Igniting innovative: how transformational leadership and job crafting empower innovative among Iraqi nurses in public hospitals

Joather Alwali

Abstract

Purpose – *The purpose of this research paper is to study the effect of transformational leadership (TL) and job crafting (JC) on nurses' innovative work behaviors (IWB) while accounting for the mediating effect of psychological empowerment (PsyEmp).*

Design/methodology/approach – *To test the developed hypotheses quantitatively, two statistical methods were used: structural equation modeling via partial least squares and bootstrapping estimation. The survey elicited responses from 270 nurses, but after data screening, only 168 were used. Confirmatory factor analysis was used to establish the distinctness of the variables used in this study.*

Findings – *Findings indicate that there are a positive influence of both TL and JC on PsyEmp. Additionally, the findings show a beneficial effect of PsyEmp as a mediator between TL, JC and IWB.*

Originality/value – *This study adds to the body of knowledge by demonstrating the effects of nurse TL and JC on nurses' PsyEmp and IWB. In addition to the role of PsyEmp as a partial mediator in the relationship between TL, JC and IWB. The research novelty resides in the fact that none of these links has before been studied in the context of Iraq.*

Keywords *Transformational leadership, Job crafting, Psychological empowerment, Innovative work behavior*

Paper type *Research paper*

Joather Alwali is Independent Researcher at Abu Dhabi, United Arab Emirates.

1. Introduction

Health care is one of the most labor-intensive service industries with great impact on economy (Ozcan *et al.*, 1996). In the region of Iraq there are 229 hospitals, 61 of which are teaching hospitals and 2,504 health-care clinics. Al Hilfi *et al.* (2013) showed that half of the 2,504 dominant policy and primary health-care clinics that provide primary health care lack a physician (Al Hilfi *et al.*, 2013). In 2020, according to WHO Global Health Observatory (2020), Iraq had 12 hospital beds per 1000 people, compared to 14 in Jordan and 14.3 in Egypt. Statistics also showed that more than 50% of hospitals in Iraq were built in the 1970s and 1980s. The Ministry of Health has launched a major program to construct new health facilities and renovate existing ones (Al Hilfi *et al.*, 2013). The government strongly supports offering free or low-cost health care in public hospitals for Iraqis. This support is because that a disproportionate number of patients at public hospitals are low-income or government employees. As a large portion of the Iraqi population lies within these supported categories, it is causing the current delivery and organization of health care to be a time-consuming and labor-intensive service (Al Wali *et al.*, 2022; Mohd Nasurdin *et al.*, 2020).

Received 16 November 2022
Revised 21 May 2023
2 June 2023
Accepted 26 June 2023

Nurses' attitudes, knowledge and abilities are crucial components of their innovative work behavior (IWB) within the health-care industry. The provision of quality health-care services to the public dependent on the creativity of hospital nurses. Therefore, it is essential to identify the factors that motivate nurses to innovate in public hospitals.

Innovation is a critical component of organizational success in today's competitive and dynamic environment. Previous studies determined that innovation is not confined to experts, but that all employees and departments within an organization must be open to innovation in their individual responsibilities for the organization to be successful over the long term (Lee and Wong, 2019). Workers are at the center of innovation processes, and virtually every innovation initiative is heavily reliant on employees' IWB (Afsar *et al.*, 2021). IWB, which are based on an individual's creative behavior that contributes to the generation, modification, communication and implementation of novel ideas, have fascinated researchers and practitioners for decades (Al Wali *et al.*, 2022). As a result, they encouraged workers to view IWB as a means for organizations to become more innovative and successful. According to Carmeli *et al.* (2006), IWB is a critical component of successful organizations. Thus, identifying the motivating factors and activators of IWB makes a significant contribution to our understanding of individual innovativeness (Wu *et al.*, 2014).

Psychological empowerment (PsyEmp) is gaining increasing interest at a time when global competition and change demand employee's productivity and creativity. Empowered employees who perceive their work as more meaningful, demonstrate more skills at work, have a greater impact and have more options for completing work tasks (Grošelj *et al.*, 2021). According to Spreitzer *et al.* (1999), empowering cognitions are correlated with innovation, upward influence and inspiration. Similarly, Javed *et al.* (2018) discovered that a sense of purpose and tenacity intrinsically motivate and enable employees to engage in IWB. In addition, Shalley and Gilson (2004) showed that employees exhibit a willingness to use complex schemas to address novel situations and challenges which led to an increase in IWB. Interestingly a recent study by Nasir and Suryani (2019) confirmed that IWB is influenced by PsyEmp. According to their findings, leaders must assign tasks to individuals with a sense of responsibility, disseminate information broadly to employees who need it and give employees the freedom to complete their assigned workload in accordance with their skills and expertise. Existing research has also demonstrated a link between PsyEmp and the ability to assess the complex process of IWB (Javed *et al.*, 2018) and another link with the ability to gain autonomy, meaning, competencies and feedback to showcase IWB (Orth and Volmer, 2017). Therefore, maintaining these attributes are essential to create a more innovative workplace.

Transformational leadership (TL) is a process by which leaders motivate employees to act in accordance with the organization's goals and interests and to perform above and beyond expectations (Buil *et al.*, 2019). The concept of PsyEmp is related to TL in fostering employee commitment (Huang *et al.*, 2021). Empowerment is widely recognized as a potential intervention mechanism for organizational growth and development in today's business world. There are numerous factors within organizations, including organizational laws and regulations, human resource management policies, organizational and social contexts, which bind supervisors and their subordinates together (Pieterse *et al.*, 2009). This bind has a significant effect on the work environment of the subordinates. Avolio *et al.* (2004) suggest that subordinates feel more empowered and confident in performing certain tasks when they are collaborating with leaders who exhibit high moral standards and expectations. When TL is in charge, employees are encouraged and motivated to solve existing problems, challenge authority, propose novel solutions to existing problems, manage complex, risky and uncertain situations, accomplish difficult, ill-defined and disorganized objectives, at the same time develop their own competence to a higher level.

PsyEmp is a self-motivational process that helps employees feel more confident and motivated (Thomas and Velthouse, 1990). TL, in general, is expected to benefit PsyEmp. There is evidence, however, that employees perceive themselves differently as PsyEmp, even when TL behaviors are involved (Pieterse *et al.*, 2009). It has been demonstrated that TL is a significant predictor of PsyEmp (Schermuly and Meyer, 2020; Kim and Shin, 2019), OCB (Hackett *et al.*, 2018) and turnover intention (Yücel, 2021). Employees develop a sense of belonging to PsyEmp when they are involved in decision-making processes (Kim and Fernandez, 2017). Bass *et al.* (1987) discovered that the TL and PsyEmp constructs have a positive correlation. Experiments in this area have established that managers who use TL styles have a strong affinity for PsyEmp (Kurnaz and Arslan, 2011).

As one of the proactive workplace behaviors, job crafting (JC) refers to actions that actively alter the physical, cognitive and relational frameworks of an employee's work (Wrzesniewski and Dutton, 2001). By altering the number, type or order of work practices they use in their workplace, modifying their perceptions of work and arranging their social relationships at work, employees tailor their jobs to their individual characteristics and needs (Slemp *et al.*, 2015). Consequently, the environment can impact PsyEmp. In the context of the provision of nursing care in the public health setting, PsyEmp can be influenced by the setting of nursing practice. If inspired and committed, empowered nurses can be competent designers of their own work (Wrzesniewski and Dutton, 2001). Presumably, a well-designed job improves nurses' mental health or PsyEmp; this, in turn, can encourage JC (Tims and Bakker, 2010). Studies suggest that PsyEmp can lead to JC (Wrzesniewski and Dutton, 2001) to increase available resources and create meaning and motivation in one's work (Demerouti and Bakker, 2014). The inverse could also be true. Demerouti (2014) proposed that JC is the process by which people actively pursue proactive goals that can lead to PsyEmp.

Al Wali *et al.* (2022) stated that innovation is one of the most difficult challenges for leaders. According to the same authors, there is a lack of studies examining the direct relationship between leadership and IWB. The study also showed that the findings from the existing literature are contradictory: Basu and Green (1997) reported a negative relationship; Al Wali *et al.* (2022, 2021) found a positive relationship, and Moss and Ritossa (2007) revealed no relationship. Inconsistencies in the results may be explained by the presence of mediator variables (Pieterse *et al.*, 2009). Boerner *et al.* (2008) concurred, noting the importance of developing a better understanding of the mediation or moderation processes by which leaders stimulate innovation. On the other hand, there is a lack of knowledge on the contextual boundary factors influencing leaders' abilities to promote organizational innovation (Denti and Hemlin, 2012; Rosing *et al.*, 2011) or the psychological mechanisms mediating the relationship between leadership and individual innovation (Byrne *et al.*, 2009). Employees' psychological processes assist in transmitting the leader's behavior through their actions (van Knippenberg *et al.*, 2004). The PsyEmp mediating role offers practical solutions for improving individual employees' IWB. However, little research has been conducted to date on the boundary conditions of the relationships between TL and IWB via the mediating role of PsyEmp. This research is a respond to a call from researchers to examine the factors that mediate the relationship between leadership and innovation (Denti, 2013). The PsyEmp role was investigated as a mediator to gain a better understanding of how IWB may be promoted by leaders, through what mediator mechanisms and within what boundaries.

This study contributes significantly to the existing body of knowledge as the knowledge of the significant factors affecting IWB and the effect of PsyEmp on IWB is limited (Al Wali *et al.*, 2022; Bos-Nehles *et al.*, 2017). In addition, the arguments of scholars raised questions about this relationship. PsyEmp and IWB relationships are context-dependent, and excessive employee empowerment can result in inconsistent performance at work (Rehman *et al.*, 2019). Allowing employees to exercise their authority while also allowing

them to participate in decision-making will raise employee accountability, which may result in stress or heavy workload (Bos-Nehles *et al.*, 2017). This, in turn, may have a detrimental effect on employees' intrinsic motivation and satisfaction, as well as on their creative thinking (Amundsen and Martinsen, 2015). The inconclusive nature of the individual and situational antecedents of IWB necessitates further research into how PsyEmp fosters IWB (Rehman *et al.*, 2019; Afsar *et al.*, 2021).

