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RESEARCH ARTICLE

Strategic Work Flexibility and Quality of Work Life as Antecedents of Creative Task Performance: The Mediating Role of Innovative Work Behavior

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ABSTRACT

Radiographers operate in technology-intensive, high-reliability clinical environments where creative task performance (CTP) is essential for sustaining service quality, patient safety, and timely problem solving. Drawing on survey data from 197 hospital radiographers in Yogyakarta, Indonesia, this study examines whether Strategic Work Flexibility (SWF) and Quality of Work Life (QWL) improve CTP both directly and indirectly through Innovative Work Behavior (IWB), using PLS-SEM. The results indicate that SWF and QWL positively predict CTP (β=0.242, p=0.004; β=0.204, p=0.037), and IWB also has a significant positive effect on CTP (β=0.253, p=0.005). Moreover, SWF and QWL show significant indirect effects on CTP via IWB (β=0.085, p=0.039; β=0.110, p=0.005), supporting complementary partial mediation. These findings suggest that radiology organizations can strengthen creative task outcomes by institutionalizing strategic flexibility across task, temporal, and divisional dimensions while simultaneously enhancing QWL to stimulate everyday innovation. This study contributes to the healthcare workforce literature by clarifying the behavioral mechanism through which work design and work-life quality translate into creative performance in radiography practice.

Keywords: strategic work flexibility; quality of work life; innovative work behavior; creative task performance; radiographers; hospitals

1. Introduction

The radiology service ecosystem is increasingly shaped by rapid technological advances, stricter patient-safety standards, and rising expectations for timely, accurate, and patient-centered diagnostic support. In this context, radiographers are expected not only to perform routine imaging procedures but also to adapt protocols, coordinate interprofessional workflows, and generate context-sensitive solutions when operational constraints arise. These requirements make Creative Task Performance (CTP) the capability to produce novel and useful task outcomes an essential competence for sustaining service quality in radiology units [1,2].

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At the same time, healthcare organizations face persistent work-design pressures, including staffing shortages, shift-based demands, and tight scheduling. Work flexibility has therefore gained prominence as a strategic lever to increase autonomy, improve resource utilization, and enable adaptation under uncertainty. Nevertheless, prior empirical research reports inconsistent relationships between flexibility and performance outcomes, indicating that the effectiveness of flexibility may depend on occupation-specific conditions and sectoral characteristics. Evidence remains particularly limited for radiographers, whose work is highly technology-mediated and safety-critical, thereby warranting more focused investigation.

Conceptually, Strategic Work Flexibility (SWF) can be understood as a purposive capability to reconfigure when, where, and how work is executed in response to changing task and environmental demands. This perspective aligns with the strategic flexibility literature, which emphasizes timely adjustment through resource and process reconfiguration to sustain performance under uncertainty [21,22]. Empirical work on flexible arrangements suggests potential benefits via enhanced autonomy, reduced work–family conflict, and more efficient work organization [17–19]. Studies in knowledge-intensive settings further indicate that flexibility can encourage innovation when employees experience greater self-determination and perceive leadership support for experimenting with new ways of working [20]. However, flexibility is not uniformly beneficial; it may blur boundaries and intensify work, implying the need for strategic management of flexibility to protect well-being and maintain sustainable performance [47,48]. Importantly, SWF is not merely generic flexible work policies (e.g., flex-time or remote work); it reflects a strategic capability to reconfigure task execution, time allocation, and cross-unit coordination. In radiology units, this may include rapid redeployment across modalities, demand-responsive shift adjustments, and workflow/protocol sequencing improvements that preserve safety checks.

In parallel, Quality of Work Life (QWL) reflects employees' perceived satisfaction with work conditions, including safety and health, equitable rewards, developmental opportunities, and a psychosocial climate that supports functioning and well-being [24–26]. In people-centered service environments where cognitive load, emotional demands, and accountability pressures are salient QWL becomes a critical organizational resource that supports motivation and adaptive functioning. Prior evidence indicates that stronger QWL is associated with improved work performance and more positive work attitudes, and it may also foster innovative behavior through empowering psychological states [27,28].

