

Integration of innovative work behavior through transformational leadership in the Saudi healthcare sector: a systematic review

Integration of
innovative
work behavior

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Abstract

Purpose – This systematic review aims to examine integrating innovative work behavior through transformational leadership in the Saudi healthcare sector. A thorough literature research was carried out to address this problem.

Design/methodology/approach – A total of 50 papers reporting research on innovative work behavior, healthcare organizational performance and transformational leadership were included in the review.

Findings – As employees are motivated and developed, their innovative work behaviors are boosted, which improves organizational performance. It can be concluded that innovative work behavior and transformational leadership are correlated. The capacity of a healthcare company to create and execute benefits to the employees may assure service delivery efficiency in employees' performance.

Practical implications – This systematic review will allow contemporary advancements, efficient health status monitoring and reliable solutions that aid optimal, equal and effective treatment in Saudi's healthcare industry.

Originality/value – In an innovative workplace, workers may pitch fresh ideas to their management. Hence, employees see their employer as more transformational.

Keywords Innovative work behaviour, Transformational leadership, Healthcare sector, Organizational performance, Saudi Arabia

Paper type Literature review

1. Introduction

Innovative work behavior is crucial for health organizations to meet changing customer needs (Jankelová, Joniaková, & Mišún, 2021). Organizational performance is linked to Saudi Arabia's innovative work behavior and transformational leaders. Saudi Arabia's healthcare is world-class. However, healthcare innovation performance-enhancing strategies are lacking (Alharbi, 2018; Kutob and Alhothali, 2020). This review examined how innovative work behavior and transformational leadership affect organizational performance. The approach employed to write a review is a systematic literature review (SLR). SLRs assess literature using a replicable process (Xiao and Watson, 2019). Healthcare change management studies emphasize employee inventiveness. Knowledge sharing improves employees' cognition and innovativeness, enabling them to solve contemporary health issues (Milella, Minelli, Strozzi, & Croce, 2021).



A key step in planning the SLR is identifying its underlying need or problem that it seeks to solve (Wohlin *et al.*, 2012). A systematic literature review is justified because it helps the researcher understand how creative work behavior affects healthcare organization performance, with an emphasis on transformational leaders. Consequently, this review may provide the core information and framework for Saudi Arabian enterprises seeking agreeable health solutions by improving organizational performance and keeping competitive advantages. Supporting employee innovation may help healthcare and other companies handle change (Fattah, Yesiltas, & Atan, 2022).

2. Review question and themes

RQ1. What effect does innovative work behavior have on the performance of healthcare organizations, and what role do transformational leaders play?

The systematic literature review focused on innovative work behavior, healthcare innovation and performance, and healthcare organization transformational leadership. Table 1 highlights the major themes subdivided into various sub-themes covered in the review.

3. Methodology

3.1 Search strategy

The peer-reviewed journal articles were gathered from scientific databases, including Web of Science, Springer, ProQuest, Academic, Sage, Science Direct, Scopus and Emerald, to increase the dependability of the results. The researcher avoided limiting the investigations to the Gulf Cooperation Council (GCC) or Europe to broaden the findings.

Theoretical conceptualizations of innovative work behavior (IWB), healthcare organizational performance (HOP) and transformational leadership in healthcare (TLH) were used to generate search phrases in conjunction with the keywords “innovation,” “work behavior,” “healthcare innovation”, “healthcare organizational performance” and “leadership” to establish a connection between the terms and the level of analysis. Specifically, employed keywords were: “innovation” and “performance” or “work behavior and “transformative leadership” to narrow our findings.

Review question	Review themes	Sub-themes
What effect does innovative work behavior have on the performance of healthcare organizations, and what role do transformational leaders play?	Innovative Work Behavior (IWB)	<ul style="list-style-type: none"> ● IWB and Knowledge sharing ● IWB and Assimilation of Ideas and Technologies ● IWB and Attitude ● IWB and Competency ● IWB and Self-determination theory (SDT)
	Healthcare Organizational Performance (HOP)	<ul style="list-style-type: none"> ● Innovativeness (Technological, Service, Market, Business) ● Job Training and Job Satisfaction ● Organization Structure and Commitment ● Task performance
	Transformational Leadership in healthcare (TLH)	<ul style="list-style-type: none"> ● Definition ● Trainings ● Patient outcomes ● Nursing outcomes

Table 1.
Review question and themes

Source(s): Table by author

3.2 Selection criteria

To select studies relevant to our research question and of high quality, the researcher used the following criteria:

Scientific criterion: (1) Studies were required to have appropriate methodological quality, which was assured by publishing in peer-reviewed journals. Examined critically, studies published in dissertations were also acceptable. In addition, (2) studies based on field-based examinations of actual organizational units were included. (3) Studies were required to provide findings related to work behavior and healthcare organizational analysis. (4) Research papers were to consist of teams assembled for strategically important projects. (5) Since neither student teams nor *ad hoc* teams are obliged to execute activities that are important to organizations, and since student teams may often pick their tasks, but tasks in organizations are typically preset, studies involving samples of student teams and *ad hoc* teams were eliminated. (6) At least one IWB-related variable and one TLH-related variable were required to be documented for analysis.