In this research, light was shed on the processes and organizational conditions that connect TL, JC and IWB by examining the mediating role of PsyEmp. According to Zhang and Bartol (2010), PsyEmp is critical for retaining employees in creative work processes and enhancing motivational effects. It is defined as a collection of cognitions or states that are influenced by the workplace and aid employees in developing an active orientation toward work activities (Thomas and Velthouse, 1990). Leadership research and PsyEmp clarification of this process will yield a wealth of knowledge and tools for creating more enjoyable work environments. By conducting additional research to determine whether the proposed mediation is more beneficial to leaders, the result will contribute to leadership research. Thus, it is critical to examine how PsyEmp interact to mediate the relationship between TL, JC and IWB. Our study adds to the JC literature by addressing Wrzesniewski and Dutton's (2001) suggestion to investigate how direct and indirect organizational factors encourage or discourage major job changes. In particular, we propose that JC, which encourages nurses' adaptability and participation, will increase their PsyEmp and thus their IWB.

2. Literature review and hypothesis development

2.1 Transformational leadership and psychological empowerment

Effective leadership is regarded as a critical determinant of healthy work environments and a significant contributor to nursing excellence. Moreover, there is a growing interest in the role of nursing leadership in health-care systems (Andrews *et al.*, 2012). Evidence also demonstrates that nursing leadership skills, such as enhancing teamwork and communication, can positively influence patient outcomes (Tourangeau and McGilton, 2004). Particularly, the development of TL skills among nurses is essential for the nursing profession to realize its potential to improve patient safety and impact health-care service enhancements (Fischer, 2016). According to the American Organization of Nurse Executives, TL is the "preferred" leadership style for nursing leaders. This preference is supported by the notion that transformational nurse leaders are the key to strengthening health systems around the world (Ferguson, 2015). Doran *et al.* (2004) reported that TL in the nursing environment has a significant positive effect on employee satisfaction by fostering a workplace environment that facilitates necessary cooperation, enhances teamwork and reduces conflicts. This leadership concept has been linked to improved team performance and patient care in nursing (Fischer, 2016). Recently, it has been determined that a TL style is effective for leading nursing staff and is a predictor of positive organizational outcomes. It is suggested as a suitable leadership style for addressing the problem of nurse retention (Boamah *et al.*, 2018).

Leadership is an essential organizational factor that can facilitate and enhance PsyEmp. Active TL possess a strong positive association of leaders with their subordinates and can change their subordinates' attitudes toward work. Under TL, subordinates feel more determined, confident, influential and that their work has more meaning. TL also increases subordinates' sense of autonomy, according to Özaralli (2015), by minimizing administrative details, encouraging subordinates to decide how to carry out their jobs on their own and simplifying organizational rules and procedures. In addition to that, TL engages employees in role modeling, envisioning an appealing future, addressing concerns about their learning abilities and motivating them to engage in creative decision-making and problem-solving.

All these factors contribute to employees' senses of competence, significance, impact and self-determination (Barroso Castro *et al.*, 2008; Bass *et al.*, 2003).

Theoretically, the central tenet of the conservation of resources (COR) theory is that nurses require resources to effectively perform their jobs and remain with their organizations. These resources can be physical, social or psychological in nature and derived from elements in their workplaces (Hobfoll, 2001). Leaders are an important source of resources for their employees; a positive relationship between leaders and employees results in more resourceful nurses (Hobfoll *et al.*, 2018). According to the theoretical foundations of COR, it is claimed that a transformational leader's inspiration, motivation, support and individual attention empower their employees to be more resourceful in terms of empowerment (Jha, 2014) and well-being (McVicar, 2003), which ultimately produce positive organizational outcomes. Nurses who feel psychologically independent and ascribe more significance to their work are found to be more engaged in organizational activities (Joo and Shim, 2010).

Organizations use empowerment as a key tool by giving employees autonomy and responsibility, allowing them to use their innovative ideas to improve the products and services they offer (Lawler, 1986). PsyEmp is one of the primary characteristics that differentiates TL from other leadership styles (Kark *et al.*, 2003). Therefore, it can be suggested that the TL style is a potential predictor of PsyEmp. Previous research asserts that TL and PsyEmp have a significant positive relationship (Pradhan *et al.*, 2017; Huang *et al.*, 2021). Therefore, this study hypothesizes that:

H1. TL is positively associated with PsyEmp.

2.2 Job crafting and psychological empowerment

There are two conceptualizations of JC that differ in JC types and motives. Tims and Bakker (2010) took a resource-based approach to JC, while Wrzesniewski and Dutton (2001) took a role-based approach. JC refers to any changes an individual makes to the job's task and/or relationship boundaries (Wrzesniewski and Dutton, 2001). These changes can be physical or cognitive in nature; physical changes involve changes in tasks and work relationships, whereas cognitive changes involve shifting one's perspective on the job. When employees alter the nature, scope or quantity of tasks they perform, for example, by taking on additional tasks or altering the way they complete their tasks, task crafting occurs (Wrzesniewski *et al.*, 2010). Additionally, they may alter the individuals with whom they interact and the frequency with which they interact in the workplace, this process is known as "relational crafting." Employees can alter their perceptions of their jobs through a process called "cognitive crafting" (Wrzesniewski and Dutton, 2001). They have the ability to reframe the purpose of specific aspects of their jobs in relation to the overall job (Wrzesniewski *et al.*, 2010).

Hospitals must consider factors that go into designing a nurse's job in order for nurses to be motivated in their workplace. JC, according to Bakker *et al.* (2012), describes the adjustments nurses make to their workloads and working hours to customize their positions to their abilities, preferences and goals in relation to organizational objectives. The environment in which nurses work frequently exposes them to psychological stress. Therefore, it is crucial to create a pleasant workplace and put in place administrative practices that enhance nurses' integration into their surroundings and encourage JC (Bacaksiz *et al.*, 2017).

It is critical to remember that the PsyEmp construct is intended to focus on individuals' subjective experiences of empowerment rather than on their personality traits, which are enduring dispositions that are unaffected by workplaces (Seibert *et al.*, 2004; Spreitzer, 1995). Thus, PsyEmp personal antecedents should be composed of constructs that exhibit a high degree of long-term stability. When nurses are more PsyEmp, they may be more willing to take on tasks in which they excel or can learn, or they may be able to reduce the

emotional strain of their work. Previous research has established a positive correlation between self-efficacy and control and JC, which is consistent with this line of reasoning (Rudolph *et al.*, 2017; Zhang and Parker, 2019). Additionally, studies indicated that PsyEmp has a beneficial effect on a variety of work-related outcomes (Malik *et al.*, 2021), including job satisfaction (Li *et al.*, 2018), work engagement (Gong *et al.*, 2020), customer-oriented citizenship behaviors (Kang and Bartlett, 2013) and performance (Li *et al.*, 2018).

Based on social cognitive theory (SCT), this study argues that changes in PsyEmp will be positively associated with changes in JC (Bandura, 1989; Bosma and Kunnen, 2001). Following Bandura (1989), self-generated influences are the driving force behind behavior. Bandura (1989) asserts that behavior is driven by self-generated influences. SCT suggests that individuals are more likely to engage in agentic behaviors, such as JC, when they feel competent in their skills and in control of their environment (Bandura, 1989, 2001). Therefore, when nurses feel more psychologically empowered and experience more personal meaning, competence, control and impact, they are more likely to adapt their jobs to (changing) personal resources, which is critical for them (Heckhausen, 2020). Overall, psychologically empowered nurses are more likely to participate in JC because they believe they have the competence and autonomy to make a difference in their organizations (Khan *et al.*, 2021). Considering the theoretical and empirical evidence that was discussed, the following hypothesis is formed:

H2. JC is positively associated with PsyEmp.

2.3 Psychological empowerment and innovative work behavior

PsyEmp refers to an individual's sense of autonomy and ability, which empowers them to make novel and beneficial improvements (Ramamoorthy *et al.*, 2005). PsyEmp is defined as an individual's proactive, as opposed to passive, method of fulfilling their job description, motivated by a desire to shape organizational situations, processes and work environments (Spreitzer, 1995). This energetic orientation strategy necessitates self-motivation (Thomas and Velthouse, 1990), which explains why they are willing to participate in IWBs. Researchers, including Luoh *et al.* (2014) and Javed *et al.* (2018), confirmed the positive relationship between PsyEmp and IWB (2019).

PsyEmp has recently been considered essential for many organizations using a contemporary management environment, particularly in the service industry, like nursing (Panagiotis and Eugenia 2008). Chandler (1986) was the first to describe the process of nursing empowerment. For nurses to become powerful, empowerment activities are required. It is a process that can take place in two different ways:

1. as structural (workplace) empowerment; and
2. as PsyEmp (Laschinger *et al.*, 2001).

Kanter's (1993) theory of structural empowerment posits that opportunity and power in organizations are essential to empowerment and that they must be accessible to all employees for maximum organizational effectiveness and success (Manojlovich, 2007). Laschinger and her colleagues have performed the majority of the work on nursing workplace empowerment (Laschinger *et al.*, 2014, 2009, 2006).

Empowered nurses have a greater sense of freedom, which enables them to try new things and be more aware of alternative options, which facilitates IWB (Bos-Nehles *et al.*, 2017). Increased inspiration, innovation and upward influence are all linked to higher PsyEmp perceptions (Spreitzer *et al.*, 1999). Organizations expects empowered nurses to reciprocate without fear of bureaucratic rules and regulations, so they may generate more of these ideas. Nurses must feel a high level of PsyEmp before engaging with IWBs because the IWB carries risks of failure as well. In general, empowered nurses are not only

efficient at their jobs but also self-sufficient, allowing them to be adaptable and aim above and beyond established standards to generate novel ideas and appreciate their institutions.

Additionally, Singh and Singh, (2012) documented the positive relationship between PsyEmp and IWB in empirical studies spanning industries and countries. Theoretically, this study examines the relationship between PsyEmp and IWB from the perspective of the Leader–Member Exchange Theory. Leaders influence their subordinates in various ways, including empowering them, in accordance with the leader–member exchange theory (Aggarwal *et al.*, 2020). Employee empowerment results in the assignment of meaningful work, self-efficacy, self-determination and competence, all of which are significant PsyEmp components (Aggarwal *et al.*, 2019). Employee empowerment improves work-related outcomes as leader shares decision-making authority with their employees (Wang *et al.*, 2016) and gives them opportunities to participate in the decision-making process (Zhang and Bartol, 2010). This is consistent with the findings of Singh *et al.* (2020), who asserted that allowing employees to choose how to initiate and direct actions inspires innovative behavior. Moreover, employees who have greater control over their work-related aspects report greater job satisfaction, are more committed to their jobs (Bailyn, 1988) and display more creative behavior (Shalley and Gilson, 2004). Given that PsyEmp is a motivating state associated with proactive work behaviors (Parker *et al.*, 2006), the following hypothesis is proposed:

H3. PsyEmp is positively associated with IWB.

