing their subordinates' empowerment through offering autonomy, creating conductive working conditions, providing motivational support, and promoting goal orientation.

2.2 Influence of empowering leadership (EL) on psychological empowerment (PE)

Empowering leadership, the primary emphasis of this study, is essential in influencing employee creativity and innovation, demonstrating a greater impact than other leadership styles. Dahleez *et al*. (2022) described this approach as a method in which leaders exercise and delegate authority to their subordinates. According to Lee *et al*. (2019), an empowering leader possesses various primary traits, including a tendency for participative decision-making, a considerable concern for the well-being of subordinates, a willingness to share information with employees, and the ability to serve as a role model.

With regard to the literature related to EL and PE, this topic has obtained significant attention from researchers. Islam *et al*. (2016) examined psychological empowerment as the employee's psychological state that determines whether an appropriate level of PE is perceived in the workplace. In contrast, Joo *et al*. (2022) explained that PE results from activities performed by leaders to enhance employee independence, ultimately leading to the promotion of employees' perception of empowerment. Kim and Beehr (2017) concluded that employees experience greater psychological empowerment when leaders exhibit empowering behaviors through encouraging them to take independent initiatives and seek additional opportunities. Zhang and Bartol (2010) observed the positive effects of PE on job performance. The study also indicated a positive correlation of self-determination with PE in relation to job performance, while the effect of PE on job performance relies on the degree to which employees view empowerment as part of their identity. The results of Alotaibi *et al*. (2020) supported this conclusion, as they indicated that EL positively affects both PE and work engagement. Bowen and Lawler (1992) noted that the PE is a significant condition and prerequisite for the success of empowering leadership initiatives. The study of Özaralli (2015) found that empowering leadership positively affects the PE of employees; moreover, Amundsen and Martinsen (2015) supported this result, indicating that empowering leadership is more influential than the transformational leadership style in enhancing psychological empowerment among employees in the work environment. Furthermore, employees experience elevated levels of empowerment when their leaders encourage independence and self-development (Albrecht and Andreetta, 2011). As a result,

H1. Empowering leadership has a significant positive influence on psychological empowerment.

2.3 Influence of empowering leadership on knowledge sharing

Knowledge sharing serves as a crucial mechanism for facilitating the exchange of information and experiences among organizational members (AlQudah *et al*., 2023). According to Ipe (2003), knowledge sharing encompasses the comprehension, assimilation, and application of

knowledge from one individual to another. Accordingly, Zheng *et al*. (2017) outlined four fundamental attributes of knowledge sharing: (1) it exists at the individual level, (2) it represents a behavior that is both voluntary and proactive, (3) it is influenced by organizational systems, processes, and environments, and (4) its outcome is demonstrated through interaction of a minimum of two parties. Studies investigating the impact of leadership on elevating positive employee outcomes have received considerable attention from scholars (Khan *et al*., 2023; Wu and Lee, 2017). Multiple studies have demonstrated the contribution of servant leadership to the development of internal social capital (Zoghbi-Manrique de Lara and Ruiz-Palomino *et al*., 2019) and innovative performance (Ruiz-Palomino *et al*., 2021). Conversely, EL, the primary focus of the current study, is more influential in promoting creativity and innovation of employees than other leadership styles (Lee *et al*., 2020). In this regard, EL is a strategic approach whereby leaders can utilize and entrust authority to their team members (Dahleez *et al*., 2022). Moreover, various characteristics are displayed by leaders who embrace an empowering leadership style, including a tendency to engage in the decision-making process, a strong concern for their subordinates, the exchange of information with employees, as well as acting as role models (Lee *et al*., 2019). Therefore,

H2. Empowering leadership has a significant positive influence on knowledge sharing.

2.4 Influence of psychological empowerment on knowledge sharing

Meyerson and Kline (2008) found that PE significantly affects the emotional and psychological association between a company and its employees, primarily through establishing trust. Huang (2012) also indicated that employees interpret empowering behaviors as social rewards that can create an open communication environment, facilitating information exchange. Employees benefit from job autonomy, as it enables them to positively influence their work environment. This approach motivates and supports employees on their way to contributing their expertise, continuously searching for new knowledge, and applying it effectively. Masood *et al*. (2023) regarded empowerment as primarily focusing on sharing information and knowledge across different parties due to their increasing trust. Khatoon *et al*. (2024) supported this view, explaining that knowledge sharing resulting from high levels of empowerment may contribute to problem-solving. According to Barachini (2009), empowerment is considered a cognitive stimulant that enriches knowledge, leading psychologically empowered employees to participate effectively in organizational decision-making. Moreover, Spreitzer *et al*. (2017) confirmed that employees experiencing psychological empowerment and possessing knowledge demonstrate strong confidence in performing their job responsibilities. This indicates that PE motivates employees to actively participate in facilitating change and enables them to share their knowledge. Accordingly,

H3. Psychological empowerment has a significant positive influence on knowledge sharing.

2.5 Influence of psychological empowerment on innovative work behavior

De Jong and Den Hartog (2010) identified innovative work behavior as a form of planned creativity that benefits the performance of a job, team, or organization. Innovative work behavior involves three basic activities: idea generation, which involves the development of new concepts; idea promotion, referring to the acquisition of external resources; and idea application, which comprises the creation of a prototype, all contributing to innovations across services, products, as well as organizational processes. Ghosh *et al*. (2019) identified a strong correlation between employees' readiness for innovative work behavior and their perception of empowerment. Bin Saeed *et al*. (2019) highlighted the significance of psychological empowerment in fostering employees' engagement in innovative work. Wei and He (2022) contended that establishing a collaborative work environment creates appreciation among employees and positively affects their psychological empowerment, consequently promoting

IWB. In addition, Bantha and Nayak (2021) noted that the potential of employees to encounter IWB increases with the enhancement of their capability to develop and exchange innovative concepts. Correspondingly, Javad *et al*. (2019) indicated that the perceived value of their work elevates the level of their motivation and orientation toward generating more innovative ideas. Yang *et al*. (2019) revealed that psychological empowerment serves as a positive mediator in the association between different leadership styles and creativity of employees. Moreover, Nasir and Suryani (2019) supported this result and confirmed that psychological empowerment positively affects IWB. Consequently,

H4. Psychological empowerment has a significant positive influence on innovative work behavior.

H4a. Psychological empowerment has a significant positive influence on idea generation.