Innovative Work Behavior (IWB) refers to the intentional generation, promotion, and realization of novel ideas within one's role, team, or organization [8,9,29,30]. Accumulated evidence suggests that supportive HR practices and enabling work contexts are consistently linked to higher levels of IWB [31]. From a creativity perspective, employees' creative outputs are shaped by the interplay of individual motivation and contextual supports such as autonomy, resources, and constructive feedback [2,32–36]. Recent studies further corroborate that contextual enablers such as inclusive leadership and employee voice, as well as values-based talent management can activate innovative behavior and strengthen performance outcomes in service organizations [49,50].

Accordingly, modeling IWB as a mediating mechanism is theoretically coherent: SWF and QWL function as capability-based and contextual resources that can stimulate discretionary innovation processes, which then translate into higher CTP. This logic is consistent with methodological recommendations to test indirect effects via resampling-based procedures and to report effect sizes and confidence intervals alongside statistical significance [45,46]. Drawing on the dynamic capabilities perspective and the Job Demands–Resources (JD-R) framework, SWF is positioned as an adaptive capability enabling radiographers to reconfigure task execution, time allocation, and deployment across units to meet changing demands [3,4],

while QWL represents organizational resources that sustain energy and motivation for proactive contributions [5,6]. From a social exchange lens, favorable QWL signals organizational support and encourages reciprocal extra-role behaviors, including innovation [7]. Under componential and self-determination perspectives, autonomy support and resourceful work conditions enhance intrinsic motivation and experimentation, thereby strengthening IWB and ultimately CTP [2,10]. Therefore, this study investigates the direct effects of SWF and QWL on CTP and IWB, the effect of IWB on CTP, and the mediating role of IWB among hospital radiographers in Yogyakarta, Indonesia.

2. Materials and methods

Consistent with the explanatory purpose of this study, the conceptual model is grounded in complementary grand theories that explain how work resources translate into proactive innovation and creative output. Dynamic capabilities and strategic flexibility provide a capability lens, positioning strategic work flexibility (SWF) as an adaptive capacity to reconfigure work patterns in response to situational demands [3,21–23]. Job demands-resources (JD-R) theory and conservation of resources (COR) jointly clarify why SWF and quality of work life (QWL) function as resources that energize the motivational pathway and protect psychological capital needed for innovation [4,42]. Social exchange theory explains the reciprocity mechanism through which perceived organizational support embedded in QWL stimulates discretionary contributions, including innovative work behavior (IWB) [7,16]. Finally, the componential theory of creativity and self-determination theory (SDT) emphasize that creative task performance (CTP) depends on intrinsic motivation and supportive contexts, which are fostered by SWF and QWL directly and through IWB [2,10,44].

2.1. Dynamic capabilities and strategic flexibility

Dynamic capabilities refer to an organization's and individuals' ability to sense, seize, and reconfigure resources to remain effective under change [3]. Strategic flexibility extends this logic by highlighting the capacity to adjust strategic actions, redeploy resources, and redesign processes when facing uncertainty [21–23]. In radiology services where radiographers operate in technology-intensive, time-critical, and high-reliability conditions, such adaptive capacity becomes pivotal for maintaining service quality while enabling experimentation with better work methods. Accordingly, SWF is conceptualized as a micro-level manifestation of strategic flexibility that enables radiographers to alter task, time, and unit boundaries in ways that support adaptive performance and creative problem solving [11,21].

2.2. Job demands–resources and conservation of resources

JD-R theory posits that job resources foster work motivation and performance by facilitating goal attainment, reducing job demands, and stimulating personal growth [4]. COR theory complements JD-R by asserting that individuals strive to acquire, protect, and build valued resources; resource gains tend to accumulate, whereas resource losses are disproportionately salient [42]. Within this combined perspective, SWF and QWL represent contextual resources that (a) lower strain by enabling better regulation of workload and role boundaries, and (b) increase resource availability (energy, autonomy, psychological safety) to engage in IWB and deliver creative task outcomes [4,42].

2.3. Social exchange theory

Social exchange theory explains that employees reciprocate favorable treatment received from their organization with positive attitudes and discretionary behaviors [7,16]. When radiographers perceive high QWL such as safe and supportive working conditions, participation opportunities, and fair professional treatment they are more likely to respond with extra-role contributions, including searching for improvements, proposing ideas, and championing innovations (IWB) beyond formal job requirements [16].