2.4 Mediating role of psychological empowerment

Innovations in service delivery can result in more affordable, effective and convenient treatments for today's time-pressed and increasingly empowered health-care consumers. Typically, nurse practitioners offer these exemplary services (Herzlinger, 2006). IWB of nurses, who are in close contact with patients, is necessary if they are to be active participants in achieving organizational goals and, in a broader context, the goals of health care (Knol and Van Linge, 2009). Consequently, it is essential for nurses to gain an understanding of the origins of IWB (Knol and Van Linge, 2009). Motivating nurses to participate in IWB and apply their experiences with colleagues has attracted an increasing amount of scholarly interest (e.g. Länsisalmi *et al.*, 2006; Varkey *et al.*, 2008). Empowered individuals are more likely to demonstrate innovative behavior (Jung *et al.*, 2003). Individuals who are psychologically empowered believe they are competent and capable of having a significant impact on their jobs and work environments, allowing proactive behavior, demonstrating initiative and acting independently (Spreitzer, 1995). Employees with a high degree of PsyEmp are more likely to engage in proactive behavior as they have greater autonomy over decision-making. According to Edmondson (2003), leaders need to be able to use the psychological dimensions of empowerment and instill a sense of unlimited will in their subordinates to facilitate the organization's vision and mission's translation into daily tasks and work contexts.

Existing studies have demonstrated the role of PsyEmp as a mediator of different linkages between work context and individual work-related outcomes (Liden *et al.*, 2000; Avolio *et al.*, 2004). Leadership researchers validated PsyEmp as a mediator between different types of leadership styles and employee creativity in their studies (Tung, 2016; Javed *et al.*, 2018; Yang *et al.*, 2019).

TL enables employees to think, create and execute any idea; emphasizes the importance of collaboration when performing group tasks; frequently invites employees to participate in group work; and provides an opportunity for employees to learn from shared experience. Several academics and scholars have found that TL is especially good at improving employees' IWB. However, it has been suggested (Afsar *et al.*, 2014; Majumdar and Ray, 2011) that the relationship between TL and creative outcomes depends on several factors

and is therefore likely to be more complicated than previously thought. Based on the reviewed literature, it was determined that TL promotes the IWB of their employees, but the proposed relationship is further explained by intervening variables. Employees may be willing to innovate as a result of TL, but to act and behave innovatively, they must also believe they are capable of innovation (via PsyEmp).

Leadership researchers validated PsyEmp as a mediator between diverse leadership styles and employee creativity in their studies (Tung, 2016; Javed *et al.*, 2018; Yang *et al.*, 2019). Sangar and Rangnekar (2014) viewed PsyEmp as a factor that determines creative ability. Recent research has confirmed the link between PsyEmp and IWB (Nasir and Suryani, 2019). Considering the above perspectives, the study proposes the following hypothesis:

H4. PsyEmp has a mediating effect on the relationship between TL and IWB.

The cognitive evaluation theory (CET) supported PsyEmp mediation. CET is a prominent psychological theory that explains how intrinsic motivation enables an individual to feel competent and self-determined (DeCharms, 1968). The CET framework explains that nurses' intrinsic task motivation is initially stimulated by significance and impact. Moreover, a sense of competence and autonomy increase the task-relevant motivation of nurses (Deci *et al.*, 1989). Therefore, this study argues that the observation of TL and job design by nurses can improve their IWB, which may be influenced by PsyEmp. Deci and Ryan (1985) explained that individuals in the workplace experienced either supportive situational factors or non-supportive situational factors, which had different effects on PsyEmp. The supportive informational aspects of a particular situation influenced the intrinsic motivation by fostering an internal *locus* of causation and competence. Nonetheless, controlling aspects had a negative impact on intrinsic motivation and a positive impact on extrinsic compliance by facilitating an external *locus* of causation.

Based on SCT (Bandura, 1989) and the reasons for the previous hypotheses, this study suggests that improvements in JC have an indirect effect on changes in IWB via changes in PsyEmp. Similar to Chamberlin *et al.* (2018), the study argues that PsyEmp transfers the effects of JC to IWB. Nurses will feel more empowered if they believe their organization or workplace offers additional JC. They will have increased personal control and self-determination, a greater sense of competence and a better understanding of their ability to influence organizational activities. Increased empowerment will almost certainly result in a more proactive attitude toward the work situation, which will result in an increase in IWB. Additionally, previous studies have revealed that PsyEmp is positively associated with a variety of JC concepts, including workplace innovation (Spreitzer, 1995), organizational change (Conger and Kanungo, 1988) and creativity, flexibility and initiative taking (Conger and Kanungo, 1988). (Thomas and Velthouse, 1990). Therefore, the following hypothesis has been proposed as a result of the preceding discussion:

H5. PsyEmp has a mediating effect on the relationship between JC and IWB.

3. Methodology

3.1 Sample and data collection procedures

This study made use of measurement scales derived from prior research (Bass, 1985; Bass and Avolio's, 1997; Tims *et al.*, 2012; Matsuo, 2019; Bavik *et al.*, 2017; Spreitzer's, 1995). As the questionnaire was written in English, a back-translation was performed to reduce discrepancies between the original and translated forms (Alwali and Alwali, 2022). The author initially translated into Arabic the English versions of the scales. The Arabic version was then professionally translated into English by a bilingual translator. The translated items were then compared and revised if the back-translated version of the scale did not match the original scale's meaning. Additionally, the questionnaire was reviewed for wording, content and ambiguity issues by two medical professionals working in public hospitals in

Iraq and two academic professionals working in universities before the survey was conducted. The experts suggested a few small adjustments to the questionnaire. In the original studies that developed the measurement scales (Bass, 1985; Bass and Avolio's, 1997; Tims *et al.*, 2012; Matsuo, 2019; Bavik *et al.*, 2017; Spreitzer's, 1995), measurement validity was established using factor analyses, and the Cronbach's alphas of all scales were reported to be greater than 0.80, which is above the cut-off criterion of 0.70. (Nunnally, 1978).

This study focuses on public hospitals in Iraq for several reasons. First, the conflicts, corruption, international sanctions, economic and social neglect in the past decades in Iraq have adversely affected the health system. The inadequate attention given to the health sector has weakened the health-care system resulting in the movement of qualified medical doctors and professionals out of the country. Besides, the government spending on the health sector is low, compared to the government expenditure on health in neighboring countries such as Iraq, Jordan, etc. (Al-Saiedi and Haddad, 2021). The under-funded health sector has widespread adverse effects on public health, with inadequate health centers and professionals, insufficient medical supplies, mismanagement of personnel or human resources, improper guidelines on sanitation or waste disposal, etc. Moreover, due to the long waiting list in the public hospitals, patients prefer to patronize the private sector that are exorbitant (Al-Saiedi and Haddad 2021). As for the safety of the health-care professionals, there is a noticeable increase in violence against medical doctors in the hospitals especially during the COVID-19 pandemic. In their study on violence against doctors in Iraq, Lafta *et al.* (2021) found that several medical doctors experienced violence in the hospital during the preceding six-month period. They identified the sources of the violence as patients, military or police personnel, patients' relatives, etc. The study noted that the violence constitutes grave emotional and physical consequences on the health workers that may threaten the care for patients and hospital productivity. The rising violence against health personnel could increase the turnover of workers especially those who cannot cope with the rising physical and verbal abuses, as well as threats to their safety and well-being. Unlike other sectors (e.g. domestic work, construction, tourism services, etc.), the heath sector has not experienced an influx of international health migrant workers, rather the poor infrastructure, working condition and violence in the health sector have made numerous qualified health professionals to migrate to other countries. As for the stability and quality of employment contracts, most of the nurses in Iraq have permanent and stable employment. In 2022, the Annual Statistical Report published by the Ministry of Health/ Environment in Iraq reported a total number of 95999 nurses in Iraq, out which 15,241 nurses work in Baghdad.

Participants were informed that their responses would remain strictly confidential. The survey was conducted via an online survey. The hospitals provided the email addresses of all nurses, who were then able to access the anonymous online survey by clicking on the link in the invitation email. Data was collected between January and February 2022 in single-phase. Questionnaires were sent to 270 nurses at seven public hospitals in Baghdad, Iraq (Al Karkh General Hospital, Dar Alshifa hospital, Martyr Sadr Hospital, Al Noor General Hospital, Al Karama Teaching Hospital, Central Pediatric Teaching Hospital and Al-Za'franiya General Hospital). A total of 270 nurses were invited, of which 211 participants responded (78.2%). In all, 168 participants completed the whole questionnaires (79.8%), the rest (20.2%), yielding an acceptable return rate at the employee level (Mellahi and Harris, 2016).

One of the plausible reasons why the response rate was relatively high is because the questionnaire was written in the respondents' local language (Arabic) to enhance their understanding. The use or purpose of the information provided by the respondents were explained in the introduction section. The respondents were assured that their responses would be analyzed for academic purpose and kept confidential. Moreover, the questions

were clear and concise, understandable and unambiguous, not interfering with their privacy, and the answer to each question was available among the options provided. The questionnaire was divided into different sections, with relatively short questions because long questions may be difficult for the respondents to complete. Besides, the structure of the questionnaire was simplified to avoid complex questions and grammatical mistakes.

According to their demographic characteristics, the majority of respondents (71.3%) were female. 14.7% were between the ages of "18 and 25," 17.2% between the ages of "26 and 35," 39.3% between the ages of "36 and 45," 17.2% between the ages of "46 and 55" and 11.6% over the age of 50. A bachelor's degree was held by 23.1% of respondents, a master's degree by 15.2% and a professional certificate by 61.7%. In total, 2.1% of respondents had less than a year of work experience, while 3%, 10.6%, 12% and 31.2%, respectively, had "1–3," "4–6," "7–9" and "10–13" years of work experience. Finally, only 41.1% of sampled had worked for 14 years or more (see Table 1).

3.2 Measurement of variables

All items were evaluated using five-point Likert scales ranging from 1 ("strongly disagree") to 5 ("strongly agree").

TL was assessed using four items drawn from Bass (1985) and Bass and Avolio's Multifactor Leadership Questionnaire (MLQ) (1997). The MLQ is a widely used instrument that is used to assess both transformational and transactional leadership (Northouse, 2016).