H4b. Psychological empowerment has a significant positive influence on idea promotion.

H4c. Psychological empowerment has a significant positive influence on idea realization.

2.6 Influence of knowledge sharing on innovative work behavior

Individuals participating in innovative work behavior, as concluded by Quintane *et al*. (2011), must consistently manage knowledge, especially the process of reassembling, interpreting, and disseminating tacit knowledge. The generation of ideas is a process of knowledge-creation that involves the recombination of internal and external knowledge into new configurations (Popadiuk and Choo, 2006). In the phase of idea promotion, Caniëls *et al*. (2014) confirmed that individuals must not only convey the information related to the proposed innovation but interpret this content into a comprehendible form as well. Whereas during the phase of idea implementation, individuals collaborate, combining various types of knowledge with others in order to facilitate continuous innovation (Tucker *et al*., 2007). Individuals involved in knowledge sharing must develop, reconstruct, and interpret tacit knowledge, which include conveying information related to task, processing knowledge, and providing feedback on various aspects (Bock *et al*., 2005). Individuals' engagement in knowledge sharing exceeds simply conveying information, as it involves developing, integrating, and modifying it into a comprehendible form, relevant to their recipients (Hansen *et al*., 2005). Through this process, knowledge participants improve their innovative capabilities by thoroughly evaluating their knowledge and its applicability to current practices and organizations. This approach facilitates a rapid identification of opportunities for transformation, leading to the restructuring of knowledge for new applications, disseminating it throughout the organization, and executing the process correctly. Through established research in cognitive psychology, Slavin (1996) supported the preceding arguments, indicating that learners must engage in cognitive restructuring to retain new information and connect it to their existing knowledge. Islam *et al*. (2024a) indicated that the exchange of knowledge positively influences employees' innovative behavior. The exchange of knowledge offers chances for employees to obtain unconventional ideas and solutions from their colleagues and become more innovative.

The process of knowledge sharing activates cognitive elaboration and re-elaboration, aiding individuals in the acquisition of a more profound comprehension of their current knowledge framework and relating it to their prior understanding in order to foster innovation. Furthermore, it is essential for fostering employee creativity, as it enables the sharing of information and improves communication and interaction among employees (Zaman *et al*., 2021). It is also recognized as a significant social asset, expected to substantially impact the future success of organizations, enabling them to operate efficiently (Ye *et al*., 2022). Moreover, knowledge sharing provides each employee with the opportunity to acquire knowledge while gathering and disseminating information through communication and collaboration with one another. Accordingly,

H5. Knowledge sharing has a significant positive influence on innovative work behavior.

H5a. Knowledge sharing has a significant positive influence on idea generation.

H5b. Knowledge sharing has a significant positive influence on idea promotion.

H5c. Knowledge sharing has a significant positive influence on idea realization.

2.7 Influence of empowering leadership on innovative work behavior

The present study utilizes social exchange theory, as developed by Blau (1964), to highlight the positive influence of empowering leadership on followers' intentions to generate, introduce, and implement innovative ideas within the workplace, a concept technically identified as employee innovative work behavior (Janssen, 2000). Furthermore, the flexibility offered by empowering leaders stimulates organizational exploration, thereby constructing a solid basis for fostering innovation within the team (Gkorezis, 2016). Previous studies, as those conducted by Lorinkova *et al.* (2013) and Gyu Park *et al.* (2017), concluded that empowered employees exhibit elevated degrees of psychological empowerment. Moreover, they positively impact innovative work practices (Afsar *et al.*, 2014). Such empowered employees consider their tasks valuable and are consequently motivated to develop creative solutions (Choi *et al.*, 2016). Furthermore, participatory decision-making, which is considered a primary factor in empowering leadership, has been confirmed to positively influence organizational creativity (Amabile *et al.*, 2004), as it motivates collaborative problem-solving among employees. Accordingly, the importance of social exchange theory can be recognized through leaders' specific actions, including rewarding and supporting employees, consequently assisting them to shape innovative behavior, share knowledge, and contribute to determining positive outcomes for organizations (Rao Jada *et al.*, 2019; Joo *et al.*, 2022; Singh, 2023). Thus,

H6. Empowering leadership has a significant positive influence on innovative work behavior.

H6a. Empowering leadership has a significant positive influence on idea generation.

H6b. Empowering leadership has a significant positive influence on idea promotion.

H6c. Empowering leadership has a significant positive influence on idea realization.

2.8 The role of psychological empowerment as a mediator in the relationship between empowering leadership and innovative work behavior

Li *et al.* (2016) recognized empowering leadership as essential for the development of organizational change behavior, emphasizing the significance of power-sharing and decision-making autonomy. Van Knippenberg *et al.* (2021) indicated that empowering leaders support employees and provide them with high psychological empowerment. Mohammed and Al-abrrow (2024) suggested that empowering leadership may effectively impact innovative work behavior through psychological empowerment. Similarly, Chang *et al.* (2010) observed the partial mediating role of PE in the relationship between EL and organizational commitment concerning Chinese healthcare organizations. Zhang and Liu (2022) added that employees' sense of psychological empowerment encourages them to be more innovative, autonomous, and proactive than reactive. In addition, employees' psychological empowerment enhances job satisfaction, contributes to their well-being, and directs them toward innovative work behavior. Likewise, Abukhait *et al.* (2019) confirmed that psychological empowerment positively influences innovative work

behavior, enhances employees' latent energy, facilitates the implementation of new ideas, and aids organizations in achieving competitive advantages. Moreover, Kundu *et al.* (2019) added that leaders significantly participate in employees' optimism toward successfully performing their job duties and reducing their intention to resign. Although several studies, including that by Demircioglu (2018), have revealed the positive effect of empowering leadership on the innovative work behavior of employees, many researchers have emphasized the positive mediating influence of PE regarding the association of EL with IWB (Guo *et al.*, 2022). Leadership can improve employees' psychological well-being by making them feel valued, supported, and satisfied in their work environment (Islam *et al.*, 2024b). Thus, empowering leadership improves psychological empowerment in individuals by enhancing the sense of self-efficacy, autonomy, and influence, which leads to enhancing innovative work behavior. Individuals who feel that they can control and make decisions about their work are more willing to generate new ideas, promote them within the organization, and work to realize them and transform them into practical results. Therefore,

H7. Psychological empowerment mediates the positive impact of empowering leadership on innovative work behavior.

H7a. Psychological empowerment mediates the positive impact of empowering leadership on idea generation.