Moreover, (7) the researcher focuses only on English-language articles since this removes the need for translation and simplifies the data-gathering procedure. Additionally, (8) the study period is extended from 2005 to the present to improve the number of accessible studies. Each section (innovative work behavior, healthcare innovation, performance of healthcare organizations and innovative work behavior, transformational leadership in healthcare and healthcare innovation in the public sector) reviews at least ten studies.

Conversely, (9) an exclusion criterion was established to prevent the selection of publications that do not meet the review paper's objectives. (10) Due to the intricacy of translation procedures, publications in languages other than English were not considered. (11) Journal articles published before 2005 were also excluded to increase the relevant literature. (12) The researcher focused only on studies published during the last fifteen years. Table 2 depicts the inclusion and exclusion criteria for the present systematic review.

4. Results and discussion

The distinctive characteristics of inventive work behavior are essential for boosting the performance of health organizations to fulfill the ever-changing customer demands (Carlucci, Mura, & Schiuma, 2020). The innovative work behavior in Saudi Arabia and the work of transformational leaders as mediating variables are important organizational success contributors (Al-Shammari and Khalifa, 2019; Karimi, Ahmadi Malek, Yaghoubi Farani, & Liobikienė, 2023). Saudi Arabia claims to have one of the world's finest healthcare systems

Review Element	Inclusion Criterion	Exclusion Criterion
Research focus/ scope	Innovative Work behavior (IWB) Healthcare innovation, Performance of healthcare organizations and innovative work behavior, and Transformational Leadership in Healthcare	Studies unrelated to Innovative Work behavior, Healthcare innovation, Performance of healthcare organizations and innovative work behavior, and Transformational Leadership in Healthcare
Language	English	Publications in other languages
Period	2007 to date	Studies published before 2007
Sources	Journal articles(Full text), Conference Papers, Dissertations	Grey Literature
Total Reviewed	50	230

Source(s): Table by author

Table 2.
Inclusion and
exclusion criteria

(Chowdhury, Mok, & Leenen, 2021). Technology and human complexity may be challenging health system transformation (Spinelli, 2006). Human factors are more difficult to adjust than technical ones, yet they are routinely ignored, resulting in organizational transformation failures (Bennett, 2016). Organizational change relies on leadership. Leaders may change employees' values, beliefs, behaviors and attitudes (Ganta and Manukonda, 2014), helping them accomplish the organization's goals (Hao and Yazdanifard, 2015). Alharbi identified high organizational readiness to implement change as one of the main determinants of efficient and effective change implementation within the National Transformation Programme and Vision 2030 (Alharbi, 2018) and suggested developing leadership skills to encourage the employees to carry out the changes (Alharbi, 2018). Figure 1 below illustrates the PRISMA chart detailing how the various research articles were selected.

4.1 Innovative work behavior (IWB)

The first theme addressed innovative work behavior in different organizations. The research examined how leadership, culture and teamwork affected innovative work behavior. From the collected research articles, 14 studies provided more insight on IWB, with their details summarized