2.4. Componential theory of creativity and self-determination theory

The componential theory of creativity argues that creative performance emerges from the interplay of domain-relevant skills, creativity-relevant processes, and intrinsic motivation, all of which are shaped by the work environment [2,44]. SDT further posits that autonomy, competence, and relatedness needs support intrinsic motivation and sustained effort on challenging tasks [10]. Accordingly, SWF is expected to enhance autonomy and self-regulation, while QWL strengthens psychological safety and supportive conditions. These mechanisms should facilitate IWB and ultimately improve CTP, reflected in novel and useful solutions in daily work [2,10,14,44].

2.5. Strategic work flexibility

Strategic work flexibility (SWF) refers to the deliberate ability to adjust work arrangements and role execution in a way that aligns with organizational objectives and situational demands [11,21]. Following the operationalization used in this study, SWF comprises three dimensions: task flexibility (adjusting work methods and task sequences), temporal flexibility (adjusting when work is performed), and divisional flexibility (adjusting collaboration across units or roles) [11]. Prior research on flexible work arrangements suggests that flexibility can enhance autonomy and efficiency, although its benefits depend on implementation quality and coordination demands [17–20,47,48].

2.6. Quality of work life

Quality of work life (QWL) reflects employees' evaluation of the extent to which the work environment fulfills important needs such as safety, well-being, participation, and meaningful professional growth [5,24–26]. In healthcare settings, QWL is particularly salient because quality and safety standards coexist with high workload and emotional demands, making supportive environments critical for sustaining motivation and performance [26–28]. In this study, QWL is captured through dimensions of a safe and conducive work environment, active participation, and professional behavior, consistent with validated operational measures in organizational contexts [6,24,25].

2.7. Innovative work behavior

IWB denotes intentional behaviors aimed at generating, promoting, and realizing new ideas that benefit role performance or the organization [8,9]. It involves opportunity exploration, idea generation, idea promotion, idea realization, and sustaining implemented ideas [13,29,30]. In radiology services, IWB is reflected in initiatives to improve workflow, patient safety, image quality, and collaboration practices—especially when employees have the resources and discretion to experiment and learn [4,16].

2.8. Creative task performance

CTP refers to the extent to which employees produce outputs that are both novel and useful in the execution of their tasks [1,2,14]. Given the knowledge-intensive nature of radiography work, CTP is relevant not only for technical problem solving but also for improving patient-centered service processes through creative adaptations under constraints [32–35].

2.9. Hypothesis formulation

Building on the theoretical foundations above, this study specifies direct effects of SWF and QWL on IWB and CTP, as well as the mediating role of IWB in translating work resources into creative task outcomes.

2.9.1. The effect of strategic work flexibility on creative task performance

From a strategic flexibility perspective, greater SWF enables radiographers to reconfigure task execution and time allocation to fit situational demands, which can facilitate experimentation and creative problem solving [21–23]. Empirical evidence on flexible work arrangements indicates that flexibility may enhance performance through autonomy and reduced work–family conflict, although excessive flexibility can also create coordination costs and the autonomy paradox [17–20,47,48]. Therefore, the following hypothesis is proposed:

H1: Strategic work flexibility has a positive effect on creative task performance.

2.9.2. The effect of strategic work flexibility on innovative work behavior

Flexibility can expand discretion and psychological bandwidth, allowing employees to explore alternatives, try new methods, and engage in improvement initiatives [11,17–20]. Studies also suggest that flexible arrangements can strengthen innovation-related behaviors when supported by appropriate organizational systems and climates [20,29]. Thus, the hypothesis is:

H2: Strategic work flexibility has a positive effect on innovative work behavior.

2.9.3. The effect of quality of work life on creative task performance

QWL provides supportive conditions and well-being that enable employees to invest sustained cognitive and emotional resources in complex tasks [5,24–26]. When employees feel safe, valued, and involved, they are more likely to allocate effort to generate useful and novel solutions, improving CTP [2,27,44]. Hence:

H3: Quality of work life has a positive effect on creative task performance.