H7b. Psychological empowerment mediates the positive impact of empowering leadership on idea promotion.

H7c. Psychological empowerment mediates the positive impact of empowering leadership on idea realization.

2.9 The role of knowledge sharing as a mediator in the relationship between empowering leadership and innovative work behavior

Knowledge sharing has been recognized as a fundamental factor for positive outcomes, including innovative behavior (Abukhait *et al.*, 2019). Within an organization, the process of KS assists in the development of employees' creativity and innovation (Ha and Wickramaratne, 2021). According to social exchange theory, collaboration among employees is established on norms of reciprocity, where employees acquiring knowledge consider its significance. Consequently, Noerchoidah Eliyana *et al.* (2020) confirmed that a persistent exchange of knowledge and learning results in the development of innovative behavior. Islam *et al.* (2024c) demonstrated that promoting organizations to curiosity enhances innovation and generates a sustainable competitive advantage. In addition, the study focused on supporting people who have curiosity due to their desire to explore new phenomena and obtain knowledge and share knowledge, and this is achieved through informal training, support for collaboration, and offering feedback that leads to enriching knowledge in organizations.

Moreover, KS is perceived to be influenced by current leadership strategies within an organization (Cui and Yu, 2021). The literature indicates the presence of a positive impact of EL on KS (Xue *et al.*, 2011; Wu and Lee, 2017). On the contrary, KS has been regarded as a crucial prerequisite for collaborative work behavior (Radaelli *et al.*, 2014). Consequently, this study analyzes the mediating influence of KS regarding the relationship between EL and IWB. This perspective is based on the concept that EL promotes the process of KS, encouraging employees to differently assess their existing challenges (Choi *et al.*, 2016). The autonomy proposed by empowering leaders generates confidence among employees, consequently promoting the development of innovative ideas and creative solutions (Wu and Lee, 2017). This confidence, as confirmed by Choi *et al.* (2016), consolidates employees' shared vision,

thus facilitating the sharing of knowledge and the development of inventive solutions. Xue *et al*. (2011) demonstrated that followers of EL approach perceive themselves as significant contributors to the process of decision-making, which motivates them to exchange knowledge, consequently leading to a further improvement of IWB (Radaelli *et al*., 2014). Empowering leadership motivates individuals to participate in knowledge sharing by providing a work environment that encourages collaboration and openness. This knowledge sharing stimulates innovative work behavior as individuals can access new ideas, pool knowledge resources, generate new ideas, promote them in the organizational environment, and realize them by taking advantage of challenges and shared knowledge. Thus,

H8. Knowledge sharing mediates the positive impact of empowering leadership on innovative work behavior.

H8a. Knowledge sharing mediates the positive impact of empowering leadership on idea generation.

H8b. Knowledge sharing mediates the positive impact of empowering leadership on idea promotion.

H8c. Knowledge sharing mediates the positive impact of empowering leadership on idea realization.

2.10 The roles of PE and KS as mediators in the relationship between EL and IWB

Empowering leadership has emerged as a distinctive approach that generates a competitive advantage for organizations by promoting innovative work behavior (Arnold *et al*., 2000). Ahearne *et al*. (2005) defined empowering leadership as a style composed of four elements based on actions that enhance the significance of work, facilitate participation in the decision-making process, instill confidence in employees' ability to achieve high performance, and provide independence from bureaucratic constraints and slow-paced work processes. Similarly, Bowen and Lawler (1992) explained that the enhancement of work significance is influenced by empowering leadership, as it instills in employees a sense of the value of their tasks. With respect to psychological empowerment, this study primarily investigates the psychological state of employees, indicating that an increase in the level of empowerment signifies an increase in knowledge sharing between managers and employees. Therefore, employees are provided the necessary resources for further participation in work-related decision-making. In addition, Barachini (2009) emphasized that psychological empowerment is the basis of innovation; it can be viewed as a vital cognitive mechanism that directs individuals to engage in knowledge-sharing behaviors and enhance organizational creativity. Xue *et al*. (2011) explained that psychological empowerment is a key aspect of work; employees must have sufficient, up-to-date, and essential information to justify their job decisions.

Moreover, Kang *et al*. (2017) identified a significant outcome, suggesting that psychologically empowered employees are more inclined to share their knowledge with others. Empowered individuals also tend to develop their level of self-confidence. Wong (2005) added that if employees are psychologically empowered, they will realize they have greater freedom to inquire about different aspects, make suggestions about current organizational processes, and explore new ideas and approaches. Rao Jada *et al*. (2019) concluded that knowledge sharing is crucial for promoting innovation, and emphasized that experiences gained from past events can provide novel solutions and opportunities. Thus, psychological empowerment and knowledge sharing mediate the relationship between empowering leadership and innovative work behavior. Empowering leadership enhances individuals' sense of decision-making ability (psychological empowerment). It encourages knowledge sharing within the organization, which contributes to stimulating innovative work behavior through idea generation, promotion, and realization.

H9. Psychological empowerment and knowledge sharing serve as mediators in the positive influence of empowering leadership on innovative work behavior.

H9a. Psychological empowerment and knowledge sharing serve as mediators in the positive influence of empowering leadership on idea generation.

H9b. Psychological empowerment and knowledge sharing serve as mediators in the positive influence of empowering leadership on idea promotion.

H9c. Psychological empowerment and knowledge sharing serve as mediators in the positive influence of empowering leadership on idea realization.

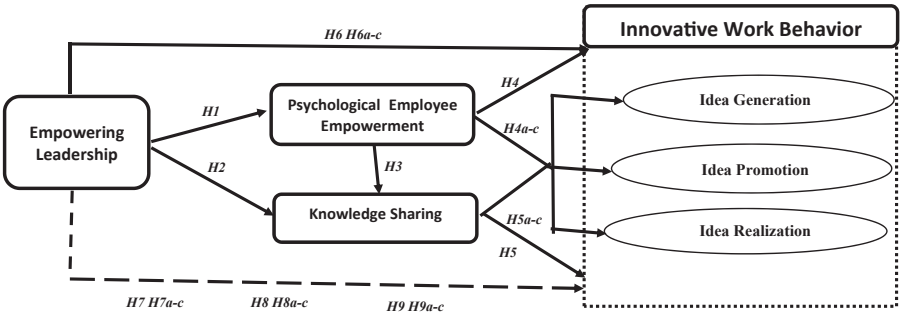
Based on this development, the research framework is constructed, as shown in Figure 1. EL is an independent variable for PE, KS, and IWB. In addition, PE and/or KS mediate the relationship between EL and IWB.