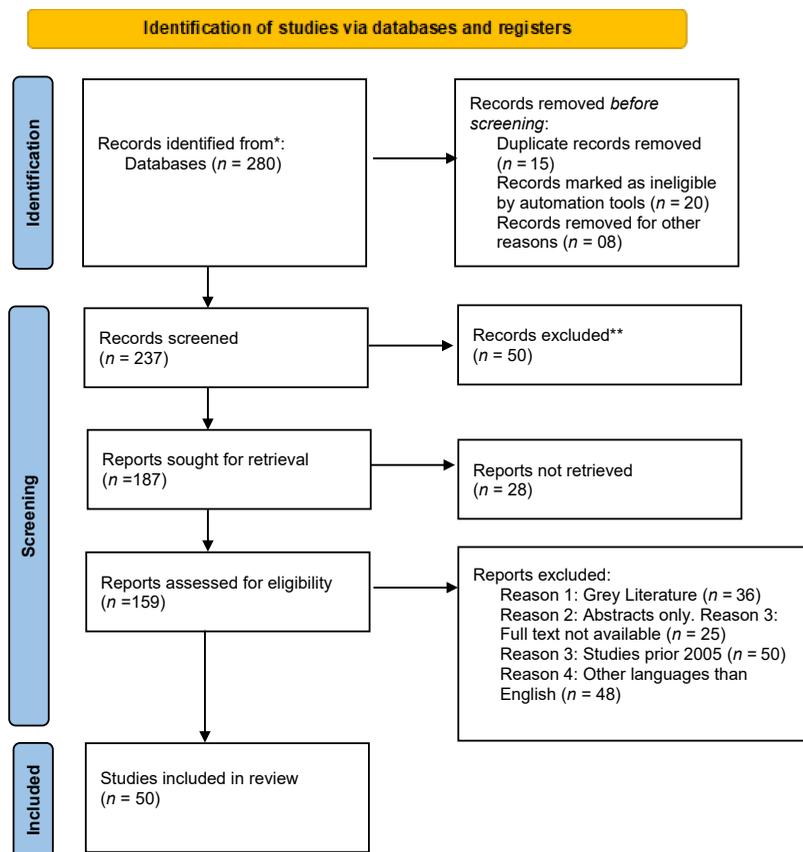


Figure 1.
PRISMA chart for
selecting research
articles

Source(s): Figure by author

in Table 3. Thematic elements such as knowledge sharing, attitudes, competence, psychological requirements, assimilation of ideas and technology were linked to innovative work behavior.

4.1.1 *Innovative work behavior and knowledge sharing.* First, Akram, Lei, Haider, and Hussain (2020) and Asurakkody and Kim (2020) found that knowledge sharing boosts innovativeness. Akram *et al.* (2020) observed that the corporate behavior of employees and information sharing and management needed to generate commodities, businesses and services affected worker innovation. According to the study, fair treatment of workers

S#	Article title	Author/Year	Dimension
1	The impact of organizational justice on employee innovative work behavior: Mediating role of knowledge sharing	Akram <i>et al.</i> (2017)	Knowledge sharing behavior
2	Motivational antecedents to high-tech R&D employees' innovative work behavior: Self-determined motivation, person-organization fit, organization support of creativity, and pay justice	Saether (2019)	Attitude/subject
3	Effects of knowledge sharing behavior on innovative work behavior among nursing Students: Mediating role of Self- leadership	Asurakkody and Kim (2020)	Knowledge sharing behavior
4	The Relationship between Innovative Work Behavior on Work Role Performance: An Empirical Study	Leong and Rasli (2014)	Competency/self-efficacy
5	Innovative work behavior in healthcare: The benefit of operational guidelines in the treatment of rare diseases	Kessel <i>et al.</i> (2012)	Assimilation of ideas
6	Spirituality and innovative behavior in teams: Examining the mediating role of team learning	Pandey <i>et al.</i> (2019)	Attitude/subject
7	Innovative behavior and career success: Mediating roles of self-efficacy and colleague solidarity of nurses	Dan <i>et al.</i> (2018)	Self-efficacy/competency
8	Learning Climate and Innovative Work Behavior, the Mediating Role of the Learning Potential of the Workplace	Cangialosi <i>et al.</i> (2020)	Assimilation of ideas
9	Performance appraisal criteria and innovative work behaviour: the mediating role of employees' appraisal satisfaction	Curzi <i>et al.</i> (2020)	Assimilation of ideas
10	Measuring Service Innovation Performance through Team Culture and Knowledge Sharing Behavior in Hotel Services: A PLS Approach	Hussain <i>et al.</i> (2016)	Knowledge sharing
11	The effects of employees' creative self-efficacy on innovative behavior: The role of entrepreneurial leadership	Newman <i>et al.</i> (2018)	Competency/self-efficacy
12	Self-determination theory: the role of the health care professional in promoting mindfulness and perceived competence	Martin <i>et al.</i> (2017)	Autonomy and competence
13	Self-determination theory in work organizations: The state of a science	Deci <i>et al.</i> (2017)	Self-determination (competence, autonomy and relatedness)
14	A Self-Determination Approach to Understanding Individual Values as an Interaction Condition on Employees' Innovative Work Behavior in the High-Tech Industry	Wang <i>et al.</i> (2021)	Self-determination (Competence, autonomy and relatedness) Innovative work behavior

Source(s): Table by author

Table 3.
Innovative work behavior: *synthesis of findings on innovative work behavior*

promoted knowledge sharing and increased competitiveness. Hence, knowledge sharing mediates organizational fairness and innovative employee behavior. In the second study, [Akram et al. \(2020\)](#) showed that employees' innovativeness affected their procedural, temporal, interactional and distributive conceptions of organizational fairness. The study found that managers should prioritize organizational fairness since it promotes knowledge sharing and innovativeness ([Akram et al., 2020](#)). Organizational justice has interactional, distributive, temporal and procedural components ([Akram, Lei, Haider, Hussain, & Puig, 2017](#)). In contrast, the study of [Asurakkody and Kim \(2020\)](#) revealed that self-leadership explains the connection between knowledge-sharing and innovative worker behavior. Thus, the study indicated that persons who had self-leadership traits were more likely to absorb and share knowledge, thereby boosting their innovative abilities ([Asurakkody and Kim, 2020](#)).