JC was measured with a five-item scale by Tims *et al.* (2012), who developed the scales for "increasing challenging job demands." Matsuo (2019) also used this scale to assess the impacts of JC on public health nurses in Japan. This scale was chosen because it is particularly pertinent to the work environment of hospital employees. Employees' actions to mitigate job demands to accomplish work objectives are behaviorally manifested through JC, which involves increasing job resources (Bavik *et al.*, 2017). "If there are new developments, I am one of the first to learn about and test them," and "I attempt to increase

Table 1 Profile of respondents

Variable	*Categories*	*Frequency*	*%*
Gender	Male	48	28.7
	Female	120	71.3
Age	18–25	25	14.7
	26–35	29	17.2
	36–45	66	39.3
	46–55	29	17.2
	56 an above	19	11.6
Marital status	Married	90	53.8
	Single	71	42.4
	Widower	2	1.2
	Divorced	4	2.6
Education level	Master's degree	26	15.2
	Bachelor's degree	38	23.1
	Professional certificate	104	61.7
Year of experience	<1	4	2.1
	1 to 3	5	3
	4 to 6	18	10.6
	7 to 9	20	12.0
	10 to 13	52	31.2
	> 14	69	41.1

Source: Analysis of demographic characteristics

the difficulty of my work by examining the underlying relationships between various aspects of my job."

PsyEmp: This variable was determined using the scale by Spreitzer (1995). The scale is divided into four subscales, each of which contains three items: Meaning (for example, MN, "The job I do is extremely important to me"); competence (for example, CT, "I am confident in my ability to perform my job"); self-determination (for example, DT, "I have significant autonomy in determining how to perform my job"); and impact (for example, IM, "I have a sizable impact on what happens in my department").

IWB: The participant's perspective was evaluated using the Scott and Bruce (1994) IWB questionnaire. Two items were chosen:

1. "I strive to develop novel processes, techniques, and modes of operation"; and
2. "I generate creative ideas to solve work-related problems."

3.2.1 Control variables. According to Garg and Dhar (2017), employees' age, gender and education have been linked to their innovative behavior. Also, age has been shown to be positively associated with PsyEmp (Schermuly and Meyer, 2020). Hence, the nurses' age was classified into five age groups:

1. for those aged 18–25;
2. for those aged 26–35;
3. for those aged 36–45;
4. for those aged 46–55; and
5. for those aged 55 years or older.

To eliminate potential confounding variables, previous research was followed (Dhar, 2016) and adjusted for age, gender and education. The analysis showed that the results were identical regardless of whether these control variables were included, indicating the robustness of the findings. To provide a more rigorous standard, however, the results of tests of the hypotheses were presented, including those that used controlled variables (see Table 3).

4. Result

4.1 Assessment of measurement model

To assess the measurement model's adequacy, the reliability and validity of each of the model's constructs were determined. Cronbach's alpha (alpha) and composite reliability were used to assess reliability, which was determined by interitem consistency (CR). As demonstrated in Table 2, all constructs had an alpha and a CR greater than 0.7, indicating

Table 2 Reliability and validity

	Min. loading	*Alpha*	*CR*	*AVE*	*Correlation* 1	2	3	4
1. IWB	0.81	0.78	0.84	0.89	0.84			
2. JC	0.72	0.82	0.84	0.80	0.83	0.87		
3. PsyEmp	0.81	0.88	0.89	0.84	0.80	0.86	0.81	
4. TL	0.70	0.80	0.73	0.80	0.78	0.86	0.75	0.87

Notes: C.R = composite reliability; AVE = average variance extracted; TL = transformational leadership; JC = job crafting; PsyEmp = psychological empowerment; IWB = innovative work behavior
Source: Analysis of PLS-A measurement model

their reliability (Al Wali *et al.*, 2022; Hair *et al.*, 2019). In addition, item loadings were calculated to determine the constructs' convergent validity at the item level. The loading factor for each construct was greater than 0.7. (Hair *et al.*, 2010). To establish construct-level convergent validity, the average variance extracted (AVE) were calculated, which exceeded the minimum acceptable value of 0.5 for all constructs (Hair *et al.*, 2014).

4.2 Descriptive statistics and correlations

Table 3 demonstrates the descriptive statistics for the focus variables. On five-point scales where three was considered average, the mean scores for IWB (M = 4.04, SD = 0.87) and JC (M = 4.33, SD = 0.76) were relatively high. PsyEmp (M = 4.01, SD = 0.81) and TL (M = 3.90, SD = 0.79) were found to be significant constructs. Table 3 also included correlations between the variables. Significant correlations were found between all the focus variables. The control variables had no significant effect on the results, demonstrating the robustness of the findings regardless of their inclusion.

Additionally, the heterotrait–monotrait (HTMT) ratio is used to establish discriminant validity. When the HTMT ratio is less than 0.9, discriminant validity is established (Henseler *et al.*, 2015). Table 3 shows two HTMT ratio values of 0.90, each construct has an HTMT ratio not higher than 0.9, indicating discriminant validity. The findings empirically demonstrate that the measurement model is suitable for quantifying the model's constructs.

4.3 Test for common method bias

Considering the nature of our data, which consisted of a single source of information, we attempted to control for common method bias through procedural and statistical methods. Following the guidelines provided by Podsakoff and Organ (1986), we ensured participant anonymity, provided clear instructions, added reversed questions and limited the length of the questionnaire. In addition, in terms of statistical remedies, we examined potential common method bias using Harman's single-factor test (Harman, 1967; Podskoff and Organ, 1986). Based on the Harman's single-factor test, it was observed that the single factor contributed to 37% of the total variance maintaining a limit of 50% (Podsakoff and Organ, 1986). Therefore, common method bias is preferable for this study.

4.4 Assessment of structural model

The structural model's purpose is to analyze the standardized paths that correspond to the study's hypotheses. Sign, size and significance were tested for each parameter to test each

Table 3 Descriptive statistics and HTMT ratio

			HTMT ratio						
	M	*S.D*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. Age	2.92	1.18	1						
2. Education	1.53	0.74	0.58	1					
3. Gender	0.71	0.45	0.78	0.36	1				
4. IWB	4.04	0.87	0.01*	0.03*	0.04*	1			
5. JC	4.33	0.76	0.08	0.05	0.14	0.63	1		
6. PsyEmp	4.01	0.81	0.04*	0.04*	0.06**	0.90	0.57	1	
7. TL	3.90	0.79	0.03	0.02	0.08	0.90	0.58	0.88	1

Notes: *N* = 168. TL = transformational leadership; JC = job crafting; PsyEmp = psychological empowerment; IWB = innovative work behavior; gender was coded as 0 (males) and 1 (females). Educational level was coded as three categories (1 for a professional certificate, 2 for a bachelor's degree, 3 for a master's degree). Age was coded as five categories (1 for 18–25 year, 2 for 26–35 years, 3 for 36–45 years, 4 for 46–55 years, 5 for 56 and above); *$p < 0.05$; **$p < 0.01$
Source: Primary data

hypothesis. This enables us to deduce the relationship between each latent variable and the dependent variable. A larger coefficient indicates that the latent variable has a greater influence on the dependent variable, whereas a smaller coefficient indicates the opposite. As is customary in exploratory studies, coefficients with *p*-values of less than 0.10 are regarded as significant (e.g. Cecere and Mazzanti, 2017; Cai and Li, 2018; Thomas *et al.*, 2021). First, TL has a positive and significant relationship with PsyEmp (coefficient = 0.367, $p < 0.000$), suggesting that TL can predict PsyEmp. Hence, *H1* is supported. This finding is consistent with previous studies (Jha, 2014; Pradhan *et al.*, 2017; Saira *et al.*, 2020) that found TL to be a significant predictor of PsyEmp.

Second, JC, has a positive and significant relationship with PsyEmp (coefficient = 0.607, $p < 0.022$), suggesting that JC can predict PsyEmp. Hence, *H2* is supported. This finding is consistent with previous research (Matsuo, 2019; Khan *et al.*, 2021) that found JC to be a significant predictor of PsyEmp. Third, Table 4 indicates that PsyEmp has a positive and significant relationship with IWB (coefficient = 0.903, $p < 0.000$), implying that an increase in PsyEmp will improve IWB. Hence, *H3* is supported. This finding is consistent with previous research (Stanescu *et al.*, 2021; Bantha and Nayak, 2021) that found PsyEmp to be a significant predictor of IWB.

4.5 Mediation result

To examine the mediating effects of PsyEmp, a mediation analysis based on the structural model was conducted using 5000 bootstrapping samples. As shown in Table 4, bias-corrected bootstrapping estimates indicated that PsyEmp had a mediating effect on the relationships between TL and IWB (coefficient = 0.332; 95% bootstrap CI = [0.229–0.445]; $p < 0.000$), as well as on the relationships between JC and IWB (coefficient = 0.548; 95% bootstrap CI = [0.415–0.666]; $p < 0.019$). As a result, *H4* and *H5* are supported.

The R^2 value, which represents the amount of variance explained by endogenous constructs in the structural model, is explained in Table 5. Hair *et al.* (2019) classified target constructs with R^2 values of 0.25, 0.50 and 0.75 as having a weak, medium or substantial

Table 4 Structural model

Relation	*Path coefficient*	*SD*	t- *test*	P-*value*	*95% confidence interval conclusion*	*Conclusion*
Direct effect						
TL → PsyEmp	0.367	0.075	4.926	0.000	(0.688–0.865)	*H1*: Supported
JC → PsyEmp	0.607	0.075	8.042	0.000	(0.249–0.500)	*H2*: Supported
PsyEmp → IWB	0.903	0.022	40.977	0.000	(0.863–0.931)	*H3*: Supported
Mediating effect						
TL → PsyEmp → IWB	0.332	0.064	5.162	0.000	(0.229–0.445)	*H4*: Supported
JC → PsyEmp → IWB	0.548	0.075	7.348	0.000	(0.415–0.666)	*H5*: Supported

Notes: $^{**}p < 0.01$; $^{***}p < 0.001$; TL = transformational leadership; JC = job crafting; PsyEmp = psychological empowerment; IWB = innovative work behavior
Source: Analysis of PLS-A measurement model

Table 5 Coefficients of determination (R^2)

	R square	*R square adjusted*
IWB	0.816	0.815
PsyEmp	0.932	0.931

Notes: PsyEmp: psychological empowerment; IWB: innovative work behavior
Source: Analysis of PLS-A measurement model

relationship (Hair *et al.*, 2019). The researcher discovered that the target endogenous construct had a significant predictive accuracy.

5. Discussion

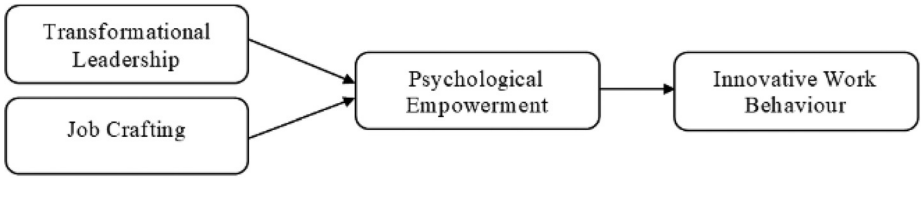
The results of the present study provide support for the proposed theoretical model (Figure 1). The purpose of this study was to examine the relationship between TL, JC and IWB, as well as the role of PsyEmp in mediating this relationship. The results validated all the hypothesized relationships: TL and PsyEmp, JC and PsyEmp, PsyEmp and IWB as well as PsyEmp mediating role.