3. Research methodology

3.1 Design, population, and sampling procedures

This study employed a quantitative approach and cross-sectional design to gather data. The goal was to explore how psychological empowerment and/or knowledge sharing mediate the relationship between empowering leadership and innovative work behavior. All healthcare workers in hospitals accredited by the General Authority for Accreditation and Healthcare Supervision (GAHAR) were included, ensuring a broad representation of the healthcare sector. GAHAR is responsible for governing and regulating the health sector to ensure its safety, stability, development, and quality improvement, in addition to continuously improving the quality of medical services in Egypt and controlling and regulating the medical sector according to quality standards. Data were gathered from hospitals accredited by GAHAR to provide the inclusion of high-quality medical staff, as non-accredited facilities may not meet these standards (Ramani, 2013). Additionally, less skilled staff in non-accredited hospitals might face difficulties understanding the questionnaire. The study was conducted on accredited hospitals within Cairo Governorate, which includes 14 hospitals and represents 38% of the total accredited hospitals.

The study population is limited to healthcare workers, and the Ministry of Health has defined these workers as physicians, dentists, pharmacists, and nursing staff (Annual Report of the Egyptian Ministry of Health, 2023). The questionnaire was relied upon to collect the necessary data to test the hypotheses. After obtaining permission from the hospital



Source(s): Authors' own work

Figure 1. Research framework

administration to collect data, printed questionnaires were randomly distributed with the help of the hospital's human resources department among 400 employees. Prior to distribution, participants were informed about the purpose of the study. The respondents were emphasized that their identity and confidentiality were not disclosed, and none of them was asked about the data represented in their name, their means of contacting them, or their e-mail address. The sample was randomly chosen as the study (Mohammed and Al-abrrow, 2024) was adopted, and the data collection period was about 70 days.

The sample size was defined using the following statistical equations (Nanjundeswaraswamy and Divakar, 2021):

$$n = \left(\frac{\left(z_{\alpha/2}\right)^2 (p)(1-p)}{(d)^2} \right)$$

Where that:

$Z_{\alpha/2}$ = value for selected alpha level of 0.025 in each tail = 1.96.

(*p*) (q) = estimate of variance = 0.25.

d = acceptable margin of error for proportion being estimated = 0.05.

$n = \left(\frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} \right) = 384$

Considering a 10% invalid response rate, the sample size was equal to 423 in the current study. A total of 426 questionnaires were collected, and after excluding 26 invalid questionnaires, 400 valid questionnaires were included in the final analysis (validity rate 93.8%). Table 1 demonstrates that 55.5% of the respondents were identified as males, whereas 44.5% were recognized as females. Concerning the age of participants, 43.5% were between 20 and 35. In addition, 50.5% fell within the age range of 36–50, and 6% were older than 50. Regarding job experience, 26.5% had experience of less than five years, whereas around half of the sample had experience between 5 and 10 years.

3.2 Measurement scales

Standardized scales were utilized – all anchored on a five-point Likert scale. The 12-item scale for empowering leadership was adapted from Zhang and Bartol (2010), while the 8-item

Table 1. Sample characteristics

Category	Characteristics	Category	%
Gender	Male	222	55.5
	Female	178	44.5
Age	20–35 years	174	43.5
	Between 36–50 years	202	50.5
	Above 50 years	24	6
Education level	Diploma	67	16.75
	Graduate	241	60.25
	Postgraduate	92	23
Job title	Physicians	167	41.75
	Dentists	72	18
	Pharmacists	64	16
	Registered Nurses	97	24.25
Experience level	Less than 5 years	106	26.5
	5–10 years	226	56.5
	Above 10 years	68	17

Source(s): Authors' own work

knowledge sharing scale was derived from Lu *et al*. (2006). Psychological empowerment was measured using Spreitzer's (1995) scale, which involves four subscales: meaning, competence, autonomy, and impact, each containing three items. The innovative work behavior scale, developed by Janssen (2000), included three subscales as follow: idea generation, idea promotion, and idea realization, with three items in each subscale.

4. Data analysis

4.1 Instrument validation

The measurement model demonstrated good fit indices ($\chi^2(512) = 2.364$; $p = 0.000$; GFI = 0.904; CFI = 0.917; TLI = 0.897; RMSEA = 0.067; SRMR = 0.0381), indicating a satisfactory fit to the data. Convergent validity was assessed using the criteria proposed by Fornell and Larcker (1981) and Janssens *et al*. (2008). As presented in Table 2, all factor loadings were equal to or exceeded 0.5, ranging from 0.533 to 0.877, and were statistically significant ($p < 0.001$), with values ranging from 9.908 to 20.278. Composite reliability (CR) for all constructs was above 0.7, and the Average Variance Extracted (AVE) exceeded the recommended threshold of 0.5, confirming acceptable convergent validity (see Tables 2 and 3). Additionally, Table 3 provides evidence of discriminant validity across all variables.

4.2 Direct effects

Table 4 presents the empirical testing results of the direct effects of EL, EPE, and KS on IWB and its dimensions.

Direct effects of EL construct. The results indicate that EL has a significant impact on employee PE ($\beta = 0.783$, $p < 0.001$), knowledge sharing ($\beta = 0.545$, $p < 0.001$), and IWB ($\beta = 0.2088$ $p < 0.001$). These findings provide strong support for hypotheses H1, H2, and H6, indicating that empowering leadership positively affects employee PE, KS, and IWB. Specifically, EL significantly influences idea generation ($\beta = 0.327$, $p < 0.001$), idea promotion ($\beta = 0.177$, $p < 0.05$), and idea realization ($\beta = 0.360$ $p < 0.001$). These findings support H6a, H6b, and H6c, indicating that empowering leadership positively affects idea generation, idea promotion, and idea realization, as dimensions of the IWB construct.

Direct effects of PE construct. The results demonstrate that employee PE has a significant impact on KS ($\beta = 0.480$, $p < 0.001$) and IWB ($\beta = 0.562$, $p < 0.001$). These findings support H3 and H4, suggesting that employee PE significantly influences KS and IWB. Specifically, employee PE significantly influences idea generation ($\beta = 0.536$, $p < 0.001$), idea promotion ($\beta = 0.560$, $p < 0.001$), and idea realization ($\beta = 0.590$ $p < 0.001$). These findings support H4a, H4b, and H4c, indicating that employee PE positively affects idea generation, idea promotion, and idea realization as dimensions of the IWB construct.