Third, [Hussain, Konar, and Ali \(2016\)](#) demonstrated a favorable association between team culture, knowledge-sharing behavior and Malaysian hotel service innovation. The study concluded that Malaysian hotels needed to increase knowledge sharing via team culture to promote service innovation and customer experience ([Hussain et al., 2016](#)). [Lee and Hong \(2014\)](#) also investigated what drove information sharing and innovation behavior. According to the results, reciprocity, behavioral control, subjective norms and organizational trust influenced the inclination to disclose knowledge. Reciprocity and behavioral control influence information-sharing behavior ([Lee and Hong, 2014](#)).

4.1.2 IWB and assimilation of ideas and technologies. IWB and technology absorption was scrutinized in many articles. [Kessel, Hannemann-Weber, and Kratzer \(2012\)](#) examined how operational guidelines affect hospital IWB development. The study on rare diseases found that guidelines for care and treatment were vital for organizational innovation. Nevertheless, the researchers argued that, unlike other health industries where standards and formal procedures supported routine, rare disease specialists had no such official rules, making their job harder. The guidelines helped specialists assimilate ideas, which inspired the company's innovative workers.

Financial incentives, delegating more responsibilities to experts' autonomy, and improving communication among specialists were all seen as motivating ([Kessel et al., 2012](#)). [Cangialosi, Odoardi, and Battistelli \(2020\)](#) investigated how the learning environment, mediated by learning facilitation, learning potential and error avoidance, affect innovative work behavior. The results showed that learning facilitation's learning environment influenced innovation. Hence, learning facilitation helped employees incorporate more ideas and improve inventiveness ([Cangialosi et al., 2020](#)). [Curzi, Fabbri, and Pistoresi \(2020\)](#) found that performance assessments focusing on workers' outcomes and new competencies improved their innovative work behavior more than standard evaluations focusing on time at work, working hours and assigned tasks. Hence, when work grew more digital, workers were happier with assessment methods and ratings focused on outcomes and abilities. New performance assessment methods and concepts significantly promoted creative work behavior ([Curzi et al., 2020](#)).

4.1.3 IWB and attitude. Several studies linked IWB to employee attitudes. Person-to-organization fit (PO) was linked to employee innovation by [Saether \(2019\)](#). In the study, high PO fit happened when firms met employee requirements like compensation, advancement and responsibilities, whereas misfits occurred when they did not. Hence, meeting workers' demands at work showed that they were treated fairly and inspired to work. Fulfilling employee needs improves workplace attitudes and PO. This enhanced work innovation ([Saether, 2019](#)). According to [Kang, Matusik, Kim, and Phillips \(2016\)](#), workers' zeal for inventing mediates the beneficial relationship between innovative work cultures and innovative work behavior. Risk-taking cultures encouraged employee IWB and the desire for innovation. Proactive workplaces boost inventiveness ([Kang et al., 2016](#)). [Pandey, Gupta, and Gupta \(2019\)](#) examined how spirituality affects innovative work behavior via team learning. According to the results,

commercial employees who prioritized spiritual needs like work meaning and purpose and the opportunity to contribute to social and natural environments were likelier to learn and innovate. Studies suggest that spiritually hospitable employees may develop positive work and learning attitudes, making them more inventive (Pandey *et al.*, 2019).

4.1.4 IWB and competency. Leong and Rasli (2014) examined how innovative work behavior affects employee performance in various jobs. Work role performance and innovative work behavior were high among cross-functional workers who worked with customers or markets. The results showed that workers with cross-functional skills were more inventive (Leong and Rasli, 2014). Dan *et al.* (2018) examined how colleague harmony and self-efficacy mediated innovative behavior and career success. IWB, competency and academic team spirit affected job success (Dan *et al.*, 2018). The results suggested that nursing administrators who wanted to help their nurses succeed should build their creative awareness, promote significant innovative ideas and encourage their input. Newman, Herman, Schwarz, and Nielsen (2018) examined how entrepreneurial leadership mediates employee competency and IWB. Competency or self-efficacy has a greater influence on IWB under strong entrepreneurial leaders (Newman *et al.*, 2018).

4.1.5 IWB and self-determination theory (SDT). Self-determination theory may overlook IWB effectiveness and competence with this review. SDT requires self-confidence and efficacy (Martin, Byrd, Wooster, & Kulik, 2017). Deci *et al.* connected SDT competency to behavior and social environment. He found that perceived competence changed the relative internalization of extrinsically driven behaviors, making successful people more inclined to pursue socially valued vocations or interests. Deci, Olafsen, and Ryan (2017) agree with Martin that competence-based support should internalize deliberate tasks. When coaches, parents, teammates, coworkers, or others provide relevant feedback, actors feel more competent, which may boost their IWB (Deci *et al.*, 2017). Wang, Gao, and Panaccio (2021) discovered that too much criticism or negative feedback might impair workers' sense of competence, causing disengagement and IWB. Wang *et al.* (2021) never addressed this relationship between staff competence and motivation, although it may be crucial in defining IWB dynamics via SDT-suggested psychological demands (Wang *et al.*, 2021). Hence, Wang *et al.* (2021), Deci *et al.* (2017) and Martin *et al.* (2017) imply that intrinsically driven individuals achieve more, are more engaged and competent and have higher IWB. Competence and intrinsic motivation are positively correlated, which may promote worker engagement and IWB (Deci *et al.*, 2017; Martin *et al.*, 2017; Wang *et al.*, 2021).