2.9.4. The effect of quality of work life on innovative work behavior

Social exchange theory suggests that favorable work conditions and organizational support create reciprocity norms that motivate discretionary contributions [7,16]. Empirical studies in organizational and healthcare contexts indicate that better QWL and empowerment are associated with higher innovative behavior [28–30,43]. Therefore:

H4: Quality of work life has a positive effect on innovative work behavior.

2.9.5. The effect of innovative work behavior on creative task performance

IWB represents the behavioral pathway through which new ideas are generated and implemented; such behaviors should directly translate into more creative task outputs [8,9,29,30]. Creativity research also indicates that proactive idea generation and realization contribute to novel and useful performance outcomes [1,2,32–35,44]. Thus:

H5: Innovative work behavior has a positive effect on creative task performance.

2.9.6. The mediating role of innovative work behavior in the relationship between SWF and CTP

Under JD-R and COR perspectives, SWF functions as a resource that increases autonomy and reduces strain, thereby enabling employees to engage in IWB as an active mechanism translating resources into creative outcomes [4,42]. In mediation logic, the resource–behavior–outcome pathway suggests that SWF should improve CTP partly by stimulating IWB [45,46]. Accordingly:

H6: Innovative work behavior mediates the effect of strategic work flexibility on creative task performance.

2.9.7. The mediating role of innovative work behavior in the relationship between QWL and CTP

High QWL provides supportive and fair conditions that encourage employees to reciprocate through innovation-oriented discretionary behaviors [7,16]. These innovation behaviors, in turn, should enhance task creativity and performance [8,9,29,30]. Therefore:

H7: Innovative work behavior mediates the effect of quality of work life on creative task performance.

Figure 1 below shows the conceptual framework of the study

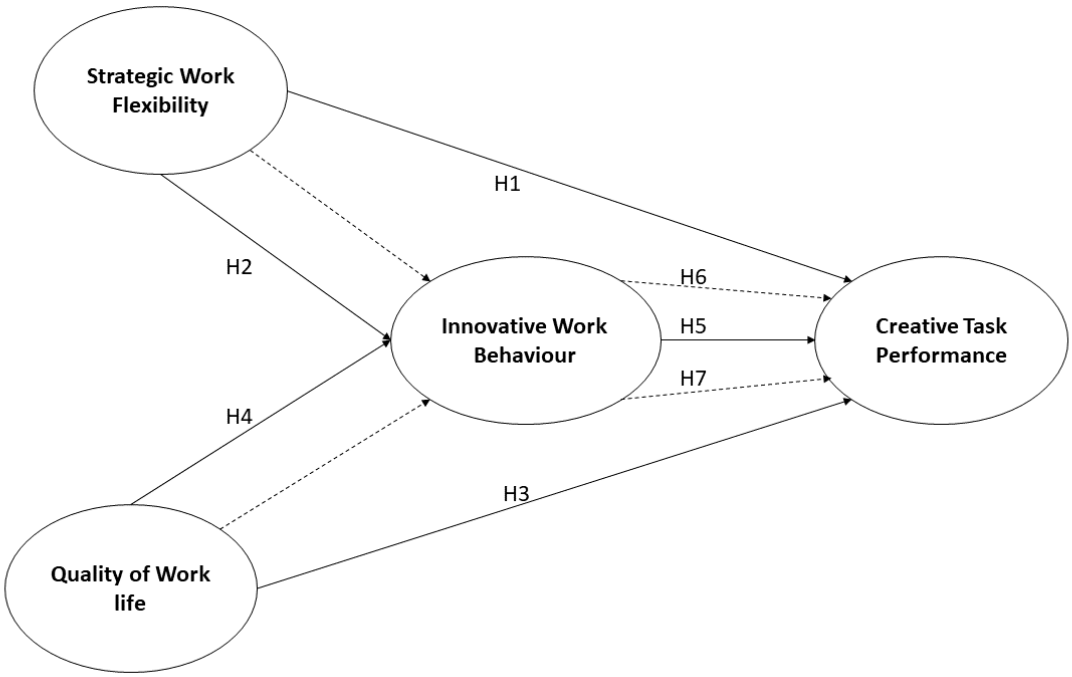

Figure 1. The conceptual framework of the study.