Direct effects of KS. Empirical results show that knowledge sharing significantly influences innovative work behavior ($\beta = 0.142$, $p < 0.001$). This finding supports H5, demonstrating that higher knowledge sharing influences innovative work behavior. Specifically, knowledge sharing significantly influences idea generation ($\beta = 0.110$, $p < 0.05$) and idea promotion ($\beta = 0.222$, $p < 0.001$). In contrast, knowledge sharing demonstrated no significant impact on idea realization ($\beta = 0.094$ $p > 0.05$). These findings strongly support H5a and H5b, signifying the positive impact of KS on idea generation and idea promotion, but not idea realization (H5c), as dimensions of the IWB construct. In summary, the empirical results confirm the validity of H1, H2, H3, H4, H5, and H6, along with their sub-hypotheses, but do not support H5c.

4.3 Mediating effects

The current study tested three mediating relationships in hypotheses (H7, H8, and H9, and their sub-hypotheses a-c) through Hayes's PROCESS macro (models 4 and 6). For H7, the indirect effect of empowering leadership on innovative work behavior through employee

Table 2. Summary of model fit

Construct	Mean	SD	Standzd loadings	*t*-value
KS				
I proactively share my work-related knowledge with colleagues in my daily tasks	3.713	0.964	0.672	14.867
I tend to keep my work experiences to myself and do not easily share them with others			0.831	
I offer useful work experiences to my peers			0.818	19.606
Once I acquire new knowledge that is beneficial for work, I promote it to help others learn			0.837	20.278
EL				
My manager facilitates comprehension of my objectives' alignment with organizational goals	3.835	0.790	0.533	9.908
clarifies the significance of my role in the company's overall effectiveness			0.651	
assists me in seeing how my job contributes to the broader organizational context			0.793	13.978
collaborates with me on many decisions			0.650	11.827
frequently seeks my input on strategic decisions			0.760	13.496
values my opinion on matters that impact me			0.731	13.070
has confidence in my ability to manage challenging tasks			0.805	14.143
believes in my capacity for improvement, even when I make mistakes			0.566	10.462
shows confidence in my ability to achieve high performance			0.687	12.401
allows me to approach my work in my own way			0.835	14.556
simplifies rules and regulations to make my job easier to perform			0.839	14.619
empowers me to make swift decisions to meet customer needs			0.740	13.205
EPE				
I feel that I have a considerable impact on what occurs in my department	3.776	0.906	0.753	14.320
I possess substantial control over the happenings in my department			0.855	16.114
I have ample opportunities for independence and flexibility in how I execute my job			0.736	14.009
I have mastered the skills necessary for my job			0.688	
I am confident in my abilities to carry out my work tasks			0.877	16.490
I have a strong belief in my capacity to perform my job effectively			0.846	16.071
The work I do holds significant importance to me			0.853	16.041
The tasks I perform in my job are personally meaningful to me			0.838	15.814
The work I engage in feels meaningful to me			0.774	14.688
IWB				
IG				
I develop new ideas to address challenging problems	3.581	0.925	0.643	14.392
I seek out new methods, techniques, or tools for working			0.857	
I create original solutions to various issues			0.883	23.572
IP				
I garner support for innovative ideas	3.701	0.931	0.886	23.620
I obtain approval for new and innovative concepts			0.845	
I inspire key members of the organization to embrace innovative ideas			0.587	12.847
IR				
I convert innovative ideas into practical applications	3.659	1.026	0.750	18.345
I systematically introduce innovative concepts into the work environment			0.884	
I assess the effectiveness of innovative ideas			0.849	22.763

Source(s): Authors' own work

Table 3. Summary of discriminant validity results

	AVE	CR	Cronbach's alpha	EPE	KS	EL	IP	IR	IG
EPE	0.647	0.943	0.865	*0.805*					
KS	0.628	0.870	0.870	0.716	*0.792*				
EL	0.522	0.928	0.869	0.719	0.708	*0.722*			
IP	0.615	0.823	0.868	0.765	0.715	0.729	*0.784*		
IR	0.688	0.868	0.872	0.717	0.674	0.689	0.715	*0.830*	
IG	0.643	0.841	0.868	0.734	0.691	0.714	0.759	0.655	*0.802*

Note(s): Employee Psychological Empowerment (EPE), Knowledge Sharing (KS), Empowering Leadership (EL) Idea Promotion (IP), Idea Realization (IR) and Idea Generation (IG)
Source(s): Authors' own work

Table 4. Summary of hypotheses testing results (Direct effect)

Hypotheses	Path coefficient	*t*-value
(H1) EL → EPE	0.783	(22.282)***
(H2) EL → KS	0.545	(9.080)***
(H6) EL → IWB	0.288	(6.867)***
(H6a) EL → IG	0.327	(5.434)***
(H6b) EL → IP	0.177	(2.981)**
(H6c) EL → IR	0.360	(4.891)***
(H3) EPE → KS	0.480	(9.165)***
(H4) EPE → IWB	0.562	(15.349)***
(H4a) EPE → IG	0.536	(10.191)***
(H4b) EPE → IP	0.560	(10.790)***
(H4c) EPE → IR	0.590	(9.195)***
(H5) KS → IWB	0.142	(4.447)***
(H5a) KS → IG	0.110	(2.395)**
(H5b) KS → IP	0.222	(4.899)***
(H5c) KS → IR	0.094	(1.1686)†

Note(s): *** $p < 0.01$. ** $p < 0.05$. † Not significant
Source(s): Authors' own work

psychological empowerment was examined and the significance was supported ($\beta = 0.553$, $p < 0.05$). The bootstrap analysis produced a confidence interval of (0.442, 0.671) for the indirect effect, which excludes zero, thereby confirming the hypothesis. Even when considering employee psychological empowerment, the direct relationship between empowering leadership (EL) and innovative work behavior (IWB) remains significant ($\beta = 0.288$, $p < 0.05$), with a bootstrap confidence interval of (0.206, 0.370), also excluding zero, indicating partial mediation. For H7a-c, Table 5 presents evidence of partial mediation by employee psychological empowerment in the relationships between empowering leadership and the dimensions of IWB (idea generation ($\beta = 0.527$, $p < 0.05$), idea promotion ($\beta = 0.551$, $p < 0.05$), and idea realization ($\beta = 0.581$, $p < 0.05$)), since the direct relationships between empowering leadership and innovative work behavior's dimensions remain significant ($\beta = 0.327$, $p < 0.05$), ($\beta = 0.177$, $p < 0.05$), and ($\beta = 0.360$, $p < 0.05$) respectively. As a result, H7a, H7b, and H7c are supported.