4.2 Healthcare organizational performance (HOP)

Healthcare organizations were subsequently reviewed in the second theme. Structure, innovation, management, environment and marketing affect healthcare corporations' success. Table 4 summarizes 17 organizational performance articles. Healthcare performance assessment publications were significant. Technological innovation, job training (skill and competence), service innovation, work satisfaction, organizational structure, organization commitment, talent management, business innovativeness, market innovativeness and management perspectives are ten elements of healthcare systems.

4.2.1 Innovativeness (technological, service, market, business). Healthcare firms were evaluated first on their service, technical, business and market innovation. According to the data, technological innovativeness was the most favored indicator of healthcare organization success. According to Ciani *et al.* (2016), medical device innovation should not be confined to therapeutic value. The therapeutic efficacy of medical gadgets made healthcare organizations inventive (Ciani *et al.*, 2016). In another study, Poba-Nzaou, Uwizeyemungu, Raymond, and Paré (2014) stated that healthcare businesses' ERP system adoption showed technical innovation. Researchers also found that ERP systems improved patient care.

S#	Article title	Author/Year	Dimension
1	Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction	Chiniara and Bentein (2016)	Task performance
2	The concept of innovation for medical technologies and its implications for healthcare policy-making	Ciani <i>et al.</i> (2016)	Technological innovativeness
3	Talent Management in Healthcare Organizations - Qualitative Research Results	Ingram and Glod (2016)	Talent management
4	Perception of management and public health experts about organizational, professionals and patients related factors that influence the performance in health organizations	Gaspar <i>et al.</i> (2021)	Management's perceptions on different organizational factors
5	Linking Strategic and Market Orientations to Organizational Performance: The Role of Innovation in Private Healthcare Organizations	Altuntaş <i>et al.</i> (2013)	Market Innovativeness
6	The Effects of Organizational Culture and Innovativeness on Business Performance in Healthcare Industry	Acar and Acar (2012)	Business Innovativeness
7	Organizational Structure and Performances of Responsible Malaysian Healthcare Providers: A Balanced Scorecard Perspective	Shukri and Ramli (2015)	Organizational structure
8	Catalyzing marketing innovation and competitive advantage in the healthcare industry: the value of thinking like an outsider	Elrod and Fortenberry (2018)	Service innovation
9	Exploring the Relationships Among Safety Climate, Job Satisfaction, Organizational Commitment and Healthcare Performance	Nuti <i>et al.</i> (2019)	Job satisfaction and organization commitment
10	Motivations underlying the adoption of ERP systems in healthcare organizations: Insights from online stories	Poba-Nzaou <i>et al.</i> (2014)	Technological innovativeness
11	The Path towards Healthcare Sustainability: The Role of Organizational Commitment	Goh and Marimuthu (2016)	Organization commitment
12	Relation between Job Satisfaction and Job Performance in Healthcare Services	Platis <i>et al.</i> (2015)	Job satisfaction
13	Job training and organizational performance: Analyses from medical institutions in China	Yao <i>et al.</i> (2020)	Job training
14	Impacts of Healthcare 4.0 digital technologies on the resilience of hospitals	Tortorella <i>et al.</i> (2021)	Technological innovativeness
15	Intrinsic motivation and extrinsic incentives jointly predict performance: a 40-year meta-analysis	Cerasoli <i>et al.</i> (2014)	Satisfaction of psychological needs (SDT)

Table 4. Healthcare organizational performance: *synthesis of findings on healthcare organizational performance*

(continued)

S#	Article title	Author/Year	Dimension
16	Is self-determination good for your effectiveness? A study of factors which influence performance within self-determination theory	Szulawski <i>et al.</i> (2021)	Task performance, competence, relatedness
17	How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness	Fernet, Claude, Stéphanie Austin, Sarah-Geneviève Trépanier, and Marc Dussaul	Task performance, competence, relatedness

Source(s): Table by author

Table 4.

The study suggested that healthcare businesses enhance efficiency by integrating new hardware solutions like medical gadgets or innovative software solutions like ERP systems (Poba-Nzaou *et al.*, 2014). Tortorella *et al.* (2021) explored how digital 4.0 healthcare technologies promote hospital resilience and complexity adaption. Four 4.0 digital technologies boosted hospital resilience by monitoring, anticipating, responding and learning (Tortorella *et al.*, 2021).

Elrod and Fortenberry (2018) discovered that marketing innovation might assist healthcare organizations in competing. Healthcare facilities that used marketing strategies that challenged medical norms and went beyond healthcare were able to uncover competitive advantages. Hence, employing non-marketing organizations' marketing tactics to enhance healthcare facilities was unique (Elrod and Fortenberry, 2018). Acar and Acar (2012) investigated how culture and innovation affect healthcare organization success. Culture-driven processes and product innovation increased business performance. The study revealed that healthcare staff might innovate in marketing, behavioral and procedural activities (Acar and Acar, 2012).