First, this study shows that TL motivate their employees through a PsyEmp mechanism (Bass and Steidlmeier, 1999). This is accomplished by increasing the employees' PsyEmp levels, which is accomplished by increasing the employees' attachment to their work, providing them with the skills they need to complete their assigned tasks and giving them a sense of control over their surroundings (Avolio *et al.*, 2004). On the basis of COR, transformational leaders provide their employees with the necessary autonomy and purpose at work. This is a crucial psychological resource for inducing organizational commitment (Avolio *et al.*, 2004; Hobfoll *et al.*, 2018). This type of PsyEmp encourages greater employee participation and attachment to their organizations (Zhu *et al.*, 2012). Although there is little evidence in other studies to support this positive relationship, it can be explained by the fact that nurses perceive contingent reward leadership as rewarding opportunities to achieve nurses' success and when leaders consistently reward, performance increases and nurses feel empowered to meet required targets (Barroso Castro *et al.*, 2008). This conclusion is supported by previous research (Shahab *et al.*, 2018; Singh and Singh, 2019).

Second, the result indicates that JC positively effect PsyEmp. This indicates that more empowered nurses have a greater ability to craft their professions. The finding may be explained by the fact that nurses are empowered; they care about their work, have confidence in and control over it and believe that their work matters. This sense of PsyEmp enables the JC to modify the essential job characteristics to increase the job's meaning. JC can be a meaningful and empowering process. Additionally, the outcome of JC can result in significant, energizing changes to nurses' jobs (Oldham and Hackman, 2010), which contributes to nurses' empowerment. Also, this is congruent with SCT (Bandura, 1989; Bosma and Kunnen, 2001), which proposes that self-generated influences drive behavior, and so a change in PsyEmp is necessary for nurses to modify their job-crafting behavior.

Third, it has been established that PsyEmp plays an essential role in facilitating IWB. When nurses are empowered, their perceptions and subsequent actions reflect this impact. Nurses who believe they have considerable control over their tasks and can influence their departments may be more adaptable and innovative. In addition, Luoh *et al.* (2014) discovered a significant relationship between PsyEmp and the IWB of workers. When

Figure 1 Conceptual framework



Source: Author's own work

nurses are given autonomy, their perceptions and subsequent actions reflect this effect. It is possible that nurses will be more adaptable and innovative if they feel they have a great deal of influence over the outcomes of their tasks and on their sectors. This result is consistent with the findings of Javed *et al.* (2018), who found that empowered employees have a clear understanding of their roles, are motivated by their work and are confident in their abilities. In addition, they feel less constrained by rules, allowing them to deviate from the norm, accept change, take calculated risks and experiment with novel ideas (Liu *et al.*, 2019). Similarly, the result showed that nurses with high PsyEmp scores benefit from their IWB.

Finally, the results show that PsyEmp mediates the relationship between TL and IWB as well as JC and IWB. To empower nurses' perceptions and subsequent actions to reflect this impact on IWB improvement, leaders must delegate authority to responsible individuals, disseminate information widely to staff in need and provide space for staff to complete assigned work according to their abilities and expertise. PsyEmp is the mechanism by which transformational leaders influence positive behavioral outcomes, such as OCB and innovation, among employees. Leadership studies recognize the significance of TL as it promotes motivation, creativity, innovation, confidence, empowerment and vision among employees (Bass and Riggio, 2006). Transformational leaders psychologically empower employees to analyze and conceptualize the problem, resulting in better solutions; creating an environment of trust, fairness and honesty; elevating the significance of work and organizational loyalty; and assuming a greater level of responsibility (Lan and Chong, 2015). Chamberlin *et al.* (2018) stated that PsyEmp transfers JC effects to IWB. According to Deci and Ryan (1985), individuals encountered both supportive and non-supportive situational factors at work, with each having a distinct effect on PsyEmp. By encouraging an internal *locus* of causation and competence, for instance, the supportive informational elements of a specific situation influenced the intrinsic motivation. If nurses in public hospitals believe that their organization or workplace provides additional JC, they will feel more empowered. The personal control and self-determination of nurses will increase, and they will feel more competent and aware of their power to shape organizational behavior. A more proactive approach to the workplace environment will almost certainly lead to increased empowerment, which will increase IWB.

5.1 Theoretical implication

A significant theoretical implication of this research is the establishment of PsyEmp boundary conditions for TL and JC's ability to motivate the IWB, as well as the ability of IWB adherents to act on TL's inspiring appeal, a significant theoretical implication that also extends the above findings to SCT. In addition to the theoretical implications of PsyEmp as an IWB inducer, it is important to note that PsyEmp is a necessary condition for IWB to occur. Previous research has demonstrated the significance of the PsyEmp for IWB. This finding is consistent with previous research (Nasir and Suryani, 2019). On the other hand, this study should be interpreted in light of researchers' calls (Anderson *et al.*, 2014) for increased integration of innovation research to contribute more to creativity and innovation. Additionally, the positive effect of TL on PsyEmp, and thus the positive effect of PsyEmp on nurses' outcomes, supports the claim that leaders' positive attitudes shape employees' perceptions, which they reciprocate through positive feedback and behavior (Spence, 1978).

5.2 Practical implication

The process of idea generation is iterative, and some of the new ideas generated by employees are likely to fail. As a result, based on PsyEmp to ensure the continued operation of their IWB. It is believed that a leader should foster an external environment that is supportive of employees' taking risks. Managers should recognize employees' efforts to

innovate, give employees autonomy in their job-related activities, assist them in clarifying their roles (Afsar *et al.*, 2014) and accept employees' mistakes and failure to accomplish desired goals to endorse workers' state of mind with PsyEmp. Additionally, current research indicates that managers use PsyEmp to motivate their employees to perform better. The study recommends that human resource departments develop tailored training and development programs for management personnel to assist them in improving their TL behavior (Johns, 2006). Executives should also consider contextual factors such as organizational culture, which can have an impact on how an organization operates. Managers need to know their workplace environment for TL to work well, because it has a direct effect on how employees are empowered and motivated.

In public hospitals, JC methods that alter job resources and demands may be designed and implemented. Nurses could gain knowledge of self-change abilities such as the ability to adapt, planning, resource utilization and intentional behavior (Robitschek *et al.*, 2012), as well as how to integrate these abilities with JC techniques that alter job resources and demands. Additionally, JC significantly contributes to subordinates' feelings of empowerment at work, which managers should recognize. Managers must advise subordinates on how to enhance the features of their jobs to assist them. The human resources department is responsible for coaching managers in their assigned roles. While PsyEmp acts as a bridge between TL and IWB, leaders should be aware of this fact as well. Leaders with a higher level of TL will have a greater influence on their employees' IWB than leaders with a lower level of TL. According to the findings of this study, leadership styles may have an impact on IWB in the workplace. As a result, leaders should encourage themselves to continue their development to attain a higher level of TL to psychologically empower their employees to the maximum extent possible.

5.3 Conclusion

First, this study aimed to examine the relationship between nurses' PsyEmp and IWB. A significant positive relationship was found between a nurse's PsyEmp and their IWB. This study also investigates the relationship between a nurse's TL and PsyEmp. The results indicate that a nurse's TL is positively and significantly related to a nurse's IWB. Third, this study establishes a connection between a nurse's JC and a nurse's PsyEmp, and the results indicate that a nurse's JC is significantly and positively associated with a nurse's IWB. Fourth, the purpose of this study was to evaluate the nurse's PsyEmp ability to mediate the relationship between the nurse's TL and nurse's IWB. The findings show that the effect of a nurse's TL on the nurse's IWB is mediated by the nurse's PsyEmp. These results provide strong evidence that the nurse's PsyEmp mediates the effect of the nurse's TL on the nurse's IWB. The final goal of this study was to ascertain how the nurse's PsyEmp affected the relationship between the nurse's JC and nurse's IWB. The results indicate that a nurse's PsyEmp mediates the correlation between the nurse's JC and IWB. Based on this study's findings, public hospitals can encourage their nurses to identify and develop their skills and strengths, while also psychologically empowering them to develop a relationship based on trust (Abdulrab *et al.*, 2018). Thus, public hospitals must prioritize the implementation of PsyEmp to encourage their nurses to use IWB. When public hospitals provide nurses with support, the nurses will reward the public hospitals with more positive behavior (such as IWB). This procedure can aid in sustaining effective innovation. In public hospitals, nurses need to have a stronger sense of PsyEmp and work on improving their creative skills. This will help public hospitals reach their missions and goals more effectively and give nurses a strong sense of organizational belonging. This will also improve the nurses' sense of purpose and competence, thereby increasing their dedication and contribution to the success of public hospitals.

The result indicates that the increased PsyEmp has a significant positive impact on the extent to which leadership positively influences the work of public hospital nurses.

Public hospitals should highlight and encourage nurses' TL at all levels of workplaces and adopt such TL strategies by acting as role models, inciting intellectual stimulation, providing individualized support and providing contingent rewards, which are widely acknowledged to be the fundamentals of effective leadership. The implementation of TL should be a priority for all nurses in middle-and upper-level leadership positions because TL practices can significantly improve subordinates' PsyEmp, work performance and happiness. According to the findings, improving nurses' perceptions of HR practices that improve opportunities raises their PsyEmp and the number of activities they engage in to use their knowledge, skills and interests, as well as the number of activities they engage in to maximize their personal resources by realizing their growth potential. Considering that previous research indicates that these crafting activities are associated with job performance, work engagement, occupational motivation and effectiveness among nurses (e.g. Zhang and Liu, 2021; Baghdadi *et al.*, 2021; Hyun, 2020), they may assist in enhancing the working environment of these nurses in public hospitals.