For H8, the indirect effect of empowering leadership on innovative work behavior through knowledge sharing was examined and the significance was supported ($\beta = 0.077$, $p < 0.05$). The confidence interval for the indirect effect obtained through bootstrap analysis was (0.038,

Table 5. Summary of hypotheses testing results (mediating effect)

Hypotheses	Direct effect	Bootstrap LLCI	ULCI	Indirect effect	Bootstrap LLCI	ULCI
H7 EL → EPE → IWB	0.288**	0.206	0.370	0.553**	0.442	0.671
H7(a) EL → EPE → IG	0.327**	0.209	0.445	0.527**	0.379	0.675
H7(b) EL → EPE → IP	0.177**	0.060	0.294	0.551**	0.416	0.701
H7(c) EL → EPE → IR	0.360**	0.215	0.504	0.581**	0.510	0.851
H8 EL → KS → IWB	0.288**	0.206	0.370	0.077**	0.038	0.120
H8(a) EL → KS → IG	0.327**	0.209	0.445	0.060**	0.008	0.118
H8(b) EL → KS → IP	0.177**	0.060	0.294	0.121**	0.055	0.197
H8(c) EL → KS → IR	0.360**	0.215	0.504	0.051†	−0.016	0.121
H9 EL → EPE → KS → IWB	0.288**	0.206	0.370	0.067**	0.034	0.103
H9(a) EL → EPE → KS → IG	0.327**	0.209	0.445	0.052**	0.007	0.102
H9(b) EL → EPE → KS → IP	0.177**	0.060	0.294	0.105**	0.050	0.166
H9(c) EL → EPE → KS → IR	0.360**	0.215	0.504	0.045†	−0.136	0.105

Note(s): ** $p < 0.05$. † Not significant
Source(s): Authors' own work

0.120), excluding zero and confirming the significance of the indirect relationship. Thus, the H8 is supported. When knowledge sharing is considered, the direct relationship between empowering leadership and innovative work behavior remains significant ($\beta = 0.288$, $p < 0.05$), with a bootstrap-generated confidence interval of (0.206, 0.370), that excludes zero, suggesting the presence of partial mediation. For H8a-c, Table 5 illustrates the partial mediation of knowledge sharing in the relationships between EL and IWB dimensions (idea generation ($\beta = 0.060$, $p < 0.05$) and idea promotion ($\beta = 0.121$, $p < 0.05$)), since the direct relationships between empowering leadership and innovative work behavior's dimensions remain significant ($\beta = 0.327$, $p < 0.05$), and ($\beta = 0.177$, $p < 0.05$), respectively. However, the mediation effect of knowledge sharing in the relationship between EL and idea realization was not supported ($\beta = 0.051$, $p > 0.05$). Therefore, H8a and H8b are supported, while H8c is not.

For H9, we tested the serial mediation, and followed Hayes's PROCESS macro (model 6) instructions (Hayes, 2017). Table 5 shows the statistical significance of the direct and indirect effects. The results were generated with the bootstrap procedure (10,000 bootstraps) and the confidence interval (95%). The indirect effect of empowering leadership on innovative work behavior through employee PE and KS was examined ($\beta = 0.067$, $p < 0.05$), and the bootstrap analysis produced a confidence interval of (0.034, 0.103) for the indirect effect, which excludes zero. Consequently, the hypothesis is supported. When both employee psychological empowerment and knowledge sharing are considered, the direct relationship between empowering leadership and innovative work behavior remains significant ($\beta = 0.288$, $p < 0.05$), with a bootstrap-generated confidence interval of (0.206, 0.370) that excludes zero, indicating the presence of partial mediation. For H9a-c, Table 5 shows the partial mediation of employee PE and KS in the relationships between EL and IWB dimensions, namely idea generation ($\beta = 0.052$, $p < 0.05$) and idea promotion ($\beta = 0.105$, $p < 0.05$), since the direct relations are significant as well, ($\beta = 0.327$, $p < 0.05$) and ($\beta = 0.177$, $p < 0.05$) respectively. However, there was no support for the mediation effect of employee psychological empowerment and knowledge sharing in the relationship between empowering leadership and idea realization ($\beta = 0.045$, $p > 0.05$). Therefore, H9a and H9b are supported, but H9c is not supported. A detailed summary of these results is presented in Table 6.

5. Discussion

Regarding H1, the research has revealed that EL is positively related to PE in the workplace. This result enhances the influential role of leadership in creating an empowered work

Table 6. Summary of hypotheses testing results

Hypotheses	Result
(H1) E → EPE	Supported
(H2) EL → KS	Supported
(H3) EPE → KS	Supported
(H4) EPE → IWB	Supported
(H4a) EPE → IG	Supported
(H4b) EPE → IP	Supported
(H4c) EPE → IR	Supported
(H5) KS → IWB	Supported
(H5a) KS → IG	Supported
(H5b) KS → IP	Supported
(H5c) KS → IR	Not supported
(H6) EL → IWB	Supported
(H6a) EL → IG	Supported
(H6b) EL → IP	Supported
(H6c) EL → IR	Supported
H7 EL → EPE → IWB	Partial mediation
H7(a) EL → EPE → IG	Partial mediation
H7(b) EL → EPE → IP	Partial mediation
H7(c) EL → EPE → IR	Partial mediation
H8 EL → KS → IWB	Partial mediation
H8(a) EL → KS → IG	Partial mediation
H8(b) EL → KS → IP	Partial mediation
H8(c) EL → KS → IR	No mediation
H9 EL → EPE → KS → IWB	Partial mediation
H9(a) EL → EPE → KS → IG	Partial mediation
H9(b) EL → EPE → KS → IP	Partial mediation
H9(c) EL → EPE → KS → IR	No mediation

Source(s): Authors' own work

environment, where supportive behaviors increase the fundamental motivation of employees regarding perceived efficiency, self -determination, influence, and meaning. Consequently, it aligns with the findings concluded by Bowen and Lawler (1992). Furthermore, the results of Islam *et al*. (2024b) referred to me as leading the psychological well-being of employees by creating an atmosphere that sustains two-way communication channels, provides independence and growth opportunities and eventually encourages innovative work behavior. Regarding H2, the results revealed that EL is one of the main engines for KS, and this result supports the findings of Joo *et al*. (2022) and Singh (2023). In contexts where leaders can enhance participatory decision-making and share meaningful, up-to-date, and comprehensive information with their employees, supported by the theory of social exchange, a reciprocal relationship emerges between leaders and subordinates, promoting mutual growth.