Altuntaş, Semerciöz, and Eregez (2013) evaluated the relationship between strategic and marketing orientations and private healthcare business performance using innovation as a mediating variable. The findings showed that market orientation drove healthcare enterprises' innovativeness and organizational success (Altuntaş *et al.*, 2013). These studies suggested that healthcare companies might improve performance via marketing and business innovation (Acar and Acar, 2012; Altuntaş *et al.*, 2013; Elrod and Fortenberry, 2018).

4.2.2 *Job training and job satisfaction.* Healthcare organizations performed second in job satisfaction and training. Yao, Liu, and Cui (2020) found that training enhanced hospital, outpatient, local competitiveness and non-medical insurance. Training increased county primary healthcare staff performance salaries by 16.5% and higher-level general hospitals by 52.8%. (Yao *et al.*, 2020). In another study, Nuti, Vainieri, Giacomelli, and Bellè (2019) examined how a safe working environment, job satisfaction and organizational commitment influence healthcare organization performance. Worker safety atmospheres affected job happiness, organization commitment and healthcare performance. The three factors predicted healthcare performance (Nuti *et al.*, 2019). (Nuti *et al.*, 2019; Platis, Reklitis, & Zimeras, 2015; Yao *et al.*, 2020) recommended gauging healthcare enterprises' success by staff happiness and work performance.

4.2.3 *Managerial perceptions and talent management.* Talent management improved healthcare organizations. Ingram and Glod (2016) showed that most healthcare businesses used training and motivational programs to improve workplace skills, knowledge and motivation (Ingram and Glod, 2016). Talent management improved healthcare. Gaspar, Correia, and Torres (2021) investigated how management staff and health specialists' views of patient-related, professional and organizational aspects impact healthcare organizations'

performance. Patient and professional satisfaction increased healthcare organization performance (Gaspar *et al.*, 2021).

4.2.4 Organizational structure and commitment. Lastly, the effect of organizational structure and dedication on healthcare performance was also explored. According to the results by Shukri and Ramli (2015), private healthcare organizations designed using the balanced scorecard were highly formalized and centralized. In addition, it was suggested that the formal structure contributed to enhanced healthcare performance in internal business processes, organizational learning, patient quality, growth and development, safety and customer satisfaction (Shukri and Ramli, 2015). In addition, Goh and Marimuthu (2016) observed that organizational commitment influences healthcare organizations' sustainability and performance. Hence, it was stated that workers' dedication to sustainable practices would increase healthcare business performance (Goh and Marimuthu, 2016).

4.2.5 Task performance. SDT influences competence, autonomy and relatedness. Providing three psychological requirements did not affect. (Szulawski, Kaźmierczak, & Prusik, 2021). Szulawski *et al.* (2021) found that intrinsic and autonomous motivation increases task performance under three psychological situations. Competence and performance environment (including external incentives) were the largest task success predictors in Szulawski *et al.* (2021)'s small sample. SDT predicted competency. Cerasoli, Nicklin, and Ford (2014) observed no correlation between intrinsic/autonomous motivation and task performance or requirements fulfillment, unlike Szulawski *et al.* (2021). This study discovered wide gaps between autonomy and relatedness, needing additional research on how these demands affect task performance (Cerasoli *et al.*, 2014).

Another study connected job burnout to workplace demands/resources and psychological requirements (Fernet, Austin, Trépanier, & Dussault, 2013). Fernet *et al.* (2013) reported that burnout decreases employee engagement, performance and satisfaction. Psychological resources promote work performance, yet autonomy may increase mistake rates, especially in healthcare when one makes judgments without supervision (Fernet *et al.*, 2013). Chiniara and Bentein (2016) think intrinsic motivation may explain how psychological needs satisfaction affects employee performance (Chiniara and Bentein, 2016). These studies imply that competence, autonomy and relatedness may improve burnout and performance.

4.3 Transformational leadership in healthcare

Healthcare transformative leadership was the third theme, where 19 articles were reviewed. Table 5 summarizes 10 of the 92 papers that provide light on the issue. Training, patient results, nursing/hospital outcomes, definitions and team outcomes were sub-themes.

4.3.1 Definition of transformational leadership. Gabel (2013) outlined healthcare transformative leadership principles. According to the study, transformational leadership was empirically-based and compelling for healthcare uptake. The study also suggested teaching supervisors and medical trainees transformational leadership ideas and techniques (Gabel, 2013).

