

From psychological resilience to work engagement: a chain mediation of cognitive reappraisal and self-efficacy in nurses

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Executive Summary

This study investigates the mechanisms through which psychological resilience influences work engagement among nurses in a Chinese tertiary hospital, with cognitive reappraisal and general self-efficacy proposed as sequential mediators. The authors argue that resilience does not directly drive engagement but operates primarily through a resource-generation cascade: resilient nurses employ cognitive reappraisal more readily, which builds general self-efficacy, which in turn sustains work engagement. Using a cross-sectional survey of 424 female nurses at a single hospital in Shenyang, China, the study employed Hayes' PROCESS macro (Model 6) with 5,000-sample bootstrapping to test the chain mediation model. Key findings indicate that the total indirect effect ($\beta = 0.434$) accounted for 65.17% of the total effect ($\beta = 0.666$), with general self-efficacy emerging as the stronger independent mediator (indirect effect = 0.226) compared to cognitive reappraisal (indirect effect = 0.112), and the sequential chain contributing an additional 13.66%. The authors ground their model in Conservation of Resources theory and social cognitive theory. Limitations include the cross-sectional design, single-site homogeneous sample, reliance on self-report measures, and acknowledged conceptual overlap among constructs.

Key Insights

1. Approximately 65% of the association between psychological resilience and work engagement among nurses was transmitted indirectly through cognitive reappraisal and general self-efficacy, with less than 35% operating as a direct effect.
2. General self-efficacy functioned as a stronger independent mediator (indirect effect = 0.226, 33.93% of total effect) than cognitive reappraisal alone (indirect effect = 0.112, 16.82%), suggesting competence beliefs play a more proximal role in sustaining engagement.
3. The sequential chain 'psychological resilience → cognitive reappraisal → general self-efficacy → work engagement' was statistically significant (indirect effect = 0.097, 95% CI: 0.061–0.138), supporting the theoretical premise that situational emotion regulation strategies can consolidate into stable motivational resources over time.

Practical Takeaways

- The predominance of indirect effects in the model implies that programs targeting work engagement in nursing populations may derive greater measurable impact from addressing downstream psychological mechanisms — specifically emotion regulation skills and competence beliefs — rather than resilience alone.

- The sequential mediation pathway suggests a modular intervention logic where cognitive reappraisal training precedes mastery-experience-based self-efficacy development, though this temporal ordering remains untested experimentally given the study's cross-sectional design.

Frameworks Mentioned

Conservation of Resources (COR) Theory — Hobfoll's theoretical framework positing that individuals are motivated to acquire, retain, and protect resources, and that those with greater resources are better positioned to generate additional ones under stress.

Social Cognitive Theory — Bandura's framework emphasizing that self-efficacy beliefs are shaped by mastery experiences, vicarious learning, social persuasion, and physiological states, and that these beliefs regulate motivation and behavior.

Critical Analysis

Strengths include a well-specified mediation model with bootstrapped confidence intervals, adequate sample size confirmed by post-hoc power analysis (>0.90), discriminant validity assessed via CFA, and transparency regarding assumptions tested (linearity, homoscedasticity, VIF). The theoretical integration of COR theory and social cognitive theory to justify the proposed sequential order adds conceptual coherence. Limitations are significant: the cross-sectional design structurally prohibits causal or temporal inference, directly undermining the sequential mediation narrative which is inherently temporal. The sample is drawn from a single tertiary hospital in one Chinese city and consists entirely of female nurses, severely restricting generalizability. All constructs are self-reported, and while Harman's single-factor test suggested common method bias was not severe, the acknowledged conceptual overlap among psychological resilience, general self-efficacy, and engagement dimensions (vigor, dedication) likely inflated intercorrelations ($r = 0.673\text{--}0.775$). The authors acknowledge this but the CFA model fit indices (CFI = 0.91, RMSEA = 0.07) are only marginally acceptable, not strong. No objective or multi-source engagement data were used. The study also does not test the reverse causal pathway (self-efficacy facilitating cognitive reappraisal), which the authors acknowledge is theoretically plausible, leaving the directional claim untested.

Organizational Practice

A single tertiary hospital in Shenyang, China administered an anonymous online survey to all registered nurses ($N=448$) with at least one year of tenure during November 2024 to January 2025. The hospital's nursing department director facilitated distribution via departmental working groups. Professional rank (junior, intermediate, senior nurse) was recorded from administrative records and used as a covariate. No specific HR or PMS intervention was described; the study is observational.

Strategic Implications

The finding that the majority of the resilience-engagement association is mediated rather than direct points toward a broader pattern in occupational health research: stable trait-like resources may exert influence on work outcomes less through direct motivation and more through enabling specific cognitive and behavioral processes. For healthcare workforce management contexts, this pattern suggests that measurement frameworks for nurse performance and wellbeing may benefit from incorporating emotion regulation and self-efficacy indicators alongside resilience assessments. The study also highlights the relative neglect of sequential psychological mechanisms in performance management research within healthcare settings,

where burnout and disengagement remain persistent concerns. The single-country, single-institution scope limits transferability of the specific effect sizes but the theoretical structure of the chain mediation model may warrant replication across different healthcare systems and cultural contexts.

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