Furthermore, for H3, psychologically empowered employees are independent to share their ideas with their colleagues concerning their need for more relevant information to make strategic decisions. Therefore, they are involved in sharing their knowledge, corroborating with the findings of (Wang *et al*., 2019). The research data supported the H4, as PE is positively related to IWB. This is compatible with Spretizer's (1995) results, which demonstrated that psychological empowerment is a major indication of innovative work behavior. Consequently, as Zhang and Bartol (2010) indicated, when employees recognize their ability to influence organizational outcomes and overall performance, they are more inclined to create, advocate for, and execute innovative ideas.

The results from H5 suggest that knowledge sharing has a positive impact on both idea generation and promotion. However, the results also revealed no statistically significant

relationship between knowledge sharing and idea realization. This is attributed to the fact that idea realization involves the implementation of new ideas, new products, or processes within the organization. The idea may have been generated or promoted. However, without a flexible and integrated strategy to implement in a dynamic environment, ideas are vulnerable to failure at the implementation stages. Ideas need flexibility in planning and implementation to adapt to different challenges. There are several reasons why knowledge sharing may not be linked to idea realization, for example, lack of coordination and effective communication; knowledge may be unorganized, leading to ideas not being appropriately communicated or people not understanding how to implement them. Another possible reason is the lack of a clear implementation plan after promotion; sharing knowledge may contribute to creating and promoting a new idea. However, it will remain unrealized if this idea is not translated into a clear, practical plan with actionable steps. The process is not limited to generating the idea but requires its practical implementation, which requires systematic steps and effective coordination. In addition to a lack of skills and/or resources, additional skills or specific technology may be needed to apply knowledge effectively (Jha and Varkkey, 2018). As observed by Axtell *et al*. (2000), idea generation is more reliant on individual traits, such as self-confidence, creativity, and job knowledge, rather than on group or organizational factors. Conversely, idea realization is a social process that involves other employees, and its success relies on their approval, participation, and support. Individual employees usually introduce simple innovations; however, more complex innovations require knowledge inputs, competencies, and cooperation between different functions. Sharing knowledge with colleagues enhances the knowledge base of other employees, thereby increasing the potential for innovative ideas to arise. Idea generation is defined by Radaelli *et al*. (2014) as a process of knowledge creation that creatively integrates both internal and external knowledge. The process of implementing ideas is not performed by a single individual; instead, it requires cooperation and the integration of complementary perspectives to achieve comprehensiveness.

On the other hand, there has been no association between knowledge sharing and innovative work behavior in many previous studies (Kang and Lee, 2017; Usmanova *et al*., 2021; Islam *et al*., 2024a). Usmanova *et al*. (2023) explained that this may be due to the feeling of risk in sharing knowledge among employees in Chinese multinational companies, which makes them anxious about providing advice and counsel, which is ultimately reflected in innovative work behavior. The reason for not sharing knowledge among employees may be due to the lack of goal orientation or a limited set of goals, ignorance, incompetence, and selfishness (Rhee and Choi, 2017). Employees may not accept sharing knowledge due to their lack of job security, trust in their knowledge, and a "lack of interchange", "which refers to a lack of open communication and collaboration. This 'lack of interchange'" can hinder the flow of information and ideas, thereby impeding knowledge sharing and innovation (Jha and Varkkey, 2018). Due to these difficulties mentioned, some negative emotions, such as depression, may occur among employees, which are likely to reduce the extent of an individual's willingness to share vital knowledge and exchange creative ideas that are then embodied in innovation. Usmanova *et al*. (2021) explained that Employees' unwillingness to share their knowledge is due to their lack of internal motivation and leaders' failure to define a mechanism through which information can be freely exchanged.

For H6, the results revealed that EL is a significant factor in determining innovative behavior at work. This finding aligns with the results of prior research, which demonstrated that empowering leaders significantly contribute to fostering innovative behavior (Hassi *et al*., 2022; Vuong and Hieu, 2022). Within the framework of this research, the role of empowering leadership is fundamental for shaping employees' innovative behavior. Leaders who adopt an empowering style significantly motivate their team members to engage in continuous self-development and to proactively pursue their tasks (Rao Jada *et al*., 2019). EL is recognized as one of the most effective strategies for promoting innovative behavior. Therefore, employees' innovative behavior tends to be more assertive when they receive encouragement and support from their empowering leaders. As for H7, it can be established that PE partially mediates the

relationship between EL and IWB. This result can be perceived in accordance with how empowered leaders enhance employees' innovative behavior through psychological empowerment, which is reflected in improved of work results, reduced work stress, and an improved ability to engage in safety procedures. This finding aligns with the outcomes reported by Naim *et al*. (2024), which indicate that psychological empowerment is a critical component in the effective implementation of empowering leadership and in fostering followers' innovative behaviors. Also, Islam *et al*. (2024b) have proven that the leaders' focus on providing favorable working conditions, strengthening relations between workers, and reducing tension in the workplace contributes to raising the well-being of psychological workers, which contributes to the innovative behavior of work, which achieves success for the organization.

Concerning H8, the findings indicate a partial mediating effect of knowledge sharing in the relationship between empowering leadership and the dimensions of innovative work behavior, specifically, idea generation and promotion. This finding aligns with the research by Vandavasi *et al*. (2020), which suggests that empowering leaders elevate employees' performance and motivates them, fostering an environment of ideal leadership knowledge within the organization. This dynamic ultimately contributes to the development of innovative behavior in the workplace. However, the mediating role of KS in the relationship between empowering leadership and idea realization was not supported. This study does not provide a practical proof of the non-direct relationship between knowledge sharing and idea realization. Accordingly, it can be concluded that innovation, as a fundamental act with a tangible physical presence in the organization, does not exist solely from knowledge sharing; instead, knowledge sharing may only enhance the generation of ideas. However, ideas differ from innovation in organizations, which is consistent with the study by Kmieciak and Michna (2018), demonstrating no direct relationship between knowledge sharing and innovation. Moreover, when generating and promoting ideas, knowledge sharing can be interactive and creative, with individuals freely exchanging ideas and proposing new solutions (Burhan and Khan, 2024). But in the idea realization phase, leadership may require specialized knowledge, practical guidance, and strategic decision-making that focus more on actually implementing plans than simply sharing knowledge. Realizing ideas requires physical execution in a complex environment, and individuals may face constraints such as lack of resources, resistance from teams, or market challenges.