4.3.2 Training. Another research by Giddens (2018) found that transformative leadership was widely used in several industries. Academic leadership needed more nurses. So, the research emphasized transformational leadership training components like building relationships and emphasizing principles (Giddens, 2018). Dias, Joseph, and Michael (2019) found that Indian nurses were still underrepresented in leadership posts, urging formal leadership training for nurses. Nevertheless, the study found insufficient leadership programs for minority nurses, urging a transformative leadership program. The leadership practice inventory's overall scores increased after the program. Dias *et al.* (2019) argued that increasing minority nurses' engagement reduces healthcare inequities (Dias *et al.*, 2019). Batson and Yoder (2009) advocated for transformational leadership and nurse management

S#	Article title	Author/Year	Dimension
1	The mediating effects of team and self-efficacy on the relationship between transformational leadership, and job satisfaction and psychological well-being in healthcare professionals: A cross-sectional questionnaire survey	Nielsen <i>et al.</i> (2009)	Transformational leadership and team outcomes
2	Transformational Leadership in Nursing: Aspiring Leaders Development Program for Indian American Nurses	Dias <i>et al.</i> (2019)	Training on transformational leadership
3	Transformational leadership: What every nursing dean should know	Giddens (2018)	Training on transformational leadership
4	Linking Nurses' Clinical Leadership to Patient Care Quality: The Role of Transformational Leadership and Workplace Empowerment	Boamah (2018)	Transformational leadership and patient outcomes
5	Transformation through tension: The moderating impact of negative affect on transformational leadership in teams	Mitchell <i>et al.</i> (2014)	Transformational leadership and team outcomes
6	Discourse of 'transformational leadership' in infection control	Koteyko and Carter (2008)	Transformational leadership and hospital outcomes
7	Transformational Leadership in Nursing Education: Making the Case	Fischer (2017)	Transformational leadership and nursing outcomes
8	Transformational leadership in primary care: Clinicians' patterned approaches to care predict patient satisfaction and health expectations	Huynh <i>et al.</i> (2018)	Transformational leadership and patient outcomes
9	Mediating role of the perceived benefits of using a medication safety system in the relationship between transformational leadership and the medication-error management climate	Kim <i>et al.</i> (2020)	Transformational leadership and team outcomes
10	Transformational Leadership and Healthcare	Gabel (2013)	Transformational leadership definitions in healthcare
11	The role of transformational leadership, job demands and job resources for patient safety culture in Norwegian nursing homes: a cross-sectional study	Sejemo <i>et al.</i> (2020)	Transformational leadership and patient outcomes
12	The mediating role of organizational justice in the relationship between transformational leadership and nurses' quality of work life: A cross-sectional questionnaire survey	Gillet <i>et al.</i> (2013)	Transformational leadership and nursing outcomes
13	Implementation of Daily Senior Leader Rounds Using a Transformational Leadership Approach	Manss (2017)	Transformational leadership and patient outcomes
14	Measuring Transformational Leadership in Establishing Nursing Care Excellence	Moon <i>et al.</i> (2019)	Training programs for transformational leadership
15	Transformational Leadership Principles and Tactics for the Nurse Executive to Shift Nursing Culture	Pearson (2020)	Training programs for transformational leadership
17	Transformational leadership and staff retention: an evidence review with implications for healthcare systems	Weberg (2010)	Transformational leadership and nursing outcomes
18	Transformational leadership in health care today	Robbins and Davidhizar (2020)	Transformational leadership and nursing outcomes
19	Transformational leadership and healthcare	Gabel (2013)	Transformational leadership

Table 5.
Transformational leadership in healthcare: *synthesis of findings on transformational leadership in healthcare*

coaching in another study. The findings revealed that nurse management coaching might affect personnel. Understanding generational differences among nurses might assist nurse

managers in using group coaches more effectively. Nurse administrators might propagate a coaching culture encouraging growth, autonomy and development (Batson & Yoder, 2009).

Moon, Van Dam, and Kitsos (2019) discovered that Magnet designation—a coveted nursing award—required revolutionary leadership. Large Australian health organizations' nurse managers' leadership styles were investigated. Transactional, transformational and passive/avoidant nursing administrators were surveyed. Transformative nursing supervisors were older and more educated. Younger ladies were passive. The study indicated that Magnet-designated hospitals required highly educated and geriatric-experienced nurse management (Moon *et al.*, 2019). Pearson (2020) observed that nurse executives must lead transformationally to enhance healthcare outcomes. Transformational leadership helped nursing leadership, clinical nurses and medical colleagues adopt Magnet ideas (Pearson, 2020). These studies indicated that hospital Magnet accreditation required transformational leadership (Moon *et al.*, 2019; Pearson, 2020).

4.3.3 Patient outcomes. The additional review examined the effects of transformative leadership on patient outcomes. First, Seljemo, Viksveen, and Ree (2020) evaluated how transformational leadership affected Norwegian nursing homes' patient safety culture by affecting work resources and expectations. According to the data, transformational leadership explained 47.2% of patient safety culture variation and 25.4% of patient safety perception. The study found that transformational leadership helped Norwegian nursing facilities establish and maintain patient safety cultures. The study also found that job expectations and resources affected patient safety culture and perception. Therefore, healthcare executives needed to balance job demands and resources. This study suggested that executives should learn about transformational leadership and use it to enhance patient safety and healthcare organization quality (Seljemo *et al.*, 2020). Manss (2017) implemented daily senior rounds at a California hospital using transformational leadership to enhance patient care. Patient experience committees and CARE workshops could have improved patient satisfaction. The transformative leadership paradigm prioritized patients to resolve difficulties. Transformational leadership leads to success (Manss, 2017).