Source: *Created by authors*

2.10. Research design and setting

This study employed a quantitative, explanatory, cross-sectional survey design. The research setting comprised radiology units of general hospitals in the Special Region of Yogyakarta, Indonesia, where radiographers perform diagnostic imaging services under standardized procedures and operational constraints.

2.11. Population, sample, and data collection procedure

The target population consisted of radiographers working in 57 general hospitals across the Special Region of Yogyakarta (N = 716). The minimum sample size was estimated using the Slovin formula with a 5% margin of error (n ≈ 257). Questionnaires were distributed to radiographers and returned voluntarily. Prior to the main distribution, the instrument underwent an initial refinement stage through a small-scale pretest among radiographers with similar characteristics, to improve clarity and reduce ambiguity. Inclusion criteria were: (1) currently employed radiographer working in a general hospital radiology unit in Yogyakarta and (2) voluntary informed consent. Responses from non-radiographers, students/trainees, or radiographers outside general hospitals were excluded. The online questionnaire (Google Form) was disseminated via the PARI Yogyakarta secretariat and official member communication groups, with coordination with local radiology

unit coordinators. Data were screened for substantial missingness, inconsistent patterns, and apparent duplicates; 197 valid cases were retained. Accordingly, the scope of generalization is limited to radiographers in general hospitals in Yogyakarta. Although the Slovin estimate suggested a larger target (n≈257), n=197 is acceptable for the proposed PLS-SEM model and exceeds the 10-times rule guideline (10 × the maximum number of structural paths pointing to an endogenous construct) [15]

2.12. Measures and data analysis.

All items were measured using a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. SWF was measured as a higher-order construct with three dimensions—task flexibility, temporal flexibility, and divisional flexibility adapted from prior SWF operationalization [11]. QWL was measured as a higher-order construct capturing a safe and conducive work environment, active participation, and professional behavior, informed by established QWL measures [5,6,24,25]. IWB was operationalized using multidimensional indicators of opportunity exploration, idea generation, idea promotion, idea realization, and idea sustainability, consistent with validated IWB scales [8,9,13,29,30]. CTP was measured through novelty and utility dimensions of creative task output [14].

Partial least squares structural equation modeling (PLS-SEM) was used to test the measurement and structural models due to its suitability for predictive analysis and models with higher-order constructs [15]. Analyses were conducted using SmartPLS software. Indicator reliability was assessed using outer loadings (≥ 0.70 as a guideline), internal consistency using Cronbach's alpha and composite reliability (≥ 0.70), and convergent validity using average variance extracted (AVE ≥ 0.50) [15]. Discriminant validity was evaluated using the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT) [39,40]. To reduce the risk of common method bias, the survey ensured anonymity and emphasized that there were no right or wrong answers; method bias considerations were also addressed in the interpretation stage [41]. Hypotheses were tested using bootstrapping to obtain t-statistics and p-values for direct and indirect effects. Mediation hypotheses were examined through bootstrapping of specific indirect effects in line with resampling recommendations for mediation inference [45,46].

3. Results

3.1. Sample characteristics

A total of 197 radiographers participated in the study. Table 1 summarizes respondent characteristics.

Table 1. Respondent characteristics (n=197).

Variable	Category	n	%
Gender	Male	105	53.30
	Female	92	46.70
Age	≤ 25 years	18	9.14
	26–35 years	82	41.62
	36–45 years	68	34.52
	46–55 years	26	13.20
	> 56 years	3	1.52
Education	Diploma	156	79.19
	Applied Bachelor	35	17.77
	Master	6	3.05

Variable	Category	n	%
Tenure	< 1 year	10	5.08
	1–3 years	30	15.23
	4–5 years	24	12.18
	6–10 years	48	24.37
	11–15 years	38	19.29
	16–20 years	27	13.71
	> 20 years	20	10.15

Table 1. (*Continued*)

3.2. Measurement model assessment

All constructs demonstrated satisfactory internal consistency and convergent validity. For the higher-order constructs, Cronbach's alpha ranged from 0.763 to 0.916 and composite reliability (rho_c) ranged from 0.849 to 0.930. AVE values ranged from 0.569 to 0.609, exceeding the 0.50 criterion. Discriminant validity was supported based on HTMT after indicator refinement.