Regarding H9, the results suggest the partial mediation of employee PE and KS in the relationships between EL and IWB dimensions (idea generation and idea promotion). However, there was no support for the mediation effect of employee psychological empowerment and knowledge sharing in the relationship between empowering leadership and idea realization. Therefore, H9a and H9b are supported, but H9c is not supported. This finding aligns with the conclusions of Cui and Yu (2021), who noted that when individuals experience psychological empowerment, they enhance their capabilities, which consequently motivates them to engage actively and share knowledge. Furthermore, in empowering leadership environments, there may be no formal mechanisms to systematically transfer and exchange knowledge between individuals and teams. Individuals are prompted to participate and cooperate freely. However, no transparent methodology or regulatory measures may ensure converting this knowledge into a way to understand how ideas are applied (Islam *et al*., 2024c). In addition, there may not be a formal structure or a function designated for linking the knowledge of psychological empowerment directly, which indicates that precise mediators do not do the relationship between these two variables.

6. Implications and limitations

6.1 Theoretical implications

This study presents several contributions to the literature. First, the study expands our understanding of the empowering aspect of leadership by exploring the positive impact of

empowering leadership on the dimensions of employees' innovative work behavior. Second, it elucidates the interrelated dynamics of empowering leadership, psychological empowerment, knowledge sharing, and innovative work behavior. Organizational potential drivers of innovative work behavior have been investigated, including empowering leadership, psychological empowerment, and knowledge sharing. Third, this study demonstrated the critical role knowledge sharing in promoting employees' IWB. These findings contribute to the knowledge derived from social exchange theory through clarifying the nature of social exchanges in organizations, occurring both vertically between leaders and their employees as well as horizontally among peers. Therefore, this study provides a deeper understanding of how empowering leadership influences employee knowledge sharing. The results add value to the KS by verifying the role of empowering leadership style as a critical indicator of knowledge sharing. Previous studies used transformational and servant leadership concerning knowledge sharing (Xiao *et al.*, 2017). Forth, there are additional theoretical implications regarding PE as a driver of IWB in that psychological empowerment is a prerequisite for IWB. This finding is compatible with previous studies emphasizing the importance of psychological empowerment for IWB, as presented by Pieterse *et al.* (2010). Fifth, limited research has explored EL and PE simultaneously as factors that may lead to employee IWB. The results of this study demonstrate the effectiveness of EL and PE in inducing IWB in a cultural environment different from the West, in contrast to the Egyptian work context. Finally, the recommendations of Joo *et al*. (2022) have been addressed.

6.2 Practical implications

Innovative work behavior can be effectively developed by managers through several practical implications derived from this study. First, leaders can promote innovative work behavior by adopting an empowering leadership style. Empowering leaders foster an environment of confidence among their followers, encouraging them to take risks and explore new ideas, which ultimately stimulates innovation in the workplace. This leadership style enables followers to explore new methods of working, promoting IWB. In addition, the sense of reciprocity created by an empowering leader motivates employees to act innovatively (Zhang and Zhou, 2014) and contribute creative ideas to develop and promote organizational success (Vecchio *et al*., 2010). Second, this study signifies the essential role of empowered leaders in promoting knowledge sharing in organizations, which consequently encourages IWB (Wu and Lee, 2017). Empowering leaders endorse KS by modeling the behavior of exchanging information transparently within the organization. Moreover, they create a climate that facilitates sharing knowledge among organizational members by involving them in participatory decision-making and collaborative problem-solving. This approach enhances employees' sense of participation and responsibility while providing a safe environment for exchanging knowledge, consequently leading to innovation. Third, these findings provide valuable insights into the significant role of PE as the most influential factor regarding IWB. Empirical evidence demonstrates that empowered employees exhibit greater commitment, exert additional effort at work, and display enhanced creativity in their roles (Seibert *et al.*, 2011), resulting in improved performance. It is crucial to identify the factors that support IWB among employees and explore strategies to develop this behavior. Leaders can substantially enhance the innovative behavior demonstrated by their employees, through elevating the level of empowerment. As Sosik and Jung (2010) indicated, Empowerment represents one of the most critical processes within the framework of empowering leadership, as it effectively encourages followers' innovation. Therefore, managers should consider the mediating effects of psychological Empowerment in the relationship between empowering leaders' behaviors and employees' innovative attitudes (Naim *et al*., 2024). Fourth, the mediating effect of PE on employees has been explored, with KS examined as a serial mediator in the relationship between EL and the dimensions of IWB. It was observed that leaders can shape employees' positive behavior only through the experience of Empowerment and the crucial role of knowledge sharing. Moreover, the findings suggest that

psychologically empowered employees exhibit greater confidence, reflected in knowledge sharing, aligning with the findings of Masood *et al*. (2023). Hence, it is noted that psychologically empowered employees are better motivated to share knowledge, challenge current conditions, and make suggestions for improvement.

7. Limitations and future research

This study was conducted under several constraints; nonetheless, it underscores the significance of the findings. First, the researchers employed the cross-sectional study method; therefore, we recommend conducting further future studies using experimental or longitudinal designs. This approach can enable the determination of the effect of time on the respondents' opinions regarding the measured variables, and can assess whether empowering leadership reinforces innovative work behavior over an extended period, considering leaders' anticipated behavioral changes. It is recommended to conduct a longitudinal study throughout the employee's career lifespan or to involve employees who have transitioned into leadership roles. This research also provides significant new insights into how organizations perceive and apply empowering leadership. Second, future researchers are urged to recognize the importance of the proposed research directions. By examining the relationship between empowering leadership style and innovative work behavior while considering other mediating variables such accountability for organizational transformation, and by focusing on quality leader-member exchanges, perceived organizational support, and organizational commitment, significant advancements can be achieved. Finally, empowering and transformational leadership styles can be compared and their effects on innovative work behavior can be determined, providing valuable insights for future research.

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