Boamah (2018) studied how transformational leadership affects workplace empowerment and patient care among nursing leaders. The study concluded that high-quality hospital practices required transformational leadership. Transformational leadership improves nurse leadership and lowers patient outcomes (Boamah, 2018). Huynh, Sweeny, and Miller (2018) examined how primary healthcare transformative leadership affects health expectations and patient satisfaction. Researchers classified doctors' objectives as transactional, transformational and passive/avoidant. Transformational leadership exceeded transactional and passive-avoidant therapy regarding patient satisfaction and health expectations (Huynh *et al.*, 2018). Moon *et al.* (2019) observed that educated and older leaders transformed more (Moon *et al.*, 2019; Weberg, 2010). Weberg (2010) studied healthcare worker retention and transformational leadership. Nurse leadership impacted healthcare burnout and attrition. Leadership transformation and retention were examined. Transformational leadership improves employee well-being, burnout and stress (Moon *et al.*, 2019; Weberg, 2010). Transformational leadership improves employee well-being, patient safety and patient satisfaction (Huynh *et al.*, 2018; Weberg, 2010).

4.3.4 Nursing outcomes. Transformative leadership affected hospital and nursing outcomes in other studies. The research examined how leadership style affects healthcare organization performance. Koteyko and Carter (2008) examined how transformative leadership affects infection control. The research found that senior nurse leadership should establish standards, model good behavior and give followers respect and responsibility to motivate them. The findings showed that training nurse executives in transformational leadership might enhance hospital infection control by better managing human and financial resources (Koteyko and Carter, 2008). In a related study, Fischer (2017) recommended transformational leadership in

nursing administration and faculty to promote staff participation, collaboration and unity. Such impacts may improve nursing education (Fischer, 2017).

In another study, Gillet, Fouquereau, Bonnaud-Antignac, Mokoukolo, and Colombat (2013) evaluated how transformational leadership and organizational justice affect nurses' quality of life. According to the results, distributive and interactional justice moderated the connection between transformational leadership and nurse quality of life. Nurses' work participation also improved their quality of life. According to the study, transformational leaders may improve nurses' work engagement and quality of life. Organizational performance would improve (Gillet *et al.*, 2013). Kim, Seok, and Kim (2020) examined transformational leadership and medication-error management contexts. The findings showed that transformational leadership affected the perceived benefits of medication safety measures and the medication-error management environment. Hence, transformational leadership favors safe workplace building (Kim *et al.*, 2020). Robbins and Davidhizar (2020) examined how transformational leadership affects nursing staff satisfaction. The findings showed that pleased nurses had lower turnover and higher retention rates. Transformational leadership improved nurse work happiness, retention and patient satisfaction. (Robbins & Davidhizar, 2020). Thus, healthcare administrators should adopt the leadership style to improve communication and attitudes.

4.3.5 *Team outcomes.* Numerous studies examined how transformational leadership influences team performance. Leadership style promoted employee cooperation was studied. Nielsen, Yarker, Randall, and Munir (2009) explored how team and self-efficacy influence transformational leadership, work satisfaction and healthcare professionals' psychological well-being. Self-efficacy completely regulated the relationship, whereas team efficacy marginally mediated it. Transformational leaders boost job satisfaction, psychological well-being and team performance. This guaranteed well-being and collaboration (Nielsen *et al.*, 2009). Another study by Mitchell *et al.* (2014) examined how transformational leadership influences individual and team innovativeness. Transformational leadership increases team creativity but decreases individual innovation, according to studies (Mitchell *et al.*, 2014).

5. Conclusion

From the systematic literature review analysis, it is evident that innovative employee behavior significantly impacts healthcare organizations' performance via aspects such as workplace attitudes, competency, knowledge-sharing behavior, autonomy, technology assimilation and relatedness. In addition, the results show that transformational leadership may facilitate the innovative work behavior of workers since leaders are accountable for building suitable work environments and providing the required resources to foster innovative behavior. These results imply that healthcare leadership should encourage innovative employee work behavior, such as knowledge sharing and technology absorption, by adopting transformational leadership characteristics. Such characteristics may be obtained through investing in transformational leadership training and awareness programs.

The analysis of the systematic review also revealed that there had been tremendous innovation in the public health sector, including the use of the cloud and big data, as well as the use of web- and mobile-based strategies to monitor electronic medical records. However, when businesses aim to improve their performance by embracing innovation, they must also ensure that their leaders are prepared with transformational leadership abilities to enable their staff to increase their innovative work conduct.

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