Table 2. Summary of measurement model output (outer loadings, reliability, and AVE).

Construct	Item/Indicator	Outer loading	Cronbach's α	CR (rho_c)	AVE
Strategic Work Flexibility (SWF)	Task Flexibility (1)	0.776	0.871	0.903	0.609
	Task Flexibility (2)	0.741			
	Temporal Flexibility (1)	0.826			
	Temporal Flexibility (2)	0.807			
	Divisional Flexibility (1)	0.769			
	Divisional Flexibility (2)	0.760			
Quality of Work Life (QWL)	Safe and Conducive Work Environment (1)	0.767	0.874	0.902	0.569
	Safe and Conducive Work Environment (2)	0.837			
	Active Participation (1)	0.709			
	Active Participation (2)	0.766			
	Professional Behavior (1)	0.731			
	Professional Behavior (2)	0.752			
	Professional Behavior (3)	0.710			
Innovative Work Behavior (IWB)	Opportunity Exploration (1)	0.759	0.916	0.930	0.571
	Opportunity Exploration (2)	0.742			
	Idea Generation (1)	0.729			
	Idea Generation (2)	0.744			
	Idea Promotion (1)	0.767			
	Idea Promotion (2)	0.769			
	Idea Realization (1)	0.758			
	Idea Realization (2)	0.796			
	Idea Sustainability (1)	0.764			
	Idea Sustainability (2)	0.725			

Construct	Item/Indicator	Outer loading	Cronbach's α	CR (rho_c)	AVE
Creative Task Performance (CTP)	Novelty (1)	0.752	0.763	0.849	0.585
	Novelty (2)	0.758			
	Utility (1)	0.774			
	Utility (2)	0.775			

Table 2. (*Continued*)

From an indicator-level perspective, temporal flexibility items show the strongest loadings within SWF, suggesting that the ability to adjust scheduling and time allocation is the most salient flexibility facet for radiographers. Within QWL, the safe and conducive work environment indicators are most prominent, underscoring the centrality of safety climate and work conditions in radiology units. Overall, the measurement pattern supports the study's theoretical logic that time resources and safe work conditions create the bandwidth for IWB and, ultimately, creative task outcomes.

3.3. Structural model and hypothesis testing

The structural model exhibited moderate explanatory power. SWF and QWL explained 45.0% of the variance in IWB (R^2=0.450), while SWF, QWL, and IWB explained 34.2% of the variance in CTP (R^2=0.342). Predictive relevance was supported (Q^2_IWB=0.276; Q^2_CTP=0.184). Table 3 presents the direct effects.

Table 3. Direct effects (bootstrapping results).

Hypothesis	Path	β	t	p	Hypothesis Decision
H1	SWF → CTP	0.242	2.631	0.004	Supported
H2	SWF → IWB	0.337	3.614	<0.001	Supported
H3	QWL → CTP	0.204	1.792	0.037	Supported
H4	QWL → IWB	0.436	4.892	<0.001	Supported
H5	IWB → CTP	0.253	2.561	0.005	Supported

3.4. Mediation effects

Bootstrapping of specific indirect effects supported IWB as a mediating mechanism linking both SWF and QWL to CTP. As shown in Table 4, both indirect paths were significant, indicating complementary partial mediation because the corresponding direct effects also remained significant.

Table 4. Specific indirect effects via innovative work behavior.

Hypothesis	Indirect path	β	t	p	Mediation
H6	SWF → IWB → CTP	0.085	1.712	0.039	Complementary partial
H7	QWL → IWB → CTP	0.110	2.394	0.005	Complementary partial

4. Discussion

This study provides empirical evidence that both strategic flexibility and work-life quality contribute to radiographers' creative task performance, with innovative work behavior operating as a key explanatory mechanism. The positive SWF-CTP relationship suggests that radiographers who can strategically adjust task execution, time arrangements, and divisional assignments are better able to generate novel and useful

solutions within their imaging tasks. This aligns with the dynamic capabilities view, where flexibility supports reconfiguration of routines to match operational changes [3].