5.4 Limitations and future studies

This study acknowledges several limitations and discuss how future research can address them more effectively. First, this study uses a quantitative technique to collect and analyze the data on the relationship among IWB, TL, JC and PsyEmp. The data were collected through a survey questionnaire without conducting any interview. Hence, it is recommended for future study to investigate the issues using mixed methods (i.e. quantitative and qualitative techniques) to provide greater insights. Because mixed methods incorporate the benefits of quantitative and qualitative techniques, it can provide a more comprehensive picture compared to a standalone qualitative or quantitative approach. The quantitative data can be collected with a survey questionnaire while the qualitative data can be collected through interviews and thereafter analyzed accordingly. Second, future research could include the antecedents as mediators, allowing for a deeper examination of the mechanisms underlying the relationship between PsyEmp and IWB. When considering these factors, PsyEmp and IWB supervisors should consider personal differences, trust, the suitability of the personal environment, workplace fairness and the employee value proposition. Third, while this research concentrated on the effect of mediation on individuals, PsyEmp can be influenced by organizational-level factors (Li and Hsu, 2016). As a result, future research could examine higher-level factors (e.g. organizational or group factors) that may affect TL and JC on IWB, such as organizational cultures and service climate. Finally, because the participants in this study were nurses working in Iraqi public hospitals, it is possible that the results were influenced by the country's culture. Chia (2003) discovered that Western and Eastern cultures have distinct learning processes. As a result, cross-cultural comparisons of self-initiated change processes in the workplace would be an intriguing research topic, and future studies should include a diverse range of services and cultures.

References

Abdulrab, M., Zumrah, A.R., Almaamari, Q., Al-Tahitah, A.N., Isaac, O. and Ameen, A. (2018), "The role of psychological empowerment as a mediating variable between perceived organizational support and organizational citizenship behaviour in Malaysian higher education institutions", *International Journal of Management and Human Science*, Vol. 2 No. 3, pp. 1-14.

Afsar, B., Al-Ghazali, B.M., Cheema, S. and Javed, F. (2021), "Cultural intelligence and innovative work behavior: the role of work engagement and interpersonal trust", *European Journal of Innovation Management*, Vol. 24 No. 4, pp. 1082-1109.

Afsar, B., Badir, Y. and Bin Saeed, B. (2014), "Transformational leadership and innovative work behavior", *Industrial Management & Data Systems*, Vol. 114 No. 8, pp. 1270-1300.

Aggarwal, A., Mittal, A. and Rasheed, M.A. (2019), "A thematic analysis of employee competencies in an uncertain business environment: a study on the Indian infrastructure sector", *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 11, pp. 1289-1301.

Aggarwal, A., Chand, P.K., Jhamb, D. and Mittal, A. (2020), "Leader-member exchange, work engagement, and psychological withdrawal behavior: the mediating role of psychological empowerment", *Frontiers in Psychology*, Vol. 11.

Al Hilfi, T.K., Lafta, R. and Burnham, G. (2013), "Health services in Iraq", *The Lancet*, Vol. 381 No. 9870, pp. 939-948.

Al-Saiedi, A. and Haddad, M. (2021), "Challenges faced by the Iraqi health sector in responding to COVID-19", *Physicians for Human Rights*, (accessed 5 September 2021).

Al Wali, J., Muthuveloo, J., Ping, R. and Bataineh, T.A. (2021), "The impact of HR practices and innovative work behavior on job performance in physicians", *International Journal of Human Resource Studies*, Vol. 11 No. 3, pp. 42-66.

Al Wali, J., Muthuveloo, J. and Teoh, R. (2022), "Unravelling the nexus between creative self-efficacy, humble leadership, innovative work behaviour and job performance amongst physicians in public hospitals", *Asia-Pacific Journal of Business Administration*, Vol. 14 No. 4, doi: 10.1108/APJBA-05-2021-0205.

Alwali, J. and Alwali, W. (2022), "The relationship between emotional intelligence, transformational leadership, and performance: a test of the mediating role of job satisfaction", *Leadership & Organization Development Journal*, Vol. 43 No. 6, pp. 928-952.

Amundsen, S. and Martinsen, Ø.L. (2015), "Linking empowering leadership to job satisfaction, work effort, and creativity: the role of self-leadership and psychological empowerment", *Journal of Leadership & Organizational Studies*, Vol. 22 No. 3, pp. 304-323.

Anderson, N., Potočnik, K. and Zhou, J. (2014), "Innovation and creativity in organizations: a state", *Of-the-Science Review, Prospective Commentary, and Guiding Framework. Journal of Management*, Vol. 40 No. 5, pp. 1297-1333.

Andrews, D.R., Richard, D.C.S., Robinson, P., Celano, P. and Hallaron, J. (2012), "The influence of staff nurse perception of leadership style on satisfaction with leadership: a cross-sectional survey of paediatric nurses", *International Journal of Nursing Studies*, Vol. 49 No. 9, pp. 1103-1111.

Avolio, B.J., Gardner, W.L., Walumbwa, F., Luthans, F. and May, D.R. (2004), "Unlocking the mask: a look at the process by which authentic leaders impact follower attitudes and behaviors", *The Leadership Quarterly*, Vol. 15 No. 6, pp. 801-823.

Bacaksiz, F.E., Tuna, R. and Seren, A.K.H. (2017), "The relationships between organisational identification, job performance, and job crafting: a study among nurses", *International Journal of Caring Sciences*, Vol. 10 No. 1, pp. 251-259.

Baghdadi, N.A., Farghaly Abd-El Aliem, S.M. and Alsayed, S.K. (2021), "The relationship between nurses' job crafting behaviours and their work engagement", *Journal of Nursing Management*, Vol. 29 No. 2, pp. 214-219.

Bailyn, L. (1988), "Freeing work from the constraints of location and time", *New Technology, Work and Employment*, Vol. 3 No. 2, pp. 143-152.

Bandura, A. (1989), "Regulation of cognitive processes through perceived self-efficacy", *Developmental Psychology*, Vol. 25 No. 5, pp. 729-735.

Bantha, T. and Nayak, U. (2021), "The relation of workplace spirituality with employees' innovative work behaviour: the mediating role of psychological empowerment", *Journal of Indian Business Research*, Vol. 13 No. 2, pp. 223-235.

Bakker, A.B., Tims, M. and Derks, D. (2012), "Proactive personality and job performance: the role of job crafting and work engagement", *Human Relations*, Vol. 65 No. 10, pp. 1359-1378.

Barroso Castro, C., Villegas Periñan, M.M. and Casillas Bueno, J.C. (2008), "Transformational leadership and employees' attitudes: the mediating role of psychological empowerment", *The International Journal of Human Resource Management*, Vol. 19 No. 10, pp. 1842-1863.

Bass, B.M. (1985), *Leadership and Performance beyond Expectations*, Free Press, New York, NY.

Bass, B.M. and Avolio, B.J. (1997), *Full Range Leadership Development: Manual for the Multifactor Leadership Questionnaire*, Mind Garden, Menlo Park, CA.

Bass, B.M. and Steidlmeier, P. (1999), "Ethics, character, and authentic transformational leadership behavior", *The Leadership Quarterly*, Vol. 10 No. 2, pp. 181-217.

Bass, B.M. and Riggio, R.E. (2006), *Transformational Leadership*, 2nd ed., Psychology Press, Philadelphia, PA.

Bass, B.M., Avolio, B.J., Jung, D.I. and Berson, Y. (2003), "Predicting unit performance by assessing transformational and transactional leadership", *Journal of Applied Psychology*, Vol. 88 No. 2, pp. 207-218.

Bass, B.M., Waldman, D.A., Avolio, B.J. and Bebb, M. (1987), "Transformational leadership and the falling dominoes effect", *Group & Organization Studies*, Vol. 12 No. 1, pp. 73-87.

Basu, R. and Green, S.G. (1997), "Leader-member exchange and transformational leadership: an empirical examination of innovative behaviors in leader-member dyads", *Journal of Applied Social Psychology*, Vol. 27 No. 6, pp. 477-499.

Bavik, A., Bavik, Y.L. and Tang, P.M. (2017), "Servant leadership, employee job crafting, and citizenship behaviors: a cross-level investigation", *Cornell Hospitality Quarterly*, Vol. 58 No. 4, pp. 364-373.

Boamah, S.A., Laschinger, H.K.S., Wong, C. and Clarke, S. (2018), "Effect of transformational leadership on job satisfaction and patient safety outcomes", *Nursing Outlook*, Vol. 66 No. 2, pp. 180-189.

Boerner, S., Eisenbeiss, S.A. and Van Knippenberg, D. (2008), "Transformational leadership and team innovation: integrating team climate principles", *Journal of Applied Psychology*, Vol. 93 No. 6, pp. 1438-1446.

Bosma, H.A. and Kunnen, E.S. (2001), "Determinants and mechanisms in ego identity development: a review and synthesis", *Developmental Review*, Vol. 21 No. 1, pp. 39-66.

Bos-Nehles, A., Renkema, M. and Janssen, M. (2017), "HRM and innovative work behaviour: a systematic literature review", *Personnel Review*, Vol. 46 No. 7, pp. 1228-1253.

Buil, I., Martínez, E. and Matute, J. (2019), "Transformational leadership and employee performance: the role of identification, engagement and proactive personality", *International Journal of Hospitality Management*, Vol. 77, pp. 64-75.

Byrne, C.L., Mumford, M.D., Barrett, J.D. and Vessey, W.B. (2009), "Examining the leaders of creative efforts: what do they do, and what do they think about?", *Creativity and Innovation Management*, Vol. 18 No. 4, pp. 256-268.

Carmeli, A., Meitar, R. and Weisberg, J. (2006), "Self-leadership skills and innovative behavior at work", *International Journal of Manpower*, Vol. 27 No. 1, pp. 75-90.

Cecere, G. and Mazzanti, M. (2017), "Green jobs and eco-innovations in European SMEs", *Resource and Energy Economics*, Vol. 49, pp. 86-98.

Chamberlin, M., Newton, D.W. and LePine, J.A. (2018), "A meta-analysis of empowerment and voice as transmitters of high-performance managerial practices to job performance", *Journal of Organizational Behavior*, Vol. 39 No. 10, pp. 1296-1313.

Chia, R. (2003), "From knowledge-creation to the perfecting of action: Tao, Basho and pure experience as the ultimate ground of knowing", *Human Relations*, Vol. 56 No. 8, pp. 953-981.

Conger, J.A. and Kanungo, R.N. (1988), "The empowerment process: integrating theory and practice", *The Academy of Management Review*, Vol. 13 No. 3, pp. 471-482.

DeCharms, R. (1968), *Personal*, Academic Press, causation. New York, NY.

Deci, E.L. and Ryan, R.M. (1985), *Intrinsic Motivation and Self-Determination in Human Behavior*, Springer, New York, NY.

Deci, E.L., Connell, J.P. and Ryan, R.M. (1989), "Self-determination in a work organization", *Journal of Applied Psychology*, Vol. 74 No. 4, pp. 580-590.

Demerouti, E. (2014), "Design your own job through job crafting", *European Psychologist*, Vol. 19 No. 4.