SWF and QWL also displayed significant positive effects on IWB. From a JD-R perspective, these conditions function as resources that buffer demands and activate a motivational pathway, encouraging proactive ideation and implementation behaviors [4]. In radiology units, flexibility may reduce process bottlenecks and enable experimentation with protocol adjustments, whereas QWL provisions (e.g., safety climate, participation, professional support) increase psychological availability for innovation.

IWB significantly predicted CTP, supporting the proposition that creative outcomes in daily work are realized through concrete innovation behaviors exploring opportunities, generating and promoting ideas, and translating them into sustainable improvements [8,13]. Mediation findings further indicate that SWF and QWL partially influence CTP through IWB, consistent with social exchange reasoning: supportive work conditions encourage reciprocal discretionary innovation, which enhances creative task outputs [7,16].

The moderate explanatory power suggests that additional factors such as leadership, learning culture, and work engagement may further explain creative performance in radiology settings and merit inclusion in future research.

5. Conclusions

This study confirms that Strategic Work Flexibility and Quality of Work Life are significant antecedents of Creative Task Performance among hospital radiographers, both directly and indirectly through Innovative Work Behavior. Flexible work design and supportive work-life conditions appear to enhance creativity in safety-critical, technology-mediated healthcare work when they stimulate proactive innovation behaviors.

1. Theoretical implications. The results extend SWF and QWL research by validating a resource-mechanism-outcome pathway in the radiographer context, integrating dynamic capabilities, JD-R, and social exchange logic to explain how flexibility and work-life quality translate into creative task outcomes via IWB. Specifically, departments can implement demand-responsive rostering with buffer staffing, develop modality-based cross-training and a small float pool (e.g., CT/MRI/DR) for peak periods, and run short weekly safety and innovation. Theoretical contributions include:

- Demonstrating a resource-behavior-outcome mechanism in high-reliability healthcare by showing that IWB partially mediates SWF/QWL effects on CTP among radiographers.
- Positioning SWF as a micro-level strategic capability (task, temporal, divisional reconfiguration) that explains creative task outcomes beyond generic flexibility policy discussions.
- Validating higher-order modeling of SWF and QWL in the radiographer context, supporting more precise construct representation in PLS-SEM applications

2. Practical implications. Radiology managers should operationalize strategic flexibility (e.g., cross-training, task redesign, adaptive shift planning, and divisional mobility) and strengthen QWL (safe/conducive environment, participative decision-making, professional support) to trigger IWB and improve creative task performance. Structured innovation routines such as brief improvement huddles and rapid-cycle testing can help convert resources into implementable creative solutions. Radiology managers can translate the SWF-QWL-IWB findings into concrete interventions at the unit level. First, implement **adaptive shift task** through brief daily huddles and a weekly flex roster that permits rapid reallocation of roles and time slots in response to real-time demand (task and temporal flexibility) and short-term cross-coverage across modalities (divisional flexibility). This structured autonomy encourages radiographers to

propose and test workflow adjustments, thereby stimulating **IWB** and strengthening **CTP**. Second, establish a **cross-unit capability pool** supported by short, recurring cross-training cycles for critical modalities and clear redeployment protocols during peak load; this enhances divisional flexibility while reducing workload uncertainty and strain, supporting **QWL** and enabling more frequent experimentation with process improvements. Third, formalize an **idea to implementation pipeline** (e.g., digital suggestion board, biweekly improvement meeting), coupled with visible recognition and supervisor feedback, to reinforce perceived organizational support (**QWL**) and sustain **IWB**, thereby improving creative task outcomes in routine radiography practice.

3. Limitations and future research. This study is cross-sectional and uses single-source self-reports, which constrains causal inference and may inflate observed associations. The sample is limited to radiographers in general hospitals in Yogyakarta, Indonesia, so external validity should be interpreted cautiously. Future research should use longitudinal and multi-source designs (e.g., supervisor-rated CTP or objective improvement outcomes), incorporate additional predictors (e.g., transformational leadership, learning culture, and engagement) to uncover boundary conditions and test the model across regions and hospital types

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Conflict of interest

The author declares no conflict of interest.

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