Demerouti, E. and Bakker, A.B. (2014), "Job crafting", *An Introduction to Contemporary Work Psychology*, Vol. 1, pp. 414-433.

Denti, L. (2013), *Leadership and Innovation in R&D Teams*, Bloomsbury Academic, London, doi: 10.5465/ambpp.2013.197.

Denti, L. and Hemlin, S. (2012), "Leadership and innovation in organizations: a systematic review of factors that mediate or moderate the relationship", *International Journal of Innovation Management*, Vol. 16 No. 3, pp. 1240007-1240008.

Dhar, R.L. (2016), "Ethical leadership and its impact on service innovative behavior: the role of LMX and job autonomy", *Tourism Management*, Vol. 57, pp. 139-148.

Doran, D., Mccutcheon, A.S., Evans, M.G., Macmillan, K., Hall, L., Pringle., and Valente, D. (2004), "Impact of the manager's span of control on leadership and performance (Foundation CHSR)".

Edmondson, A.C. (2003), "Speaking up in the operating room: how team leaders promote learning in interdisciplinary action teams", *Journal of Management Studies*, Vol. 40 No. 6, pp. 1419-1452.

Garg, S. and Dhar, R. (2017), "Employee service innovative behavior: the roles", *International Journal of Manpower*, Vol. 38 No. 2, pp. 242-258.

Gong, Y., Wu, Y., Huang, P., Yan, X. and Luo, Z. (2020), "Psychological empowerment and work engagement as mediating roles between trait emotional intelligence and job satisfaction", *Frontiers in Psychology*, Vol. 11.

Hackett, R.D., Wang, A.C., Chen, Z., Cheng, B.S. and Farh, J.L. (2018), "Transformational leadership and organisational citizenship behaviour: a moderated mediation model of leader-member- exchange and subordinates", *Applied Psychology*, Vol. 67 No. 4, pp. 617-644.

Hair, J.F., Black, W.C., Babin, B.J., and Anderson, R.E. (2010), *Multivariate Data Analysis: A Global Perspective*, 7th ed., Pearson, Boston, MA.

Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 31 No. 1, pp. 2-24.

Hair, F.J., Sarstedt, M., Hopkins, L. and Kuppelwieser, G.V. (2014), "Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research", *European Business Review*, Vol. 26 No. 2, pp. 106-121.

Heckhausen, J. (2020), "Integrating and instigating research on person and situation, motivation and volition, and their development", *Motivation Science*, Vol. 6 No. 3, p. 185.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.

Herzlinger, R.E. (2006), "Why innovation in health care is so hard", *Harvard Business Review*, Vol. 84 No. 5, pp. 58-72.

Hobfoll, S.E. (2001), "The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory", *Applied Psychology*, Vol. 50 No. 3, pp. 337-421.

Hobfoll, S.E., Halbesleben, J., Neveu, J.P. and Westman, M. (2018), "Conservation of resources in the organizational context: the reality of resources and their consequences", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 5 No. 1, pp. 103-128.

Huang, Y.T., Liu, H. and Huang, L. (2021), "How transformational and contingent reward leaderships influence university faculty's organizational commitment: the mediating effect of psychological empowerment", *Studies in Higher Education*, Vol. 46 No. 11, pp. 2473-2490.

Hyun, M.S. (2020), "Structural relationship between nurses' occupational motivation and effectiveness based on the job crafting model", *Journal of Korean Academy of Nursing Administration*, Vol. 26 No. 3, p. 192.

Javed, B., Abdullah, I., Haque, A.U. and Rubab, U. (2018), "Inclusive leadership and innovative work behavior: the role of psychological empowerment", *Academy of Management Proceedings*, Vol. 2018 No. 1, p. 15780.

Jha, S. (2014), "Transformational leadership and psychological empowerment: determinants of organizational citizenship behavior", *South Asian Journal of Global Business Research*, Vol. 3 No. 1, pp. 18-35.

Johns, G. (2006), "The essential impact of context on organizational behavior", *Academy of Management Review*, Vol. 31 No. 2, pp. 386-408.

Joo, B.K. and Shim, J.H. (2010), "Psychological empowerment and organizational commitment: the moderating effect of organizational learning culture", *Human Resource Development International*, Vol. 13 No. 4, pp. 425-441.

Jung, D.I., Chow, C. and Wu, A. (2003), "The role of transformational leadership in enhancing organizational innovation: hypotheses and some preliminary findings", *The Leadership Quarterly*, Vol. 14 Nos 4/5, pp. 525-544.

Kang, D.-S. and Bartlett, K.R. (2013), "The role of perceived external prestige in predicting customer-oriented citizenship behaviors: the role of perceived external prestige in predicting COCBs", *Human Resource Development Quarterly*, Vol. 24 No. 3, pp. 285-312.

Kark, R., Shamir, B. and Chen, G. (2003), "The two faces of transformational leadership: empowerment and dependency", *Journal of Applied Psychology*, Vol. 88 No. 2, p. 246.

Khan, M.M., Mubarik, M.S., Islam, T., Rehman, A., Ahmed, S.S., Khan, E. and Sohail, F. (2021), "How servant leadership triggers innovative work behavior: exploring the sequential mediating role of psychological empowerment and job crafting", *European Journal of Innovation Management*, Vol. 24 No. 5.

Kim, S.Y. and Fernandez, S. (2017), "Employee empowerment and turnover intention in the US federal bureaucracy", *The American Review of Public Administration*, Vol. 47 No. 1, pp. 4-22.

Kim, S. and Shin, M. (2019), "Transformational leadership behaviors, the empowering process, and organizational commitment: investigating the moderating role of organizational structure in Korea", *The International Journal of Human Resource Management*, Vol. 30 No. 2, pp. 251-275.

Knol, J. and Van Linge, R. (2009), "Innovative behaviour: the effect of structural and psychological empowerment on nurses", *Journal of Advanced Nursing*, Vol. 65 No. 2, pp. 359-370.

Kurnaz, M. and Arslan, A. (2011), "Praxeological analysis of the teaching conditions of the energy concept", *Cypriot Journal of Educational Sciences*, Vol. 5 No. 4, pp. 233-242.

Lan, X.M. and Chong, W.Y. (2015), "The mediating role of psychological empowerment between transformational leadership and employee work attitudes", *Procedia – Social and Behavioral Sciences*, Vol. 172 No. 27, pp. 184-191.

Länsisalmi, H., Kivimäki, M., Aalto, P. and Ruoranen, R. (2006), "Innovation in healthcare: a systematic review of recent research", *Nursing Science Quarterly*, Vol. 19 No. 1, pp. 66-72.

Laschinger, H.K.S., Finegan, J. and Shamian, J. (2001), "The impact of workplace empowerment, organizational trust on staff nurses' work satisfaction and organizational commitment", *Health Care Management Review*, Vol. 26 No. 3, pp. 7-23.

Laschinger, H.K., Wilk, P. and Cho, J. (2009), "Empowerment, engagement and perceived effectiveness in nursing work environments: does experience matter?", *Journal of Nursing Management*, Vol. 17 No. 5, pp. 636-646.

Laschinger, H.K., Read, E. and Wilk, P. (2014), "The influence of nursing unit empowerment and social capital on unit effectiveness and nurse perceptions of patient care quality", *JONA: The Journal of Nursing Administration*, Vol. 44 No. 6, pp. 347-352.

Laschinger, H.K.S., Wong, C.A. and Greco, P. (2006), "The impact of staff nurse empowerment on person-job fit and work engagement/burnout", *Nursing Administration Quarterly*, Vol. 30 No. 4, pp. 358-367.

Lee, C. and Wong, C.-S. (2019), "The effect of team emotional intelligence on team process and effectiveness", *Journal of Management & Organization*, Vol. 25 No. 6, pp. 844-859.

Li, M. and Hsu, C.H.C. (2016), "A review of employee innovative behavior in services", *International Journal of Contemporary Hospitality Management*, Vol. 28 No. 12, pp. 2820-2841.

Li, H., Shi, Y., Li, Y., Xing, Z., Wang, S., Ying, J. and Sun, J. (2018), "Relationship between nurse psychological empowerment and job satisfaction: a systematic review and meta-analysis", *Journal of Advanced Nursing*, Vol. 74 No. 6, pp. 1264-1277.

Liden, R.C., Wayne, S.J. and Sparrowe, R.T. (2000), "An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes", *Journal of Applied Psychology*, Vol. 85 No. 3, p. 407.

Liu, X., He, P., Chen, W. and Gao, J. (2019). "Improving multi-task deep neural networks via knowledge distillation for natural language understanding", arXiv preprint arXiv:1904.09482.

Luoh, H.F., Tsaur, S.H. and Tang, Y.Y. (2014), "Empowering employees: job standardization and innovative behavior", *International Journal of Contemporary Hospitality Management*, Vol. 26 No. 7.

McVicar, A. (2003), "Workplace stress in nursing: a literature review", *Journal of Advanced Nursing*, Vol. 44 No. 6, pp. 633-642.

Majumdar, B. and Ray, A. (2011), "Transformational leadership and innovative work behavior", *Journal of the Indian Academy of Applied Psychology*, Vol. 37 No. 1, pp. 140-148.

Malik, M., Sarwar, S. and Orr, S. (2021), "Agile practices and performance: examining the role of psychological empowerment", *International Journal of Project Management*, Vol. 39 No. 1, pp. 10-20.

Manojlovich, M. (2007), "Power and empowerment in nursing: looking backward to inform the future", *Online Journal of Issues in Nursing*, Vol. 12 No. 1, p. 2.

Matsuo, M. (2019), "Personal growth initiative as a predictor of psychological empowerment: the mediating role of job crafting", *Human Resource Development Quarterly*, Vol. 30 No. 3, pp. 343-360.

Mellahi, K. and Harris, L.C. (2016), "Response rates in business and management research: an overview of current practice and suggestions for future direction", *British Journal of Management*, Vol. 27 No. 2, pp. 426-437.

Mohd Nasurdin, A., Tan, C.L. and Naseer Khan, S. (2020), "Can high performance work practices and satisfaction predict job performance? An examination of the Malaysian private health-care sector", *International Journal of Quality and Service Sciences*, Vol. 12 No. 4, pp. 521-540.

Moss, S.A. and Ritossa, D.A. (2007), "The impact of goal orientation on the association between leadership style and follower performance, creativity and work attitudes", *Leadership*, Vol. 3 No. 4, pp. 433-456.

Nasir, H. and Suryani, I. (2019), "Psychological empowerment, innovative work behavior and job satisfaction", *Proceedings of the 3rd International Conference on Accounting, Management and Economics 2018 (ICAME 2018)*.

Northouse, P.G. (2016), *Introduction to Leadership: Concepts and Practice*, Sage, New York.

Oldham, G.R. and Hackman, J.R. (2010), "Not what it was and not what it will be: the future of job design research: future of job design research", *Journal of Organizational Behavior*, Vol. 31 Nos 2/3, pp. 463-479.

Orth, M. and Volmer, J. (2017), "Daily within-person effects of job autonomy and work engagement on innovative behaviour: the cross-level moderating role of creative self-efficacy", *European Journal of Work and Organizational Psychology*, Vol. 26 No. 4, pp. 601-612.

Özarallı, N. (2015), "Linking empowering leader to creativity: the moderating role of psychological (felt) empowerment", *Procedia - Social and Behavioral Sciences*, Vol. 181, pp. 366-376.

Ozcan, Y.A., Yeh, S.C., McCollum, D. and Begun, J.W. (1996), "Trends in labor efficiency among American hospital markets", *Annals of Operations Research*, Vol. 67 No. 1, pp. 61-81.

Panagiotis, G. and Eugenia, P. (2008), "Employees' psychological empowerment via intrinsic and extrinsic rewards", *Academy of Health Care Management Journal*, Vol. 4 No. 1, pp. 17-38.

Parker, S.K., Williams, H.M. and Turner, N. (2006), "Modeling the antecedents of proactive behaviour at work", *Journal of Applied Psychology*, Vol. 91 No. 3.

Pieterse, A.N., van Knippenberg, D., Schippers, M. and Stam, D. (2009), "Transformational and transactional leadership and innovative behavior: the moderating role of psychological empowerment", *Journal of Organizational Behavior*, Vol. 31 No. 4, pp. 609-623.

Podsakoff, P.M. and Organ, D.W. (1986), "Self-reports in organizational research: problems and prospects", *Journal of Management*, Vol. 12 No. 4, pp. 531-544.

Pradhan, R., Panda, M. and Jena, L. (2017), "Transformational leadership and psychological empowerment: the mediating effect of organizational culture in Indian retail industry", *Journal of Enterprise Information Management*, Vol. 30 No. 1, pp. 82-95.

Ramamoorthy, N., Flood, P.C., Slattery, T. and Sardessai, R. (2005), "Determinants of innovative work behaviour: development and test of an integrated model", *Creativity and Innovation Management*, Vol. 14 No. 2, pp. 142-150.

Rehman, W.U., Ahmad, M., Allen, M.M., Raziq, M.M. and Riaz, A. (2019), "High involvement HR systems and innovative work behaviour: the mediating role of psychological empowerment, and the moderating roles of manager and co-worker support", *European Journal of Work and Organizational Psychology*, Vol. 28 No. 4, pp. 525-535.

Robitschek, C., Ashton, M.W., Spering, C.C., Geiger, N., Byers, D., Schotts, G.C. and Thoen, M.A. (2012), "Development and psychometric evaluation of the personal growth initiative scale-II", *Journal of Counseling Psychology*, Vol. 59 No. 2, pp. 274-287.

Rosing, K., Frese, M. and Bausch, A. (2011), "Explaining the heterogeneity between the leadership innovation relationship: ambidextrous leadership", *The Leadership Quarterly*, Vol. 22 No. 5, pp. 956-974.

Rudolph, C.W., Katz, I.M., Lavigne, K.N. and Zacher, H. (2017), "Job crafting: a meta-analysis of relationships with individual differences, job characteristics, and work outcomes", *Journal of Vocational Behavior*, Vol. 102, pp. 112-138.

Saira, S., Mansoor, S. and Ali, M. (2020), "Transformational leadership and employee outcomes: the mediating role of psychological empowerment", *Leadership & Organization Development Journal*, Vol. 42 No. 1, pp. 130-143.

Sangar, R. and Rangnekar, S. (2014), "Psychological empowerment and role satisfaction as determinants of creativity", *Asia-Pacific Journal of Management Research and Innovation*, Vol. 10 No. 2, pp. 119-127.

Schermuly, C.C. and Meyer, B. (2020), "Transformational leadership, psychological empowerment, and flow at work", *European Journal of Work and Organizational Psychology*, Vol. 29 No. 5, pp. 740-752.

Scott, S.G. and Bruce, R.A. (1994), "Determinants of innovative behavior: a path model of individual innovation in the workplace", *Academy of Management Journal*, Vol. 37 No. 3, pp. 580-607.

Seibert, S.E., Silver, S.R. and Randolph, W.A. (2004), "Taking empowerment to the next level: a multiple-level model of empowerment, performance, and satisfaction", *Academy of Management Journal*, Vol. 47 No. 3, pp. 332-349.

Shahab, M.A., Sobari, A. and Udin, U. (2018), "Empowering leadership and organizational citizenship behavior: the mediating roles of psychological empowerment and emotional intelligence in medical service industry", *International Journal of Economics and Business Administration*, Vol. VI No. 3, pp. 403-412.

Shalley, C.E. and 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*, Vol. 15 No. 1, pp. 33-53.

Singh, M. and Sarkar, A. (2012), "The relationship between psychological empowerment and innovative behavior: a dimensional analysis with job involvement as mediator", *Journal of Personnel Psychology*, Vol. 11 No. 3, pp. 127-137.

Singh, S.K. and Singh, A.P. (2019), "Interplay of organizational justice, psychological empowerment, organizational citizenship behavior, and job satisfaction in the context of circular economy", *Management Decision*, Vol. 57 No. 4, pp. 937-952.

Singh, N., Bamel, U. and Vohra, V. (2020), "The mediating effect of meaningful work between human resource practices and innovative work behavior: a study of emerging market", *Employee Relations: The International Journal*, Vol. 43 No. 2, pp. 459-478.

Slemp, G.R., Kern, M.L. and Vella-Brodrick, D.A. (2015), "Workplace well-being: the role of job crafting and autonomy support", *Psychology of Well-Being*, Vol. 5 No. 1, pp. 1-17.

Spence, M. (1978), "Job market signaling", in Diamond, P. and Rothschild, M. (Eds), *Uncertainty in Economics*, Elsevier, Amsterdam, pp. 281-306, doi: 10.1016/B978-0-12-214850-7.50025-5.

Spreitzer, G. (1995), "Psychological, empowerment in the work place: dimensions, measurement, and validation", *Academy of Management Journal*, Vol. 38 No. 5, pp. 1442-1465.

Spreitzer, G.M., De Janasz, S.C. and Quinn, R.E. (1999), "Empowered to lead: the role of psychological empowerment in leadership", *Journal of Organizational Behavior*, Vol. 20 No. 4, pp. 511-526.

Stanescu, D.F., Zbuchea, A. and Pinzaru, F. (2021), "Transformational leadership and innovative work behaviour: the mediating role of psychological empowerment", *Kybernetes*, Vol. 50 No. 5, pp. 1041-1057.

Thomas, K.W. and Velthouse, B.A. (1990), "Cognitive elements of empowerment: an 'interpretive' model of intrinsic task motivation", *Academy of Management Review*, Vol. 15 No. 4, pp. 666-681.

Thomas, A., Scandurra, G. and Carfora, A. (2021), "Adoption of green innovations by SMEs: an investigation about the influence of stakeholders", *European Journal of Innovation Management*, Vol. 25 No. 6, pp. 44-63.

Tims, M. and Bakker, A.B. (2010), "Job crafting: towards a new model of individual job redesign", *SA Journal of Industrial Psychology*, Vol. 36 No. 2.

Tims, M., Bakker, A.B. and Derks, D. (2012), "Development and validation of the job crafting scale", *Journal of Vocational Behavior*, Vol. 80 No. 1, pp. 173-186.

Tourangeau, A.E. and McGilton, K. (2004), "Measuring leadership practices of nurses using the leadership practices inventory", *Nursing Research*, Vol. 53 No. 3, pp. 182-189.

Van Knippenberg, D., Van Knippenberg, B., De Cremer, D. and Hogg, M.A. (2004), "Leadership, self, and identity: a review and research agenda", *The Leadership Quarterly*, Vol. 15 No. 6, pp. 825-856.

Varkey, P., Horne, A. and Bennet, K.E. (2008), "Innovation in health care: a primer", *American Journal of Medical Quality*, Vol. 23 No. 5, pp. 382-388.

Wang, D., Gan, C. and Wu, C. (2016), "LMX and employee voice: a moderated mediation model of psychological empowerment and role clarity", *Personnel Review*, Vol. 45 No. 3, pp. 605-615.

WHO Global Health Observatory (2020), "From demographic and socioeconomic statistics", available at: https://rho.emro.who.int/Indicator/TermID/88 (accessed 12 July 2022).

Wrzesniewski, A. and Dutton, J.E. (2001), "Crafting a job: revisioning employees as active crafters of their work", *The Academy of Management Review*, Vol. 26 No. 2, pp. 179-201.

Wrzesniewski, A., Berg, J.M. and Dutton, J.E. (2010), "Turn the job you have into the job you want", *Harvard Business Review*, Vol. 88 No. 6, pp. 114-117.

Wu, C.-H., Parker, S.K. and de Jong, J.P.J. (2014), "Need for cognition as an antecedent of individual innovation behavior", *Journal of Management*, Vol. 40 No. 6, pp. 1511-1534.

Yang, K., Zhou, L., Wang, Z., Lin, C. and Luo, Z. (2019), "Humble leadership and innovative behaviour among Chinese nurses: the mediating role of work engagement", *Journal of Nursing Management*, Vol. 27 No. 8, pp. 1801-1808.

Yücel, İ. (2021), "Transformational leadership and turnover intentions: the mediating role of employee performance during the COVID-19 pandemic", *Administrative Sciences*, Vol. 11 No. 3, p. 81.

Zhang, X. and Bartol, K.M. (2010), "Linking empowering leadership and employee creativity: the influence of psychological empowerment, intrinsic motivation, and creative process engagement", *Academy of Management Journal*, Vol. 53 No. 1, pp. 107-128.

Zhang, C. and Liu, L. (2021), "The effect of job crafting to job performance", *Knowledge Management Research & Practice*, Vol. 19 No. 2, pp. 253-262.

Zhang, F. and Parker, S.K. (2019), "Reorienting job crafting research: a hierarchical structure of job crafting concepts and integrative review", *Journal of Organizational Behavior*, Vol. 40 No. 2, pp. 126-146.

Zhu, W., Sosik, J.J., Riggio, R.E. and Yang, B. (2012), "Relationships between transformational and active transactional leadership and followers' organizational identification: the role of psychological empowerment", *Journal of Behavioral and Applied Management*, Vol. 13 No. 3.

Corresponding author

Joather Alwali can be contacted at: joather12@gmail.com